Appendix III

Air Quality Management Plan

Base and Future Year Emission Inventory

December 2012

South Coast Air Quality Management District
Cleaning the air that we breathe...
AQMD

FINAL 2012 AQMP
APPENDIX III

BASE AND FUTURE YEAR EMISSION INVENTORY

DECEMBER 2012

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BACKGROUND

To protect the public health and welfare, federal and state standards limit concentration levels of air contaminants in ambient air. An emission inventory of air pollutants and their sources is essential to identify the major contributors of air contaminants and the measures required to reduce air pollution. 2008 is the base year used to project future year emissions for the Final 2012 Air Quality Management Plan (AQMP). The 2008 base year emissions inventory reflects adopted District air regulations that are implemented as of June, 2012 and CARB rules adopted by August 2011. Both the federal and state Clean Air Acts specify 1990 as the base year to measure emission reduction progress. In these inventories, only anthropogenic sources (i.e., those associated with human activity) are considered.

This appendix includes six attachments: Attachment A – Average Annual Emissions Summary by Major Source Category; Attachment B – Summer Planning Emissions Summary by Major Source Category; Attachment C – Top South Coast Air Basin (SCAB) VOC and NOx producers which emitted equal to or greater than ten (10) tons per year in 2008; Attachment D – On-Road Emissions by Vehicle Category; Attachment E – Emissions from Diesel Fuel Combustion by Major Source Category; and Attachment F – 2008 Base Year Greenhouse Gas Emission Inventory Methodology and 2008 Greenhouse Gas Emissions Summary by Major Source Category. The years of 2008, 2014, 2017, 2019, 2023, and 2030 are provided in Attachments A, B, D and E, except year 2017 in Attachment D. Since Year 2017 transportation activity data is not provided by Southern California Association of Governments (SCAG), year 2017 on-road data is derived from the interpolation of the data between 2014 and 2019.

Information necessary to produce the emission inventory for the Basin is obtained from the District and other governmental agencies, including California Air Resources Board (CARB), California Department of Transportation (Caltrans), and SCAG. Each of these agencies is responsible for collecting data (e.g., industry growth factors, socio-economic projections, travel activity levels, emission factors, emission speciation profile, and emissions) and developing methodologies (e.g., model and demographic forecast improvements) required to generate a comprehensive emissions inventory. Entire statewide emissions inventories are compiled and maintained by CARB in its emission related information databases named California Emission Inventory Development and Reporting System (CEIDARS), and California Emission Forecasting and Planning Inventory System (CEFIS). CARB is the agency responsible for developing the emissions inventory for all the mobile sources, except the aircraft. CARB provided on-

road and most of the off-road inventories from its EMFAC 2011 and 2011 In-Use Fleet Off-Road Models. Caltrans provides SCAG with information regarding highway projects. SCAG incorporates these data into their Travel Demand Model for estimating/projecting vehicle miles traveled (VMT) and speeds. SCAG's socio-economic and transportation activities projections in their 2012 Regional Transportation Plan (RTP) are applied in the Final 2012 AQMP. On-road emissions are derived from the emission factors in CARB's EMFAC2011 and transportation activities and speed distribution from SCAG's Travel Demand Model.

AIR CONTAMINANTS

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

Ozone is formed from photochemical reactions involving other air contaminants so it is not inventoried. Although air quality standards for NOx and SOx are based on NO_2 and SO_2, respectively, emissions of NOx and SOx are in the emissions inventory because multiple species of NOx and SOx contribute to the formation of particulate, and NOx and VOC react in the presence of sunlight to produce ozone.

TOG incorporates all gaseous compounds containing the element carbon with the exception of the inorganic compounds, CO, carbon dioxide (CO_2), carbonic acid, carbonates, and metallic carbides. VOC, a subset of TOG, includes all organic gases in TOG except acetone, ethane, methane, methylene chloride, methylchloroform, perchloroethylene, methyl acetate, parachlorobenzotrifluoride, and a number of Freon-type gases. It should be noted that this definition of VOC is different from the one used by the CARB, which includes some compounds not considered as VOCs according to U.S. EPA. Table III-1-1 lists the compounds that are exempt in U.S. EPA's VOC list, but are included in CARB's VOC list. Certain CFCs are still included in CARB's VOC list. According to CARB, the total emission inventory difference between U.S. EPA VOC and CARB's VOC is very small.

PM represents all airborne particulate matter. Important subsets of PM are PM10 and PM2.5. In the Final 2012 AQMP, the amount of VOC in TOG and the amount of PM10 and PM2.5 in PM are calculated for each process primarily using species and size fraction profiles provided by CARB. Besides average annual day emissions that are reported for all criteria pollutants, summer planning inventories (VOC and NOx) are reported for ozone purposes.

TABLE III-1-1

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

COMPOUND	CAS *
3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca)	422-56-0
1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb)	507-55-1
1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC-43-10mee)	138495-42-8
difluoromethane (HFC-32)	75-10-5
ethylfluoride (HFC-161)	353-36-6
1,1,1,3,3,3-hexafluoropropane (HFC-236fa)	690-39-1
1,1,2,2,3-pentafluoropropane (HFC-245ca)	679-86-7
1,1,2,3,3-pentafluoropropane (HFC-245ea)	24270-66-4
1,1,1,2,3-pentafluoropropane (HFC-245eb)	431-31-2
1,1,1,3,3-pentafluoropropane (HFC-245fa)	460-73-1
1,1,1,2,3,3-hexafluoropropane (HFC-236ea)	431-63-0
1,1,1,3,3-pentafluorobutane (HFC-365mfc)	406-58-6
chlorofluoromethane (HCFC-31)	593-70-4
1-chloro-1-fluoroethane (HCFC-151a)	1615-75-4
1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a)	354-23-4
1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane ($C_4F_9OCH_3$)	163702-07-6
2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane $(CF_3)_2CFCF_2OCH_3$)	163702-08-7
1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane ($C_4F_9OC_2H_5$)	163702-05-4
2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane $(CF_3)_2CFCF_2OC_2H_5$)	163702-06-5
1, 1, 1, 2, 2, 3, 3-heptafluoro-3-methoxy-propane (n-$C_3F_7OCH_3$) or HFE-7000	375-03-1
3-ethoxy-1, 1, 1, 2, 3, 4, 4, 5, 5, 6, 6, 6 – dodecafluoro-2-(trifluoromethyl) hexane (HFE-7500)	297730-93-9
1, 1, 1, 2, 3, 3, 3-heptafluoropropane (HFC 227ea)	431-89-0
Methyl formate ($HCOOCH_3$)	107-31-3
Tert butyl acetate (TBAC)	540-88-5

* Chemical Abstract Service (CAS) identification numbers have been included in brackets [ ] for convenience.

INVENTORY SOURCE CATEGORIES

Stationary Sources

Stationary sources of emissions are grouped into two categories - point sources and area sources. Point source emissions are from facilities having one or more pieces of equipment registered and permitted with the District. Therefore, the District is able to collect facility emission-related information from the larger of these facilities. Area source emissions are from numerous small facilities or pieces of equipment, such as gasoline-dispensing facilities, residential water heaters, consumer products and architectural coatings, for which locations may not be specifically identified. For modeling purposes, area source emissions are spatially allocated to grid cells using demographic data (e.g., population, housing, and land use).

Point Sources

The 2008 point source emission inventory is based on the emissions data reported by point source facilities in the calendar year 2008 Annual Emissions Reporting (AER) Program. This program applies to facilities emitting 4 tons or more of VOC, NOx, SOx, or PM or emitting more than 100 tons of CO per year, as specified in Rule 301(e). Facilities subject to the AER Program calculate and report their emissions primarily based on their throughput data (e.g., fuel usage, material usage), appropriate emission factors or source tests, and control efficiency (if applicable). Under the calendar year 2008 AER Program, approximately, 1,800 facilities reported their annual emissions to the District. Emissions from smaller industrial facilities not subject to the AER program, which represent a small fraction of the overall inventory, are included as part of the area source inventory.

In order to prepare the point source inventory, emissions data for each facility were categorized based on EPA's Source Classification Codes (SCCs) for each emission source category. Since the AER program collects emissions data on an aggregate basis (i.e., equipment and processes with same emission factor are grouped and reported together), facility's equipment permit data were used in conjunction with the reported data to assign the appropriate SCC codes and develop the inventory at the SCC level. For modeling purposes, facility location is specified in Universal Transverse Mercator (UTM) coordinates. Business operation activity profile is also recorded. Facility business type is assigned to the facilities based on North American Industry Classification System (NAICS) Code according to their primary activity. The growth projections and impact of the AQMP on the local economy are presented by NAICS.

Area Sources

The District and CARB shared the responsibility for developing the 2008 area source emissions inventory for approximately 400 area source categories. Specifically, the District developed the area source inventory for about 150 categories whereas CARB developed the remaining area source categories (such as consumer products, and degreasing). For each area source category, a specific methodology is used for estimating emissions. In the 2008 area source inventory, a number of existing methodologies were used with updated activity data such as fuel data or sales data (e.g., fuel combustion categories, oil/gas production). Five new categories (i.e., LPG transmission, Storage and pipeline cleaning, three architectural coating colorants) were added to the inventory, other existing methodologies were refined based on more recent studies (e.g., landfills, composting waste, consumer products, architectural coatings), and some of the area sources were expanded (i.e., Commercial/Industrial internal combustion to include portable equipment engines).

Changes in Point Sources

The point source inventory continued its downward trend primarily due to the implementation of existing stationary source regulations. As indicated in Figure 1-1, the point sources decreased between 2002 and 2008 in VOC, NOx and SOx emissions. The decreases are from 52, 41, and 20 tons per day to 34, 34 and 13 tons per day for VOC, NOx and SOx respectively. In addition to the effect of existing regulations, another reason for the decreases is due to the recessionary impacts.

Changes in Area Sources

The area source inventory also decreased between 2002 and 2008 for all criteria pollutants, except NOx. Figure 1-2 shows VOC, NOx, SOx and PM2.5 changed from 265, 48, 2, 51 tons per day to 231, 53, 1 and 39 tons per day between 2002 and 2008. The reason for NOx increase is because the expansion of fuel consumption to include commercial and industrial portable equipment emissions.

Rule Implementation

A list of the District's VOC, NOx, PM2.5 and SOx emission reduction commitment by measure/adopted date by pollutant since 2007 State Implementation Plan (SIP) is presented in Table III-1-2. Table III-1-3 lists SCAB NOx, VOC, PM2.5, and SOx emission progress since 2007 SIP to date on CARB rules for year of 2014 and year 2023.

COMPARISON OF 2002 BASE YEAR IN 2007 AQMP AND 2008 BASE YEAR IN 2012 AQMP

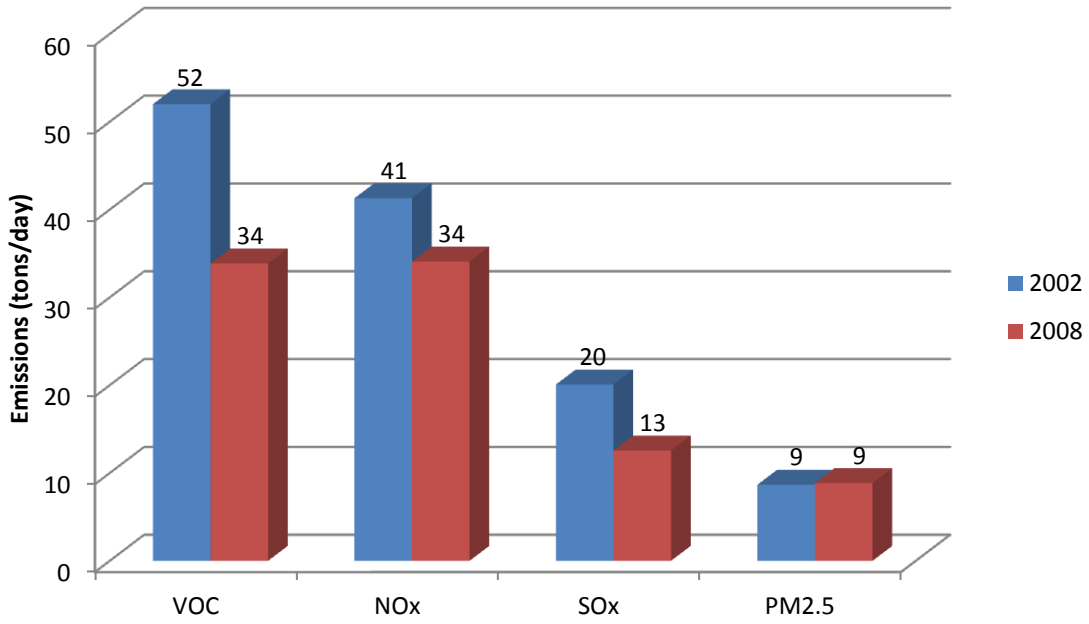


FIGURE III-1-1

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

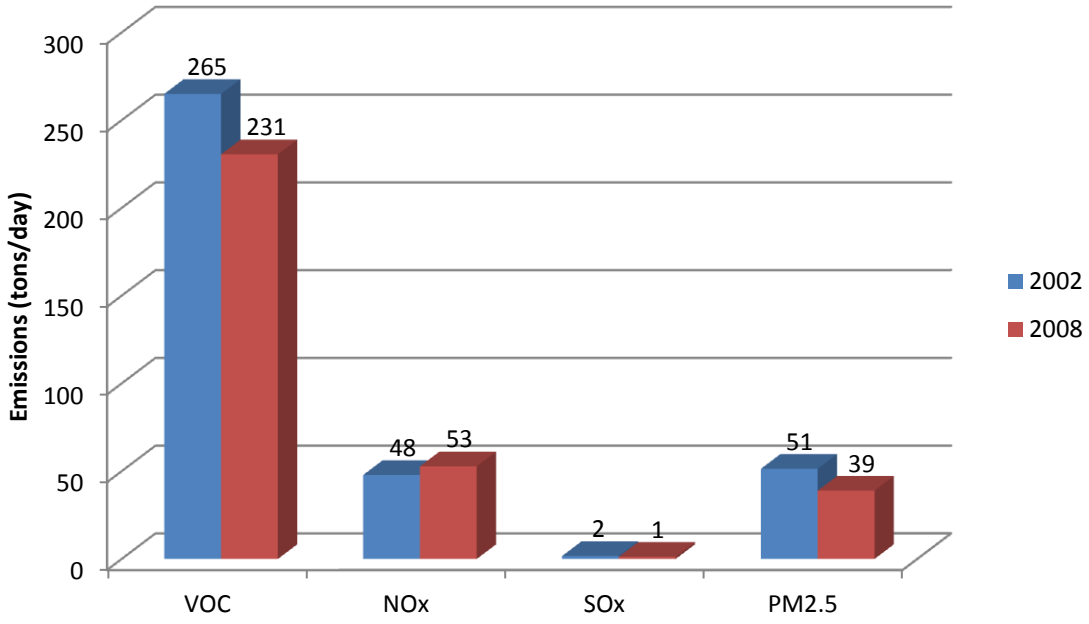


FIGURE III-1-2

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

TABLE III-1-2

2007 AQMP Emission Reductions (tons per day) by Measure/Adoption Date

Control Measure #	CONTROL MEASURE TITLE	Adoption Date	ACHIEVED [a]	
			2014	2023
VOC EMISSIONS				
FUG-04	Pipeline and Storage Tank Degassing[VOC]- R1149	2008	0.04	0.04
BCM-03	Emission Reductions from Wood Burning Fireplaces and Wood Stoves [All]	2008	0.44	0.70
MCS-01	Facility Modernization [NOx, VOC, PM] - *R1110.2*	2008+	0.3	0.3
CTS-01	Emission Reductions from Lubricants [VOC][R1144]	2009	3.9	3.2
CTS-04	Emission Reductions from the Reduction of VOC Content of Consumer Products Not Regulated by the State Board [VOC][R1143]	2009	9.7	10.1
MCS-04	Further Emission Reductions from Greenwaste Composting Operations [VOC][R1133.3]	2011	0.88	0.88
MCS-07	Application of All Feasible Measures [VOC][R1113, R1177] [b]	2011	7.2	11.1
	TOTAL VOC REDUCTIONS (TPD)		**22.5**	**26.4**
CMB-01	NOx Reduction from Non-RECLAIM Ovens, Dryers and Furnaces [NOx][R1147]	2008	3.5	4.1
BCM-03	Emission Reductions from Wood Burning Fireplaces and Wood Stoves [All][R445]	2008	0.06	0.10
	SOON Program	2008	1.8	NA
MCS-01	Facility Modernization [NOx, VOC, PM] - *R1110.2, PR1146, PR1146.1*	2008+	2.17	3.15
CMB-03	Further NOx Reductions from Space Heaters [NOx]	2009	0.1	3.0
	TOTAL NOx REDUCTIONS (TPD)		**7.6**	**10.3**
BCM-03	Emission Reductions from Wood Burning Fireplaces and Wood Stoves [PM2.5]	2008	1.0	1.6
MCS-01	Facility Modernization [NOx, VOC, PM] - *R1155* [c]	2009	NA	NA
	TOTAL PM2.5 REDUCTIONS (TPD)		**1**	**1.6**

TABLE III-1-2 (concluded)

2007 AQMP Emission Reductions (tons per day) by Measure/Adoption Date

Control Measure #	CONTROL MEASURE TITLE	Adoption Date	ACHIEVED [a]	
			2014	2023
SOx EMISSIONS				
CMB-02	Further SOx Reductions for RECLAIM (BARCT) [SOx]	2010	4.0	5.7
		TOTAL SOx REDUCTIONS (TPD)	**4.0**	**5.7**

[a] 2014 reductions estimated in average annual day, 2023 in planning inventory.
[b] Includes achieved VOC reductions from Rule 1113: 4.1 tpd (2014); 4.4 tpd (2023) and Rule 1177: 3.1 tpd (2014); 6.7 tpd (2023)
[c] R1155 was adopted as part of MCS-01 implementation in 2009, but PM2.5 reduction potential cannot be quantified.
NA: Not Applicable, no SIP reductions quantified in the 2007 AQMP

TABLE III-1-3

South Coast Air Basin Remaining Emissions Due to CARB Actions

CARB REGULATIONS	COMMITMENT		ACHIEVED	
	2014[a]	**2023**[b]	**2014**[a]	**2023**[b]
NOx EMISSIONS (TPD)[c]				
Smog Check Improvements (BAR)	134.2	74.3	131.6	73.1
Cleaner In-Use Heavy-Duty Trucks & Buses	151.2	76.8	132.6	49.4
Cleaner In-Use Off-Road Equipment (over 25hp)	28.0	18.9	27.5	15.8
Ship Auxiliary Engine Cold Ironing & Clean Tech.	23.7	40.3	15.6	12.0
Cleaner Main Ship Engines and Fuel - Main Engines	38.5	65.8	20.9	21.3
Accelerated Intro. of Cleaner Line-Haul Locomotives	18.3	21.0	18.3	21.0
Clean Up Existing Harbor Craft	15.2	18.4	11.1	8.4
Cargo Handling Equipment	3.2	1.8	3.2	1.8
New Emission Standards for Recreational Boats	11.0	18.3	11.0	18.3
Co-Benefits from Greenhouse Gas Reduction Measures	0.0	--	0.0	--
All other local, state, and federal emissions	166	157	159	147[d]
TOTAL NOx REMAINING EMISSIONS WITH RULES ADOPTED TO DATE	**589**	**493**	**530**	**368**
VOC EMISSIONS (TPD)[c]				
Smog Check Improvements (BAR)	132.1	97.4	123.5	92.1
Cleaner In-Use Heavy-Duty Trucks & Buses	8.7	6.6	5.4	5.3
Cleaner In-Use Off-Road Equipment (over 25hp)	2.6	2.0	2.5	1.7
Ship Auxiliary Engine Cold Ironing & Clean Tech.	0.9	1.5	0.7	0.9
Cleaner Main Ship Engines and Fuel - Main Engines	1.9	3.2	1.4	2.5
Accelerated Intro. of Cleaner Line-Haul Locomotives	2.3	2.4	2.3	2.4
Clean Up Existing Harbor Craft	1.2	1.0	1.1	0.5
Cargo Handling Equipment	0.3	0.6	0.3	0.6
New Emission Standards for Recreational Boats	37.9	50.8	37.9	50.8
Expanded Off-Road Rec. Vehicle Emission Standards	6.7	13.4	6.7	13.4
Consumer Products Program	102.6	109.5	96.7	102.4
All other local, state, and federal emissions	221	241	206	226[d]
TOTAL VOC REMAINING EMISSIONS WITH RULES ADOPTED TO DATE	**518**	**529**	**485**	**498**

TABLE III-1-3 (concluded)

South Coast Air Basin Remaining Emissions Due to CARB Actions

CARB REGULATIONS	COMMITMENT		ACHIEVED	
	2014[a]	**2023**[b]	**2014**[a]	**2023**[b]
PM2.5 EMISSIONS (TPD)[c]				
Smog Check Improvements (BAR)	7.8	--	7.5	--
Cleaner In-Use Heavy-Duty Trucks & Buses	6.0	--	3.4	--
Cleaner In-Use Off-Road Equipment (over 25hp)	1.3	--	1.3	--
Ship Auxiliary Engine Cold Ironing & Clean Tech.	0.5	--	0.4	--
Cleaner Main Ship Engines and Fuel - Main Engines	3.9	--	0.4	--
Accelerated Intro. of Cleaner Line-Haul Locomotives	0.7	--	0.7	--
Clean Up Existing Harbor Craft	0.6	--	0.4	--
Cargo Handling Equipment	0.1	--	0.1	--
All other local, state, and federal emissions	74	--	73	--
TOTAL PM2.5 REMAINING EMISSIONS WITH RULES ADOPTED TO DATE	**95**	**--**	**87**	**--**
SOx EMISSIONS (TPD)[c]				
Cleaner In-Use Heavy-Duty Trucks & Buses	0.3	--	0.3	--
Ship Auxiliary Engine Cold Ironing & Clean Tech.	1.1	--	0.8	--
Cleaner Main Ship Engines and Fuel - Main Engines	38.7	--	1.7	--
All other local, state, and federal emissions	21	--	17	--
TOTAL SOX REMAINING EMISSIONS WITH RULES ADOPTED TO DATE	**61**	--	**20**	--

a. The 2014 emissions data reflect the 2014 Emissions Inventory that was included in the March 2011 *Progress Report on Implementation of PM2.5 State Implementation Plans*.
b. The 2023 emissions data tables reflect the 2023 Emissions Inventory that was current as of August 2011.
c. These are remaining emissions. If achieved emissions are lower than the committed emissions, it means the SIP targets are met.
d. Includes benefits of local emission reductions that were not reflected in the revised RFP estimates.

Improved/Updated Methodologies

Fuel Combustion Sources - The emissions from commercial and industrial internal combustion engines were updated to include portable equipment emissions which were overlooked in the 2007 AQMP. The update causes increases in emissions for this category.

Landfills - The emission estimation methodology for this area source category was revised to incorporate the CARB's landfill GHG emission inventory data to calculate the amount of Methane (CH4) being generated in 2008. The TOG and VOC emissions were estimated using the emission factors from the "1982 Task Force Report", which were the same factors used to estimate TOG/VOC emissions for this source category in the 2007 AQMP. The baseline emissions from source category in 2012 AQMP had drastically increased as compared with 2002 baseline used in 2007 AQMP. This was due to erroneous activity data reported by the point sources in 2002.

Metal Coating Operations - This area source category in the 2007 AQMP included the emissions from the small permitted facilities with VOC emissions below 4 tons per year. However, emissions from such smaller permitted facilities maybe underrepresented in the 2007 AQMP. During the amendment development process for Rule 1107, staff discovered numerous small shops using coating materials with compliant high solid concentrations, which are subsequently thinned beyond the allowable limit permitted by Rule 1107. The revised inventory adjusts the 2007 AQMP inventory to account for excess emissions from these coating activities as well.

LPG Transmission - This is a new area source category created to include the fugitive emissions associated with transfer and dispensing of LPG and is based on emission rates derived from AQMD source tests conducted in 2008 and 2011 and on sale volumes provided by the industry association and category breakdowns.

Storage Tanks and Pipeline Cleaning - A new area source category was added to include the emissions from the degassing of storage tanks and pipelines. As part of Rule 1149 amendment, the previous inventory for this category was updated to reflect more frequent degassing events as well as effectiveness of control techniques. It was determined that the actual degassing events were more than triple the amount estimated when the rule was originally developed. It was also assumed that once degassing rule requirements were fulfilled, there were no more fugitive emissions; however, a review of degassing logs indicated that sludge and product residual in the storage tanks significantly increase the emissions emanating from the storage tanks. Finally, the source category was expanded to include previously exempted tanks and pipelines.

Livestock Waste - The inventory for this category was updated to reflect the split of dairy cattle into milking cows, dry cows, calves, and heifers fractions since each has a different VOC emission factor as a function of their manure production.

Gasoline Dispensing - For this source category, the 2008 baseline emissions are the projected values as estimated in 2007 AQMP. However, in the 2007 AQMP, the emissions from gasoline dispensing were adjusted to account for 75% compliance levels identified in various audits conducted by the District since 1997. Based on the recent tests conducted at retail gas dispensing facilities on their In-Station Diagnostic (ISD) System, about 18% of the facilities demonstrated non-compliance (i.e., failed the test). As such, to account for this nonconformance with the requirements, the 75% compliance rate was carried over to 2012 AQMP.

Consumer Products - This category was updated to reflect the three most recent surveys conducted by ARB's Stationary Source Division (SSD) for the years 2003, 2006, and 2008. Together these surveys collected updated product information and ingredient information for approximately 350 product categories. Based on the survey data, CARB staff determined the total product sales and total VOC emissions for the various product categories. Before the emissions inventory was updated, some of the existing categories were split out into more specific categories, others were combined, and new categories were added to better reflect changes in formulations of existing products. The updated survey data reflect VOC reductions from several rulemaking with the net result being an overall emissions decrease. The updates conclude that the projected 2008 emissions in the 2007 AQMP are the same as the 2008 emissions in the Final 2012 AQMP (98 tons per day).

Architectural Coatings - Three new area source categories were added under this category to accurately track the emissions from the colorants. VOC emissions from colorants, pigments added at the point of sale that impart the selected color, had specifically been excluded from Rule 1113, both in terms of the baseline emissions and any VOC restrictions. During the June 3, 2011 Rule 1113 amendment, VOC limits were included in the Rule. The emissions for architectural coatings were also updated to include the 2008 sales and emissions data that the manufacturers submitted under Rule 314 – Fees for Architectural Coatings. Rule 314 requires manufacturers to annually report the quantity and emissions of their architectural coatings sold into or within the District's jurisdiction. This data provides more accurate and updated emission estimates.

Composting - The emission estimation methodology for this area source category was revised to include the emissions from green waste composting covered under District

Rule 1133.3. The 2007 AQMP only included the emissions from co-composting, as it relates to the District Rule 1133.2.

Biogenic Volatile Organic Compounds - Emissions of biogenic volatile organic compounds (BVOCs) were updated to reflect the day specific temperature, relative humidity, and solar radiation inputs used in the ozone and PM2.5 air quality modeling. BVOC emissions were modeled for everyday in 2008. The 2008 BVOC inventory was developed by CARB.

Fugitive Dust - Subsequent to the approval of the 2003 AQMP, CARB released updated emission factors for several fugitive dust sources. The Final 2007 AQMP incorporated those updated emission factors and/or 2002 activity data for source categories such as entrained paved and unpaved road dust, construction, windblown dust, and farming operations. One of the more significant changes was that the factors used to quantify the PM2.5 fraction of PM10 were updated based on studies by the Dust Emissions Joint Forum of the Western Regional Air Partnership (WRAP). These fractions represented the latest technical information for deriving the PM fine fraction (PM2.5-10) of crustal fugitive dust from various sources, including paved and unpaved roads, agriculture, aggregate handling and storage piles, construction/demolition, and wind erosion. The fractions are currently in AP-42 guidance for fugitive dust sources (EPA, November 2006). As noted in the 2007 AQMP, the unspecified category emissions inventories were develop to reflect emissions from private paved and unpaved roads, and emissions from aggregate processing and storage based on facilities subject to Rule 1156 (cement manufacturing) and Rule 1157 (aggregate and related operations). The 2008 baseline inventory for the 2012 AQMP also includes these updates. In addition, the paved road emissions inventory methodology was modified using the latest AP-42 method for quantifying emissions from paved roads (January 2011). In conjunction with CARB, in using this latest paved road methodology, California-specific PM2.5/PM10 fraction (15%) and silt loading variables were used in lieu of the AP-42 default factors. Overall emission estimates were lower for the 2012 AQMP. Table III-1-4 indicates the changes in PM2.5 (tons per day) to the fugitive dust inventories. The updated paved road emissions methodology resulted in a significant reduction in emissions, as did the lower construction emissions which are a result of depressed economy.

TABLE III-1-4

Comparison of 2002 and 2008 PM2.5 Emissions (Tons per day)

SOURCE CATEGORY	2007 AQMP	FINAL 2012 AQMP
	2002 Inventory	**2008 Inventory**
Paved Road Dust	18.9	7.0
Unpaved Road Dust	1.4	0.6
Construction	4.0	2.1
Windblown	0.4	0.3
Farming Operations	0.2	0.3
TOTAL	**24.9**	**10.3**

Special Studies

Aircraft – The aircraft emissions inventory is updated for the 2008 base year and the 2035 forecast year based on the latest available activity data and calculation methodologies. A total of 43 airports were identified as having aircraft operations within the District boundaries including commercial air carrier, air taxi, general aviation, and military aircraft operations. The sources of activity data included airport operators (for several commercial and military airports), Federal Aviation Administration's (FAA) databases (i.e., Bureau of Transportation Statistics, Air Traffic Activity Data System, Terminal Area Forecast), and SCAG's projections. For commercial air carrier operations, SCAG's 2035 forecast, which is consistent with the forecast adopted for the 2012 Regional Transportation Plan (RTP), was used reflecting the future aircraft fleet mix. The emissions calculation methodology was primarily based on the application of FAA's Emissions and Dispersion Modeling System (EDMS) model for airports with detailed activity data for commercial air carrier operations (by aircraft make and model). For other airports and aircraft types (i.e., general aviation, air taxi, military), the total number of landing and takeoff activity data was used in conjunction with the EPA's average emission factors by major aircraft type (e.g., general aviation, air taxi, military). For the intermediate milestone years, the emissions inventories were linearly interpolated between 2008 and 2035.

Ammonia Sources –New 2008 ammonia emissions inventory has been developed for the Final 2012 AQMP development. In conjunction with the ongoing efforts by CARB to develop a state-wide inventory, the District and CARB staffs have worked extensively to develop a new and comprehensive 2008 ammonia inventory for all ammonia source categories. All source categories were reviewed and updated for emission factors,

activity data, and spatial and temporal surrogates. Two new source categories of wood combustion and off-road mobile sources were added to the 2008 inventory. There has been a change in major ammonia emission sources. In 2002 inventory, major sources were on-road mobile (30%), livestock (22%), and domestic (21%) sources while domestic (23%), on-road mobile (20%), industrial (19%), composting (17%) and livestock (14%) sources are major ammonia sources in new 2008 inventory. 2008 Basin total ammonia emissions is 107 tons per day that is 12 tons per day less than 2002 Basin total ammonia emissions of 119 tons per day. 2008 Basin ammonia emissions from livestock, fertilizer application and on-road mobile emissions are decreased from 2002 emissions while soil, landfill, industrial, and composting emissions are increased from 2002 emissions. This updated ammonia emissions inventory has been used for PM modeling for the Final 2012 AQMP development. Table III-1-5 summarizes the changes to the ammonia inventory.

TABLE III-1-5

Comparison of 2002 and 2008 Ammonia Emissions (Tons per day)

SOURCE CATEGORY	2007 AQMP	FINAL 2012 AQMP
	2002 Inventory	**2008 Inventory**
Livestock	26.0	15.5
Soil	1.4	1.8
Domestic	25.1	25.0
Landfill	1.1	3.5
Composting	9.7	17.7
Fertilizer	6.1	1.5
Sewage Treatment	0.1	0.2
Wood Combustion	--	0.1
Industrial	13.2	20.2
On-Road Mobile Source	36.1	21.3
Off-Road Mobile Sources	--	0.1
TOTAL	**118.8**	**107.0**

Mobile Sources

On-Road Mobile Sources

The Final 2012 AQMP emission estimates for on-road motor vehicles come from applying the emission rates in CARB's EMFAC2011 model to the transportation activity data provided by Southern California Association of Government (SCAG) in its adopted 2012 Regional Transportation Plan (RTP). The California Department of Transportation (Caltrans), the Department of Motor Vehicles (DMV), and SCAG supply CARB with data necessary to develop the on-road mobile source emissions inventory. DMV maintains a count of registered vehicles and Caltrans provides highway network, traffic counts and road capacity data. SCAG maintains the regional transportation model containing the temporal and spatial distribution of motor vehicle activity (travel time, travel speed, and volume of traffic for AM-peak, mid-day, PM-peak, evening and night hours). In addition, SCAG periodically conducts origin and destination surveys to validate the regional transportation model. SCAG also updates a demographic database for population, housing, employment and patterns of land use within the District's jurisdiction.

Emission rate data in the EMFAC2011 are collected from various sources, such as individual vehicles in a laboratory setting, tunnel studies and certification data, etc. Vehicle activity data are obtained from regional planning agencies, such as SCAG. The EMFAC2011 model calculates exhaust and evaporative emission rates by vehicle type for different vehicle speeds and environmental conditions (temperature and relative humidity). Temperature and humidity profiles are used to produce month specific, annual average, and episodic inventories.

Parameters accounted for by the EMFAC2011 include the following: type of emissions control technology, fuel type, distribution of operating speeds, speed and temperature correction factors, and the reduction in emissions resulting from the state's motor vehicle regulatory programs.

The EMFAC2011 includes the following mobile source breakdowns:

(1) eight vehicle classes (light-duty passenger; light-duty trucks under 3,750 pounds; light- duty trucks between 3,750 pounds and 5,750 pounds; medium-duty trucks between 5,751 pounds and 8,500 pounds;, light-heavy-duty trucks between 8,501 pounds and 10,000 pounds; light-heavy-duty trucks between 10,001 pounds and 14,000 pounds; medium heavy duty trucks between 14,001 pounds and 33,000 pounds ; and heavy-heavy-duty-trucks for over 33,000 pounds);

(2) two vehicle fuel types (gas and diesel);

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

(4) instate and out-of-state;

(5) forty-five calendar years (1990-2035);

(6) two vehicle exhaust processes (starts and running);

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

(8) seven pollutants (HC, CO, CO2, NOx, PM, SOx, lead); and

(9) fuel consumption.

To develop the detailed emission inputs needed by air quality dispersion models such as the Community Multi-scale Air Quality model (CMAQ) and Comprehensive Air Quality Model with eXtentions (CAMx), emissions from on-road motor vehicles are estimated at the grid level using Caltrans' Direct Travel Impact Model (DTIM). DTIM calculates emissions based on detailed information regarding each link (roadway segment) in an area for each hour of the day. The required inputs of DTIM include traffic volume, traffic speed, vehicle fleet characteristics, ambient temperature, and emission factors of vehicle fleets.

It should be noted that even though the EMFAC2011 is expanded to include more sub-vehicle class categories for some of the major vehicle class categories (i.e., medium-heavy duty diesel trucks & heavy-heavy diesel trucks) based on their weights (heavy or small), types (agricultural, construction, CA international registration plan), by road types (in-state or out-of-state), etc, the on-road mobile sources emissions in the Final 2012 AQMP are reported by major vehicle class categories to compare with previous inventory reporting.

The characteristics of DTIM include:

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

(2) spatial and temporal distribution of emissions to provide hourly gridded emissions; and,

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

DTIM reformats and sorts emission rates for all vehicle classes produced by the EMFAC2011. It then produces average emission rates for specific vehicle classes identified by the user. Finally, it produces regional mobile source emissions and hourly gridded mobile emissions. DTIM does this by combining emission rates with vehicle activity estimates derived from a transportation demand model and supplemental information on temperatures and temporal patterns.

The EMFAC2011 was the basis for on-road planning inventories, emission budgets, and rate-of-progress calculations. EMFAC2011 has been updated to:

- Include the impacts of recently adopted diesel regulations including the Truck and Bus Rule and other diesel truck fleet rules: the Pavley Clean Car Standard, and the Low Carbon Fuel Standard.

- Reflect the latest emissions inventory methods for heavy duty trucks and buses, and the impact of the economic recession.

A detailed description of the EMFAC2011 changes is available at CARB's website (http://www.arb.ca.gov/msei/msei.htm).

Several additional external adjustments are made to EMFAC2011 to reflect CARB's rules and regulations which were adopted after the development of EMFAC2011. The adjustments include the advanced clean cars regulations adopted in January 2012, reformulated gasoline, and Smog Check improvements. Figure 1-3 compares the 2008 and 2023 on-road baseline emissions between EMFAC2007 V2.3 and EMFAC2012 used in the 2007 AQMP and Final 2012 AQMP, respectively. It should be noted that the comparison for 2008 reflects changes in methodology, but the comparison for 2023 also includes adopted rules and updated growth projections since the release of EMFAC2007. In general, the emissions are lower in EMFAC2011 than in EMFAC2007. The lower emissions can be attributed to additional rules and regulations which reduce emissions, future growth corrections, and recessionary impacts.

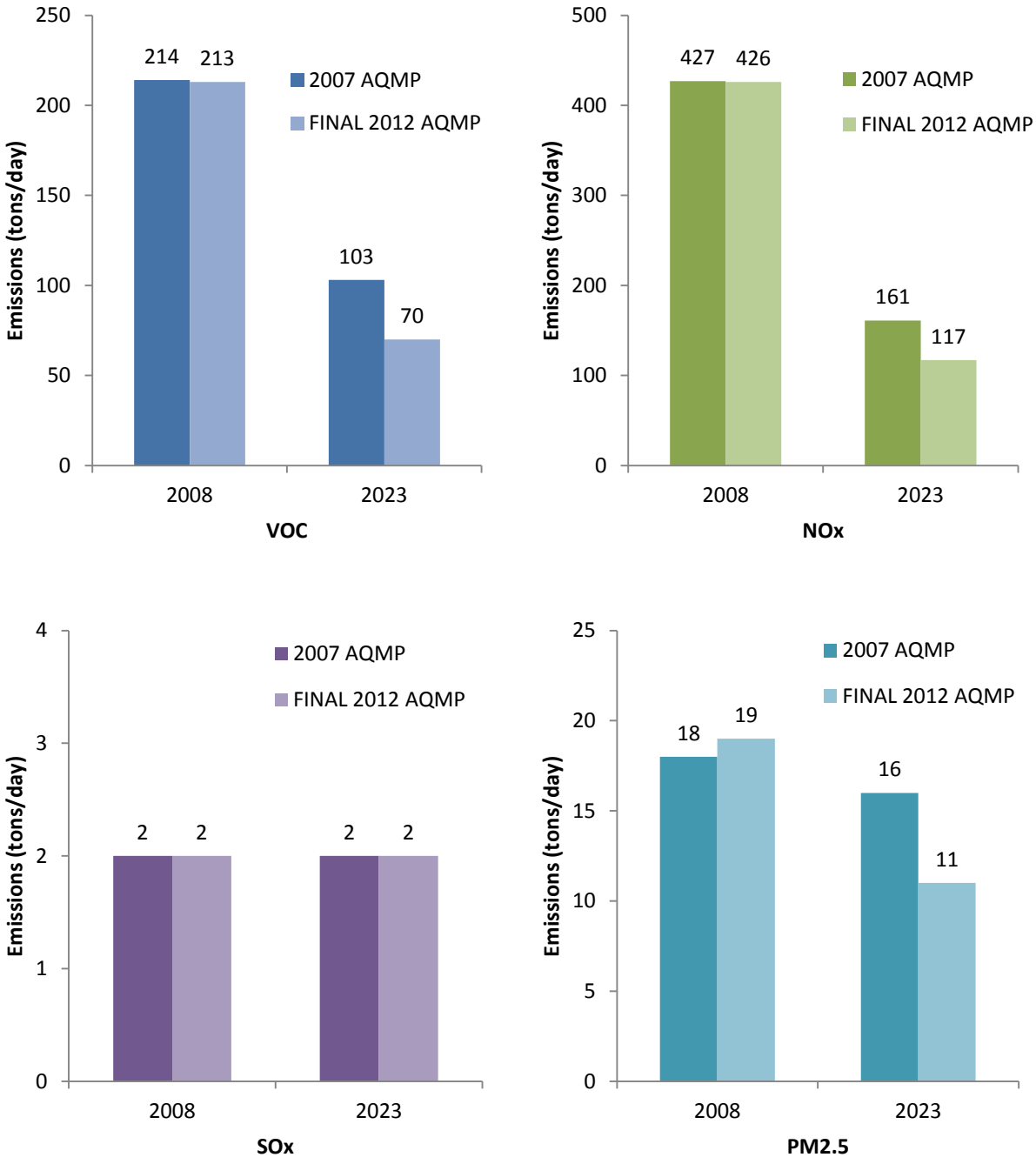


FIGURE III-1-3

Comparison of On-Road Emissions Between EMFAC2007 V2.3 (2007 AQMP)
and EMFAC2011 (Final 2012 AQMP)
(VOC & NOx – Summer Planning; SOx & PM2.5 – Annual Average Inventory)

Off-Road Mobile Sources

Mobile sources not included in the on-road mobile source emissions inventory are considered as off-road mobile sources. CARB uses a number of models to estimate emissions for more than one hundred off-road equipment types. The models account for the effects of various adopted regulations, technology types, and seasonal conditions on emissions. The models combine population, equipment activity, horsepower, load factors, population growth, retirement factors, and emission factors to yield the annual emission by county, air basin or statewide. Temporal usage profiles are used to develop seasonal emission estimates which are then spatially allocated to the county or air basin using surrogates such as population.

The emission inventories were developed using CARB's 2011 In-Use Off-Road Fleet Inventory model for the Final 2012 AQMP. The 2011 In-Use-Off-Road Fleet Inventory model was last updated in 2011 and most data was obtained several years before. It reflects CARB's rules and regulations adopted since the 2007 AQMP. The description of these models is presented as follows:

- **2011 In-Use Off-Road Fleet Inventory Model** - This is an Access database model that forecasts future vehicle population data by type, model year, and horsepower from the Off-Road Simulation Model (OSM). The Model was developed in 2010 to support the analysis for amendments to the In-Use Off-Road Diesel Fueled Fleets Regulation. The equipment population in CARB's In-Use Off-Road Fleet Inventory Model is updated using the equipment population reported to CARB for rule compliance. According to CARB, the total population in 2009 was 26% lower than had been anticipated in 2007 due to fleet downsizing during the recent recession. The equipment hours of use in the Model are updated based on the reported activity data between 2007 and 2009. According to CARB, the new data indicated in most cases 30% or greater reduced activity in 2009 compared to 2007 as a result of the recession. The equipment load factor in CARB's In-Use Off-Road Fleet Inventory model is updated using a 2009 academic study and information from engine manufacturers. According to CARB, the new data suggest the load factors should be reduced by 33%. The model calculates NOx, PM, and VOC, CO2 and SOx emissions. The models can be downloaded from CARB's website at http://www.arb.ca.gov/msei/categories.htm#offroad_motor_vehicles

- **Cargo Handling Emission Inventory Model** - This is an Access database model for diesel equipment subject to regulation for Mobile Cargo Handling Equipment at Ports and Intermodal Rail Yards. Cargo handling equipment has been updated for

population, activity, recessionary impacts on growth, and engine load. The updates are based on new information collected since 2005. The new information includes CARB's regulatory reporting data which provides an accounting of all the cargo handling equipment in the state including their model year, horsepower and activity. In addition, the Ports of Los Angeles and Long Beach have developed annual emissions inventories and a number of the major rail yards and other ports in the state have completed individual emission inventories. The model can be downloaded from CARB's website at http://www.arb.ca.gov/msei/categories.htm#offroad_motor_vehicles

- **Transportation Refrigeration Unit (TRU) Model** – This is an Access database model for diesel engines subject to Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate (TRU Rule). The TRU model was developed to support analysis for the 2011 amendments to the TRU Rule. The current inventory is based on updated activity, population, growth and turn-over data, and updated emission factors and takes into consideration the requirements of the TRU Rule. The model can be downloaded from CARB's website at http://www.arb.ca.gov/msei/categories.htm#offroad_motor_vehicles

- **Ocean Going Vessel (OGV) Model** – This is an Access database model for marine vessels and engines. Ocean-going vessel emissions in the Final 2012 AQMP include CARB's fuel regulation for ocean-going vessels and the 2007 shore power regulation. In addition, the improvements and corrections include recoding the model for speed, updating auxiliary engine information, updating ship routing, revising vessel speed reduction compliance rates, and an adjustment factor to account for the effects of the recession. In March 2010, the International Maritime Organization (IMO) officially designated the waters within 200 miles of the North American Coast as an Emissions Control Area (ECA). Beginning August 2012, this requires ships that travel these waters to use fuel with a sulfur content of less than or equal to 1.0% and in 2015 the sulfur limit will be further reduced to 0.1%. Additionally, vessels built after January 1, 2016 will be required to meet the most stringent IMO Tier 3 NOx emission levels while transiting within the 200 mile ECA zone. Outer Continental Shelf (OCS) emissions (i.e. emissions from vessels beyond the three-mile state waters line) are included in the ships emissions. The model can be downloaded from CARB's website at http://www.arb.ca.gov/msei/categories.htm#offroad_motor_vehicles

- **Commercial Harbor Craft Emission Inventory Models** – These are newly developed models. Three Access database models were developed for diesel engines

which are subject to regulation to reduce emissions from diesel engines on commercial harbor craft operated with California Waters and 24 nautical miles of the California baseline (Harbor Craft Rule). One model was originally developed in 2007 to support the analysis for the Harbor Craft Rule. The other two models were developed to support analysis for the 2010 amendments to the rule which added additional vessel categories to the Harbor Craft Rule. The inventory values from the three models are added together to obtain the AQMP values The model can be downloaded from CARB's website at http://www.arb.ca.gov/msei/categories.htm#offroad_motor_vehicles

- **Aircraft** - The aircraft emissions inventory is updated for the 2008 base year and the 2035 forecast year based on the latest available activity data and calculation methodologies. A total of 43 airports were identified as having aircraft operations within the District boundaries including commercial air carrier, air taxi, general aviation, and military aircraft operations. The sources of activity data include airport operators (for several commercial and military airports), FAA's databases (i.e., Bureau of Transportation Statistics, Air Traffic Activity Data System, Terminal Area Forecast), and SCAG. For commercial air carrier operations, SCAG's 2035 forecast, which is consistent with the forecast adopted for the 2012 RTP, reflects the future aircraft fleet mix. The emissions calculation methodology is primarily based on the application of FAA's Emissions and Dispersion Modeling System (EDMS) model for airports with detailed activity data for commercial air carrier operations (by aircraft make and model). For other airports and aircraft types (i.e., general aviation, air taxi, military), the total number of landing and takeoff activity data is used in conjunction with the EPA's average emission factors by major aircraft type (e.g., general aviation, air taxi, military). For the intermediate milestone years, the emissions inventories are linearly interpolated between 2008 and 2035.

- **Locomotives** – The locomotive inventories reflect the 2008 U.S.EPA locomotive regulations and adjustments due to the economic activity.

Figure 1-4 shows a comparison of the off-road baseline emissions in the 2007 AQMP and Final 2012 AQMP. In general, the emissions are lower in the 2011 In-Use Off-Road Fleet Inventory model, except for 2008 SOx emissions. The projected 2008 off-road NOx emissions in the 2007 AQMP have 339 tons per day. The 2008 base year off-road NOx emissions in the Final 2012 AQMP are 208 tons per day. The 2011 In-Use Off-Road Fleet Inventory emissions are low because more rules and regulations adopted since 2007 OFFROAD model are included, updated data are used, and future growth

corrections and recession impact are included. The higher 2008 SOx emissions estimated reflects the delay in the implementation of the ocean going vessels fuel SOx standard.

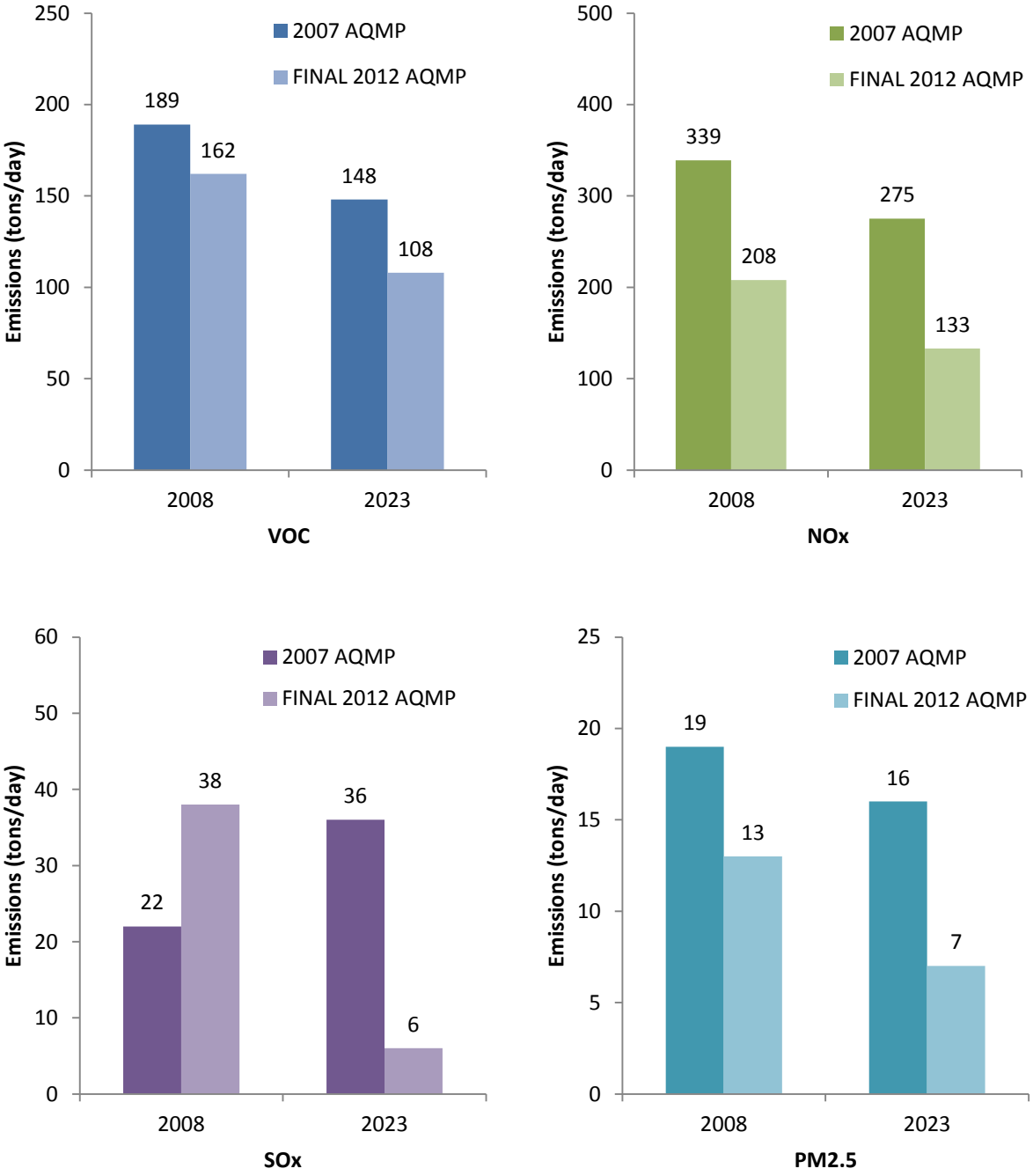


FIGURE III-1-4
Comparison of Off-Road Emissions Between 2007 AQMP and Final 2012 AQMP
(VOC & NOx – Summer Planning; SOx & PM2.5 – Annual Average Inventory)

INVENTORY TYPE

Different inventories are prepared for the Final 2012 AQMP for regulatory and SIP performance tracking, and transportation conformity. Two inventory types are included in the Final 2012 AQMP. They are annual average inventory and summer planning inventory.

Average Annual Day Inventory

The average annual day emissions inventory was derived primarily by dividing the annual total emissions by 365, except for the emissions derived from CARB's EMFAC2011 (on-road mobile sources) and In-Use Off-Road Fleet Inventory (most off-road mobile sources) models. In addition, the average annual day inventory was developed for all criteria pollutants regardless of their attainment status. The average annual day emissions are used to estimate cost-effectiveness of proposed control measures and future tracking of AQMP implementation (e.g., annual progress report on rule adoption).

Planning Inventory

Summer planning inventory provides the basis for tracking emission reduction progress specified by the federal Clean Air Act (CAA) and California Clean Air Act (CCAA). The CAA requires the District to produce a plan for reducing all non-attainment pollutants or their precursors by fifteen percent between 1990 and 1996, and three percent each year thereafter, averaged every consecutive three years until reaching the attainment date. The CCAA requires emission reductions by five percent or more per year, averaged every three consecutive years until 2000. In addition, the CAA specifies 1990 as the base year, whereas the CCAA specifies 1987 as the base year.

SCAB is designated as an extreme non-attainment area for Ozone for the federal air quality standards, and a non-attainment area for Ozone for the state air quality standards. The intent of the summer planning inventory is to characterize emission levels representative of those that occur during the typical season of air quality violations. The summer, or ozone, planning inventory contains emissions of ozone precursors (i.e. VOC and NOx) during the summertime.

The challenge of bringing the Basin air quality into compliance with state and federal ozone air quality standards is complicated by the fact that ambient concentrations of ozone are typically at their highest during the summer (defined as May through October for planning purposes). Any strategy designed to mitigate air pollution in the Basin must consider this summer variation in ambient air quality.

CARB has developed guidelines for the development of planning inventories. For point sources emission estimates represent an "average annual operating day." Emissions from point sources are calculated by dividing the total annual emissions produced by a source by the number of days the source was in operation. For example, if a company emitted 150 tons in a year and the production lines operated 5 days a week for 40 weeks, then the average operating emissions from this facility are calculated to be 150 tons divided by 200 days or 0.75 tons per day.

For area and other mobile sources, planning emissions represent an "average seasonal operating day." As an example, VOC emissions produced by asphalt road-paving operations are calculated by taking into account the variation in monthly levels and weekly operating days for paving activity during the year. Road paving varies from maximum rates during the summer season. Paving activity varies throughout the week with, on average, five operating days in a week. The allocation of annual area source emissions among the seasons is based on estimated relative monthly and weekly emissions patterns. As pointed out earlier, sources included in CARB's In-Use Off-Road Fleet Inventory model include seasonal activity and temperature profiles which are used to develop the planning inventories. CARB's summer planning on-road emission rates in the EMFAC2011 are applied to incorporate with SCAG's updated activity data in the 2012 RTP.

CHAPTER 2
SUMMARY OF EMISSIONS

BASELINE EMISSION INVENTORIES

Base Year Emissions

The 2008 emission inventory is used as the base year inventory to project future year emissions. It represents the most recent and comprehensive inventory development. Attachment C lists SCAB top VOC and NOx producers which emitted equal to or greater than ten (10) tons per year in 2008. The total VOC emissions from these facilities represent 70% of the total point sources VOC emissions and 8% of the total stationary VOC emissions. The total NOx emissions from these facilities represent 84% of the total point sources NOx emissions and 29% of the total stationary sources NOx emissions. The stationary sources emissions result primarily from the combustion of fuels, evaporation of solvents or fuels, and processing of materials. Hence, stationary sources are grouped under fuel combustion; waste disposal; cleaning and surface coatings; petroleum production and marketing; industrial processes; solvent evaporation; and other miscellaneous processes.

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

Table III-2-1A compares the annual average emissions between the 2008 base year in the Final 2012 AQMP and the projected 2008 emissions in the 2007 AQMP by major source category for VOC and NOx, while Table III-2-1B compares the annual average emissions between the 2008 base year in the Final 2012 AQMP and the projected 2008 emissions in the 2007 AQMP for SOx and PM2.5. Due to the economic recession which began in 2007, it is expected that the 2008 base year emissions should be lower than the projected 2008 emissions. Yet, several categories show higher emissions in the 2008 base year in the 2012 AQMP, such as fuel consumption, waste disposal, petroleum production and marketing for VOC; fuel consumption for NOx; off-road emissions for SOx; and industrial processes for PM2.5. As mentioned earlier the differences are due to the methodology updates, implementation delays and inclusion of overlooked emissions.

TABLE III-2-1A

Comparison of VOC and NOx Emissions By Major Source Category of
2008 Base Year in 2012 AQMP and Projected 2008 in 2007 AQMP
Annual Average Inventory (tpd[1])

	2007 AQMP	2012 AQMP	% Change	2007 AQMP	2012 AQMP	% Change
SOURCE CATEGORY	**VOC**			**NOx**		
Stationary Sources						
Fuel Combustion	7	14	+100%	30	41	+36%
Waste Disposal	8	12	+50%	2	2	0%
Cleaning and Surface Coatings	37	37	0%	0	0	0%
Petroleum Production and Marketing	32	41	+28%	0	0	0%
Industrial Processes	19	16	-16%	0	0	0%
Solvent Evaporation						
Consumer Products	97	98	+1%	0	0	0%
Architectural Coatings	23	22	-5%	0	0	0%
Others	3	2	-33%	0	0	0%
Misc. Processes	15	15	0%	26	26	0%
RECLAIM SOURCES	0	0	0%	29	23	-21%
Total Stationary Sources	**241**	**257**	**+7%**	**87**	**92**	**+6%**
Mobile Sources						
On-Road Vehicles	207	209	+1%	447	462	+3%
Off-Road Vehicles	150	127	-15%	325	204	-37%
Total Mobile Sources	**357**	**336**	**-6%**	**772**	**666**	**-14%**
TOTAL	**598**	**593**	**-1%**	**859**	**758**	**-12%**

[1] Values are rounded to nearest integer.

TABLE III-2-1B

Comparison of SOx and PM2.5 Emissions By Major Source Category of
2008 Base Year in 2012 AQMP and Projected 2008 in 2007 AQMP
Annual Average (tpd[1])

	2007 AQMP	2012 AQMP	% Change	2007 AQMP	2012 AQMP	% Change
SOURCE CATEGORY	**SOx**			**PM2.5**		
Stationary Sources						
Fuel Combustion	2	2	0%	6	6	0%
Waste Disposal	0	0	0%	0	0	0%
Cleaning and Surface Coatings	0	0	0%	1	1	0%
Petroleum Production and Marketing	1	1	0%	1	2	+100%
Industrial Processes	0	0	0%	5	7	+40%
Solvent Evaporation						
Consumer Products	0	0	0%	0	0	0%
Architectural Coatings	0	0	0%	0	0	0%
Others	0	0	0%	0	0	0%
Misc. Processes *	1	1	0%	52	32	-39%
RECLAIM SOURCES	12	10	-17%	0	0	0%
Total Stationary Sources	**16**	**14**	**-12%**	**65**	**48**	**-26%**
Mobile Sources						
On-Road Vehicles	2	2	0%	18	19	6%
Off-Road Vehicles	14	38	+171%	18	13	-28%
Total Mobile Sources	**16**	**40**	**+150%**	**36**	**32**	**-11%**
TOTAL	**32**	**54**	**+69%**	**101**	**80**	**-21%**

[1] Values are rounded to nearest integer.

*Includes residential fuel combustion, farming operations, construction, road dust, waste burning and disposal.

Future Year Emissions

Future baseline emissions, assuming no additional air quality regulations are introduced, are given in this appendix for the years 2014, 2017, 2019, 2023, and 2030. These emissions are forecast from the 2008 base year by incorporating the controls implemented under AQMD rules adopted as of June 2012, and CARB adopted by August 2011, and a specific set of growth rates from SCAG for population, industry, and motor vehicle activity. Growth projections from SCAG were replaced for certain categories where more specific information is available to improve emission forecasts.

For example, 2011 California Gas Fuel Report's energy demand forecasts for natural gas, including the energy efficiency, are used to forecast the emissions of those source categories. Several external adjustments are made to include CARB's rules adopted after August 2011, and emission reductions are not included in the EMFAC2011 or In-Use Off-Road Fleet Inventory models. These external adjustments in the Final 2012 AQMP include large spark ignition engines, non-agricultural internal combustion engines, advanced clean vehicles (LEVIII), Smog Check improvement, pleasure craft, and locomotives.

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

$$\mathbf{(F.Y.)_i = (B.Y.)_i(C.F.)_i(G.F.)_i}$$

where (F.Y.)i is the forecast emissions of an air pollutant in the South Coast Air Basin for a future year. (B.Y.)i refers to the base year emissions of the air pollutant (i.e., 2008). The control factor, (C.F.)i, is an indicator of the level of control on a specific source category as a result of adopted state and local air quality regulations. (G.F.)i is a growth factor determined for different categories of industry and socioeconomic data.

Control Factors

The impact of AQMD rules adopted or amended with compliance dates after 2008 are included in the baseline emission forecasts by means of control factors. Control factors were developed in reference to 2008 and applied to source categories and/or specific industries affected by the adopted rules/amendments. For industry, the standard industrial codes (SIC) system is used, and for equipment, EPA's SCC system is used. A control factor $(C.F.)_i$ is calculated by the following equation for an individual source category:

$$\mathbf{(C.F.)_i = 1 - Control\ Efficiency}$$

Control efficiency is mostly based on estimates projected during rulemaking. Control factors represent the remaining emissions after a rule or regulation is implemented after

2008. Table III-2-2 lists control factors for the years 2014 and 2023 for District rules with post-2008 compliance dates.

Growth Factors

For growth purposes, facility business type is assigned to the facilities based on North American Industry Classification System (NAICS) Code according to their primary activity. Growth projections by NAICS were developed by SCAG. The Final 2012 AQMP growth data is based on SCAG's 2012 RTP. The data was adjusted with the most recent data from Bureau of Labor Statistics (BLS), California Department of Finance (DOF), California Employment Development Department and U.S. Census Bureau (Census). The SCAG's 2012 RTP growth estimates are lower than SCAG's 2008 RTP for the following reasons: (1) Recent population projections from BLS, DOF and Census indicate that SCAG region will face significant slow growth , which will affect long-term employment growth in SCAG region. This is due to the aging trend of the baby-boomer population and the recessionary impacts; (2) The Final 2012 AQMP employment growth is adjusted by both the economic recession and globalization. Since the employment forecast is based on a historical trend, sluggish job growth in recent years translates into slower short-term and long-term employment growth for the SCAG region.

Each emission inventory source grows based on its growth surrogate. Growth surrogates include industry output growth, employment growth, demographic growth and others. The selection of the surrogate by which emission growth is projected depends on the type of activity. For instance, manufacturing sectors use output growth as surrogate. Output growth is the product of employment and productivity. Employment growth is chosen for labor intensive sectors, such as construction and laundering. Certain emission sources use demographic data as their surrogate, such as architectural coatings (housing units as surrogate) and composting (population as surrogate). Some growth projections are from ARB's special studies or Southern California Gas Company 2011 Gas Fuel Report for natural gas combustion related categories.

TABLE III-2-2A

Control Factors by District Rules with Post-2008 Compliance Dates

		2014				2023			
RULES*	**DESCRIPTION**	**VOC**	**NOx**	**SOx**	**PM**	**VOC**	**NOx**	**SOx**	**PM**
1105.1	Fluid Catalytic Cracking Units (FCCUs)	-	-	-	0.83	-	-	-	0.83
1110.2**	Gaseous & Liquid Fuel Engines	0.93	0.26	-	-	0.93	0.26	-	-
1111	Natural-Gas-Fired, Fan-Type Central Furnaces	-	0.99	-	-	0.73	-	-	-
1113	Architectural Coatings	0.90	-	-	-	0.90	-	-	-
1118	Refinery Flares	0.68	0.59	0.50	0.54	0.68	0.59	0.50	0.54
1121	Residential - Natural-Gas-Fired Water Heaters	-	0.59	-	-	-	0.34	-	-
1133.2	Co-Composting & Related Operations	0.93	-	-	-	0.93	-	-	-
1133.3	Greenwaste Composting Operations	0.67	-	-	-	0.67	-	-	-
1143	Consumer Paint Thinners & Multi-Purpose Solvents	0.04	-	-	-	0.04	-	-	-
1144	Metalworking Fluids & Direct-contact Lubricant	0.33	-	-	-	0.33	-	-	-
1146	Large Ind/Comm Boilers, Steam Generator, & Process Heaters	-	0.50	-	-	-	0.36	-	-
1146.1	Small Ind/Comm Boilers, Steam Generators & Process Heaters	-	0.40	-	-	-	0.31	-	-
1146.2	Large Water Heaters & Small Boilers	-	0.67	-	-	-	0.60	-	-
1147	Nox Reductions from Miscellaneous Sources	-	0.44	-	-	-	0.39	-	-
1149	Storage Tank & Pipeline Cleaning & Degassing	0.11	-	-	-	0.11	-	-	-
1151	Motor Vehicle & Equip. Non-Assembly Line Coating	0.96	-	-	-	0.96	-	-	-
1156	Cement Manufacturing Facilities	-	-	-	0.97	-	-	-	0.97
1177	LPG Transfer and Dispensing	0.65	-	-	-	0.29	-	-	-
1178	Storage Tanks at Petroleum Facilities	0.88	-	-	-	0.88	-	-	-
445	Wood Burning Devices	-	-	-	0.89	-	-	-	0.89

*Current as of June 2012. Only rules with emissions impact after 2008 are listed.

** Emission reductions from biogas are adjusted in Section of "SIP Set Aside Account".

TABLE III-2-2B

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

		2014				2023			
RULES*	**DESCRIPTION**	**VOC**	**NOx**	**SOx**	**PM2.5**	**VOC**	**NOx**	**SOx**	**PM2.5**
1105.1	Fluid Catalytic Cracking Units (FCCUs)	-	-	-	0.07	-	-	-	0.07
1110.2**	Gaseous & Liquid Fuel Engines	0.47	5.61	-	-	0.44	5.43	-	-
1111	Natural-Gas-Fired, Fan-Type Central Furnaces	-	0.09	-	-		2.44	-	-
1113	Architectural Coatings	1.66	-	-	-	1.80	-	-	-
1118	Refinery Flares	0.03	0.13	0.11	0.06	0.04	0.13	0.11	0.07
1121	Residential - Natural-Gas-Fired Water Heaters	-	2.78	-	-	-	4.32	-	-
1133.2	Co-Composting & Related Operations	0.16	-	-	-	0.16	-	-	-
1133.3	Greenwaste Composting Operations	0.77	-	-	-	0.77	-	-	-
1143	Consumer Paint Thinners & Multi-Purpose Solvents	9.90	-	-	-	10.60	-	-	-
1144	Metalworking Fluids & Direct-contact Lubricant	3.72	-	-	-	3.96	-	-	-
1146	Large Ind/Comm Boilers, Steam Generator, & Process Heaters	-	1.11	-	-	-	1.71	-	-
1146.1	Small Ind/Comm Boilers, Steam Generators & Process Heaters	-	0.67	-	-	-	0.66	-	-
1146.2	Large Water Heaters & Small Boilers	-	3.17	-	-	-	3.48	-	-
1147	Nox Reductions from Miscellaneous Sources	-	1.57	-	-	-	2.20	-	-
1149	Storage Tank & Pipeline Cleaning & Degassing	1.45	-	-		1.53	-	-	-
1151	Motor Vehicle & Equip. Non-Assembly Line Coating	0.32	-	-	-	0.39	-	-	
1156	Cement Manufacturing Facilities	-	-	-	0.01	-	-	-	0.01
1177	LPG Transfer and Dispensing	3.07	-	-	-	6.68	-	-	-
1178	Storage Tanks at Petroleum Facilities	0.12	-	-	-	0.13	-	-	-
445	Wood Burning Devices	-	-	-	0.63	-	-	-	0.63
TOTAL		**21.68**	**15.13**	**0.11**	**0.76**	**26.49**	**20.38**	**0.11**	**0.77**

*Adopted or amended as of June 2012. Only rules with emissions impact after 2008 are listed.

** Emission reductions from biogas are adjusted in Section of "SIP Set Aside Account".

*** Emission reductions are annual average emissions presented in sequence.

The demographic forecasts from the year 2008 to the years 2023, and 2030 for population, housing, employment, and motor vehicle activity are shown in Table III-2-3.

TABLE III-2-3

Baseline Demographic Forecasts in the Final 2012 AQMP

CATEGORY	2008	2023 (% GROWTH)		2030 (% GROWTH)	
Population (Millions)	15.6	17.3	11%	18.1	16%
Housing Units (Millions)	5.1	5.7	12%	6.0	18%
Total Employment (Millions)	7.0	7.7	10%	8.1	16%
Daily VMT (Millions)	379	396	4%	421	11%

Current forecasts indicate that this region will experience a population growth of 11 percent by the year 2023 with a 4 percent increase in vehicle miles traveled (VMT); and a population growth of 16% by the year 2030 with a 11% increase in VMT.

As compared to the projection from the 2007 AQMP, the current projection for the Final 2012 AQMP for the year 2030 shows about a 1.5 million (7.6%) decrease in population, 900,000 (10%) decrease in total employment and 32 million miles (7.1%) decrease in the daily VMT forecast.

Table III-2-4 shows the relative distribution of population by county in the Basin for the years 1997, 2002, 2008, 2014, 2023, and 2030. By 2030 the population in Los Angeles County is projected to increase by 12 percent from 2008 levels, compared with increases for Orange, San Bernardino, and Riverside counties of 14 percent, 39 percent, and 24 percent respectively.

TABLE III-2-4

Population Distribution by County in SCAB (in Thousands)

YEAR	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO	BASIN TOTAL
1997	8,881	2,750	1,072	1,250	13,954
2002	9,486	2,931	1,278	1,410	15,105
2008	9,398	2,989	1,683	1,510	15,580
2014	9,648	3,119	1,842	1,592	16,201
2023	10,107	3,316	2,114	1,745	17,282
2030	10,509	3,408	2,335	1,878	18,130

* Source – SCAG socio-economic data (11/11)

Growth factors for specified ranges of NAICS categories were projected by SCAG, and are based on predictions of growth for different industrial sectors per county. SCAG has provided growth factors for the years 2005, 2011, 2012, 2015, 2018, 2020, 2023, 2025, and 2030. The growth factors for other years are interpolated. Table III-2-5 lists the point sources growth surrogate by NAICs. Table III-2-6 has the area sources growth surrogate by source category. Tables III-2-7 to III-2-10 illustrate the growth factors for point sources by NAICS for years of 2014, 2019, 2023 and 2030 in the Final 2012 AQMP. Tables III-2-11 to III-2-14 contain the growth factors for years of 2014, 2019, 2023, and 2030 in the Final 2012 AQMP for the area sources by source category.

TABLE III-2-5

Point Sources Growth Surrogate by Source Category

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

TABLE III-2-5 (continued)

Point Sources Growth Surrogate by Source Category

NAICS	SOURCE DESCRIPTION	GROWTH SURROGATE
325	Chemical Manufacturing	325 Output
326	Plastics and Rubber Products Manufacturing	326 Output
327	Nonmetallic Mineral Product Manufacturing	327 Output
331	Primary Metal Manufacturing	331 Output
332	Fabricated Metal Product Manufacturing	332 Output
333	Machinery Manufacturing	333 Output
334	Computer and Electronic Product Manufacturing	334 Output
335	Electrical Equipment -Appliance-Component Manufacturing	335 Output
336	Transportation Equipment Manufacturing	336 Output
337	Furniture and Related Product Manufacturing	337 Output
339	Miscellaneous Manufacturing	339 Output
423	Merchant Wholesalers-Durable Goods	423 Employment
424	Merchant Wholesalers - Nondurable Goods	424 Employment
425	Wholesale Electronic Markets and Agents and Brokers	425 Employment
441	Motor Vehicle and Parts Dealers	441 Employment
442	Furniture and Home Furniture Stores	442 Employment
443	Electronics and Appliance Stores	443 Employment
444	Building Material-Garden Equipment-Supplies Dealers	444 Employment
445	Food and Beverage Stores	445-6 Employment
446	Health and Personal Care Stores	445-6 Employment
447	Gasoline Stations	447 Output
448	Clothing and Clothing Accessories Stores	448 Output
451	Sporting Goods-Hobby-Book- Music Stores	451-454 Output
452	General Merchandise Stores	451-454 Output
453	Miscellaneous Store Retailers	451-454 Output
454	Nonstore Retailers	451-454 Output
481	Air Transportation	481 Output

TABLE III-2-5 (continued)

Point Sources Growth Surrogate by Source Category

NAICS	SOURCE DESCRIPTION	GROWTH SURROGATE
482	Rail Transportation	482 Output
483	Water Transportation	483 Output
484	Truck Transportation	484 Output
485	Transit and Ground Passenger Transportation	485 Output
486	Pipeline Transportation	486 Output
487	Scenic and Sightseeing Transportation	487 Output
488	Support Activities for Transportation	488 Output
491	Postal Service	491-493 Employment
492	Couriers and Messengers	491-493 Employment
493	Warehousing and Storage	491-493 Output
511	Publishing Industries (except Internet)	511-519 Output
512	Motion Picture and Sound Recording Industries	511-519 Output
515	Broadcasting (except Internet)	511-519 Output
517	Telecommunications	511-519 Output
518	Data Processing- Hosting and Related Services	511-519 Output
519	Other Information Services	511-519 Output
521	Monetary Authorities-Central Bank	521-525 Employment
522	Credit Intermediation and Related Activities	521-525 Employment
523	Securities-Commodity-Other Financial Investments	521-525 Employment
524	Insurance Carriers and Related Activities	521-525 Employment
525	Funds-Trusts-and Other Financial Vehicles	521-525 Employment
531	Real Estate	531-533 Employment
532	Rental and Leasing Services	531-533 Employment
533	Lessors of Nonfinancial Intangible Assets (no Copyright)	531-533 Employment
541	Professional-Scientific-and Technical Services	541 Employment
551	Management of Companies and Enterprises	551 Employment
561	Administrative and Support Services	561-562 Employment
562	Waste Management and Remediation Services	561-562 Employment

TABLE III-2-5 (concluded)

Point Sources Growth Surrogate by Source Category

NAICS	SOURCE DESCRIPTION	GROWTH SURROGATE
611	Educational Services	Pop 5 to 24
621	Ambulatory Health Care Services	Population
622	Hospitals	Pop 0 to 4 and 65 up
623	Nursing and Residential Care Facilities	Pop 65 up
624	Social Assistance	621-624 Employment
711	Performing Arts-Spectator Sports-and Related Industries	711-713 Output
712	Museums-Historical Sites-and Similar Institutions	711-713 Output
713	Amusement-Gambling-and Recreation Industries	711-713 Output
721	Accommodation	Total Employment
722	Food Services and Drinking Places	Total Employment
811	Repair and Maintenance	Total Employment
812	Personal and Laundry Services	Total Employment
813	Religious-Grant-Civic-Professional-and Similar Org	811-814 Employment
814	Private Households	811-814 Employment
921	Executive-Legislative-and Other General Govt Support	921-928 Employment
922	Justice-Public Order-and Safety Activities	921-928 Employment
923	Administration of Human Resource Programs	921-928 Employment
924	Administration of Environmental Quality Programs	921-928 Employment
925	Admin of Housing Pgms-Urban-Community Development	921-928 Employment
926	Administration of Economic Programs	921-928 Employment
927	Space Research and Technology	921-928 Employment
928	National Security and International Affairs	921-928 Employment

TABLE III-2-6

Area Sources Growth Surrogate by Source Category

SOURCE DESCRIPTION	SURROGATE
Cogen	SCG- Cogen *
Gaseous Fuel	No Growth
Industrial Natural Gas (Unspecified)	SCG - Industrial Combustion *
Ind. Stationary IC Engines - Natural Gas	SCG - Industrial Combustion *
Industrial LPG Combustion	Manufacturing Output
Industrial Distillate Oil Combustion	Manufacturing Output
Ag Irrigation IC Engines-Stationary	ARB Data from San Joaquin Study
Ag Irrigation IC Engines-Portable	ARB Data from San Joaquin Study
Commercial Natural Gas Comb. (Other)	SCG - Commercial Combustion *
Commercial LPG Combustion	Service Output
Commercial Space Heating	SCG- Commercial Space *
Commercial Water Heating	SCG - Commercial Water *
Resource Recovery	SCG – Cogen *
Stationary Engines - Diesel	ARB Growth Data
Municipal Waste Disposal	ARB Growth Data
Biological Waste - Composting	Population
Laundering	Total Employment
Degreasing	Manufacturing Output
Auto Refinishing	Misc. Services Employment
Marine Coating	Water Transportation Output
Paper Coating	Paper Manufacturing Output
Metal Part and Products Coatings	Fabricated Metal Output
Wood and Fabricated Furniture Coatings	Furniture Output
Plastic Parts Coatings	Plastic Output
Semiconductor Coatings	Computer Output
Aircraft and Aerospace Coatings	Air Transportation Output
Printing	Printing Output
Adhesive and Sealants (Solvent Based)	Manufacturing Output
Adhesive and Sealants (Water Based)	Manufacturing Output

TABLE III-2-6 (continued)

Area Sources Growth Surrogate by Source Category

SOURCE DESCRIPTION	SURROGATE
Miscellaneous Industrial Solvents	Manufacturing Output
Oil Production Fugitive	NAICS 211 Output
Gasoline Dispersing Tank-Working Losses	Gasoline Consumption
Vehicle Refueling-Vapor Displacement Losses	Gasoline Consumption
Gasoline Dispensing Tank-Breathing Losses	Gasoline Consumption
Vehicle Refueling-Spillage	Gasoline Consumption
Natural Gas Transmission Losses	Natural Gas
Bulk Gasoline Storage and Transfer (Unspec)	Crude Oil
Tank Cargo-Pressure Related Fug. Losses	Gasoline Consumption
Tank Cargo-Vapor Hose Fugitive Losses	Gasoline Consumption
Tank Cargo-Product Hose Fugitive Losses	Gasoline Consumption
Storage Tank and Pipeline Cleaning	Gasoline Consumption
LPG Transfer and Dispensing - Fugitive Losses	Households
Rubber and Rubber Products	Plastic Output
Plastic and Plastic Products	Plastic Output
Fiberglass and Fiberglass Products	Plastic Output
Wine Fermentation	ARB Growth Data
Ag Crop Processing Losses	Agriculture Output
Bakeries	Food Output
Wine Aging	ARB Growth Data
Other Mineral Processes	Mineral Product Output
Sand and Gravel Excavation	Mineral Product Output
Asphaltic Concrete Production	No Growth
Grinding/Crushing of Aggregates	Mineral Product Output
Surface Blasting	Mining Extraction Output
Cement Concrete Manufacturing and Fabrication	Mineral Product Output

TABLE III-2-6 (continued)

Area Sources Growth Surrogate by Source Category

SOURCE DESCRIPTION	SURROGATE
Open Pile Storage	No Growth
Secondary Metal Production	Primary Metal Output
Industrial Lubricant	Population
Wood Product Losses	Furniture Output
Consumer Products	Population
Architectural Coatings	Households
Ag Pesticides Methyl Bromide	ARB Data from San Joaquin Study
Ag Pesticides non-Methyl Bromide	ARB Data from San Joaquin Study
non-Ag Pesticides-Methyl Bromide	ARB Growth Surrogate
non-Ag Pesticides-non-Methyl Bromide	ARB Growth Surrogate
Asphalt Paving	Construction Employment
Residential Natural Gas Comb -Other	SCG - Residential Comb.*
Residential Distillate Oil Combustion	Households
Residential LPG Combustion	Households
Residential Natural Gas Space Heating	SCG - Residential Space *
Residential Natural Gas Water Heating	SCG - Residential Water *
Residential Natural Gas Cooking	SCG - Residential Cooking *
Residential Wood Stoves	No Growth
Residential Wood Fireplaces	No Growth
Farming Operations	ARB Growth Data
Residential Building Construction - Dust	Construction Employment
Commercial Building Construction - Dust	Construction Employment
Industrial Building Construction - Dust	Construction Employment
Road Construction - Dust	Construction Employment
Institutional Building Construction - Dust	Construction Employment
Paved Road Travel (Unspecified)	No Growth
Paved Road Travel-Freeways	Center Line (freeway)
Paved Road Travel-Major	Center Line (major)
Paved Road Travel-Local	Center Line (other)

TABLE III-2-6 (concluded)

Area Sources Growth Surrogate by Source Category

SOURCE DESCRIPTION	SURROGATE
Paved Road Travel-Local	Center Line (other)
Unpaved Road Travel -City and County Roads	No Growth
Unpaved Road Travel - US Forest and Park Roads	No Growth
Unpaved Road Travel -BLM Roads	No Growth
Unpaved Road Travel -Farm Roads	ARB Data from San Joaquin Study
Unpaved Roads (Unspecified)	No Growth
Ag Land (Non-Pasture) - Wind Dust	ARB Data from San Joaquin Study
Unpaved Roads - Wind Dust	No Growth
Ag Land (Pasture) - Wind Dust	ARB Data from San Joaquin Study
Fires	No Growth
Ag Burning - Pruning	ARB Data from San Joaquin Study
Weed Abatement	No Growth
Forest Management	Forest
Range Improvement	Agriculture Employment
Cooking	Total Employment

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

TABLE III-2-7

NAIC Emission Growth Factors by County in the SCAB for the Year 2014

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Agriculture, Forestry, Animal, Fishing and Hunting	11	1.061	0.985	1.265	0.892
Oil and Gas Extraction	211	1.073	0.997	1.281	0.903
Mining (except Oil and Gas)	212	1.070	0.993	1.276	0.900
Support Activities for Mining	213	1.070	0.993	1.276	0.900
Utilities - Except Electricity	221	1.005	0.945	1.160	1.048
Utilities – Electricity *	221	0.882	0.882	0.882	0.882
Construction	23	0.862	0.875	1.099	1.019
Food Manufacturing	311	1.026	0.981	1.068	1.059
Beverage and Tobacco Product Manufacturing	312	0.942	0.901	0.981	0.973
Textile Mills	313	1.304	1.247	1.357	1.346
Textile Product Mills	314	1.250	1.196	1.301	1.291
Apparel Manufacturing	315	1.182	1.130	1.230	1.220
Leather and Allied Product Manufacturing	316	1.108	1.060	1.153	1.144
Wood Product Manufacturing	321	0.976	0.933	1.016	1.008
Paper Manufacturing	322	1.009	0.965	1.050	1.042
Printing and Related Support Activities	323	0.927	0.886	0.964	0.957
Petroleum and Coal Products Manufacturing	324	1.000	1.000	1.000	1.000
Chemical Manufacturing	325	1.115	1.067	1.161	1.152
Plastics and Rubber Products Manufacturing	326	1.171	1.120	1.219	1.209
Nonmetallic Mineral Product Manufacturing	327	1.007	0.963	1.048	1.040
Primary Metal Manufacturing	331	0.932	0.892	0.970	0.963
Fabricated Metal Product Manufacturing	332	1.035	0.990	1.077	1.069
Machinery Manufacturing	333	1.057	1.011	1.100	1.091

* These factors incorporate SCAG's employment growth projections (1.0053) and SCG's efficiency improvement and renewable portfolio standards of 0.877.

TABLE III-2-7 (continued)

NAIC Emission Growth Factors by County in the SCAB for the Year 2014

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Computer and Electronic Product Manufacturing	334	1.485	1.421	1.546	1.534
Electrical Equipment -Appliance-Component Manufacturing	335	1.065	1.019	1.109	1.100
Transportation Equipment Manufacturing	336	1.122	1.073	1.168	1.159
Furniture and Related Product Manufacturing	337	1.117	1.068	1.162	1.153
Miscellaneous Manufacturing	339	1.099	1.052	1.144	1.135
Wholesale Trade	42	0.983	0.924	1.098	0.985
Motor Vehicle and Parts Dealers	441	0.994	0.919	1.158	1.022
Furniture and Home Furniture Stores	442	0.994	0.919	1.158	1.022
Electronics and Appliance Stores	443	0.994	0.919	1.158	1.022
Building Material-Garden Equipment-Supplies Dealers	444	0.994	0.919	1.158	1.022
Food and Beverage Stores	445	0.994	0.919	1.158	1.022
Health and Personal Care Stores	446	0.994	0.919	1.158	1.022
Gasoline Stations	447	1.243	1.149	1.447	1.277
Clothing and Clothing Accessories Stores	448	1.243	1.149	1.447	1.277
Sporting Goods-Hobby-Book-Music Stores	451	1.243	1.149	1.447	1.277
General Merchandise Stores	452	1.243	1.149	1.447	1.277
Miscellaneous Store Retailers	453	1.243	1.149	1.447	1.277
Nonstore Retailers	454	1.243	1.149	1.447	1.277
Air Transportation	481	1.212	1.131	1.584	1.314
Rail Transportation	482	1.066	0.995	1.000	1.156
Water Transportation	483	1.255	1.171	1.640	1.361
Truck Transportation	484	1.130	1.054	1.477	1.225
Transit and Ground Passenger Transportation	485	1.051	0.980	1.373	1.139

TABLE III-2-7 (concluded)

NAIC Emission Growth Factors by County in the SCAB for the Year 2014

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Pipeline Transportation	486	1.047	0.977	1.368	1.135
Scenic and Sightseeing Transportation	487	1.039	0.969	1.357	1.126
Support Activities for Transportation	488	1.039	0.969	1.357	1.126
Postal Service	491	0.997	0.930	1.302	1.080
Couriers and Messengers	492	0.997	0.930	1.302	1.080
Warehousing and Storage	493	1.130	1.054	1.477	1.225
Information	51	1.325	1.173	1.857	1.576
Finance and Insurance	52	0.979	0.943	1.124	0.989
Real Estate and Rental and Leasing	53	0.979	0.943	1.124	0.989
Professional-Scientific-and Technical Services	541	1.017	0.975	1.098	1.049
Management of Companies and Enterprises	551	1.017	0.975	1.098	1.049
Administrative and Support Services	561	1.017	0.975	1.098	1.049
Waste Management and Remediation Services	562	1.017	0.975	1.098	1.049
Educational Services	611	0.997	1.020	1.074	1.032
Ambulatory Health Care Services	621	1.027	1.043	1.095	1.054
Hospitals	622	1.095	1.121	1.149	1.112
Nursing and Residential Care Facilities	623	1.137	1.163	1.198	1.176
Social Assistance	624	1.070	1.006	1.186	1.051
Arts, Entertainment, Museums, and Recreation	71	1.053	0.981	1.201	1.066
Accommodation and Food Services	72	1.005	0.945	1.160	1.048
Repair and Maintenance	811	1.005	0.945	1.160	1.048
Personal and Laundry Services	812	1.005	0.945	1.160	1.048
Religious-Grant-Civic-Professional-and Similar Org	813	0.998	0.930	1.257	1.131
Private Households	814	0.998	0.930	1.257	1.131
Public Administration	92	1.087	1.034	1.653	1.524

Base year is 2008.

TABLE III-2-8

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

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Agriculture, Forestry, Animal, Fishing and Hunting	11	1.099	1.197	1.524	1.149
Oil and Gas Extraction	211	1.118	1.217	1.551	1.169
Mining (except Oil and Gas)	212	1.112	1.210	1.542	1.162
Support Activities for Mining	213	1.112	1.210	1.542	1.162
Utilities - Except Electricity	221	1.042	0.991	1.388	1.143
Utilities – Electricity *	221	0.865	0.865	0.865	0.865
Construction	23	0.996	1.064	1.751	1.393
Food Manufacturing	311	1.114	1.078	1.429	1.267
Beverage and Tobacco Product Manufacturing	312	0.961	0.930	1.232	1.092
Textile Mills	313	1.697	1.641	2.177	1.930
Textile Product Mills	314	1.572	1.521	2.017	1.787
Apparel Manufacturing	315	1.428	1.382	1.832	1.624
Leather and Allied Product Manufacturing	316	1.275	1.234	1.635	1.450
Wood Product Manufacturing	321	1.024	0.990	1.313	1.164
Paper Manufacturing	322	1.083	1.048	1.389	1.232
Printing and Related Support Activities	323	0.936	0.905	1.200	1.064
Petroleum and Coal Products Manufacturing	324	1.000	1.000	1.000	1.000
Chemical Manufacturing	325	1.290	1.248	1.655	1.467
Plastics and Rubber Products Manufacturing	326	1.403	1.358	1.800	1.596
Nonmetallic Mineral Product Manufacturing	327	1.078	1.043	1.382	1.226
Primary Metal Manufacturing	331	0.947	0.916	1.213	1.076
Fabricated Metal Product Manufacturing	332	1.132	1.095	1.452	1.287
Machinery Manufacturing	333	1.175	1.137	1.507	1.336

* These factors incorporate SCAG's employment growth projections (1.0634) and SCG's efficiency improvement and renewable portfolio standards of 0.813.

TABLE III-2-8 (continued)

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

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Computer and Electronic Product Manufacturing	334	2.139	2.070	2.747	2.433
Electrical Equipment -Appliance-Component Manufacturing	335	1.191	1.152	1.527	1.354
Transportation Equipment Manufacturing	336	1.302	1.260	1.670	1.480
Furniture and Related Product Manufacturing	337	1.292	1.249	1.656	1.468
Miscellaneous Manufacturing	339	1.259	1.218	1.615	1.432
Wholesale Trade	42	1.023	0.955	1.237	1.088
Motor Vehicle and Parts Dealers	441	1.019	0.944	1.284	1.079
Furniture and Home Furniture Stores	442	1.019	0.944	1.284	1.079
Electronics and Appliance Stores	443	1.019	0.944	1.284	1.079
Building Material-Garden Equipment-Supplies Dealers	444	1.019	0.944	1.284	1.079
Food and Beverage Stores	445	1.019	0.944	1.284	1.079
Health and Personal Care Stores	446	1.019	0.944	1.284	1.079
Gasoline Stations	447	1.502	1.392	1.892	1.590
Clothing and Clothing Accessories Stores	448	1.502	1.392	1.892	1.590
Sporting Goods-Hobby-Book- Music Stores	451	1.502	1.392	1.892	1.590
General Merchandise Stores	452	1.502	1.392	1.892	1.590
Miscellaneous Store Retailers	453	1.502	1.392	1.892	1.590
Nonstore Retailers	454	1.502	1.392	1.892	1.590
Air Transportation	481	1.416	1.325	2.001	1.687
Rail Transportation	482	1.136	1.063	1.000	1.353
Water Transportation	483	1.499	1.403	2.119	1.787
Truck Transportation	484	1.258	1.177	1.778	1.499
Transit and Ground Passenger Transportation	485	1.107	1.036	1.564	1.319

TABLE III-2-8 (concluded)

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

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Pipeline Transportation	486	1.100	1.029	1.555	1.311
Scenic and Sightseeing Transportation	487	1.084	1.015	1.532	1.292
Support Activities for Transportation	488	1.084	1.015	1.532	1.292
Postal Service	491	1.010	0.945	1.427	1.204
Couriers and Messengers	492	1.010	0.945	1.427	1.204
Warehousing and Storage	493	1.256	1.175	1.775	1.496
Information	51	1.711	1.562	2.425	1.837
Finance and Insurance	52	1.033	0.985	1.253	1.080
Real Estate and Rental and Leasing	53	1.033	0.985	1.253	1.080
Professional-Scientific-and Technical Services	541	1.106	1.067	1.306	1.138
Management of Companies and Enterprises	551	1.106	1.067	1.306	1.138
Administrative and Support Services	561	1.106	1.067	1.306	1.138
Waste Management and Remediation Services	562	1.106	1.067	1.306	1.138
Educational Services	611	0.982	1.029	1.134	1.060
Ambulatory Health Care Services	621	1.052	1.084	1.178	1.107
Hospitals	622	1.199	1.246	1.298	1.223
Nursing and Residential Care Facilities	623	1.302	1.347	1.431	1.387
Social Assistance	624	1.101	1.035	1.456	1.180
Arts, Entertainment, Museums, and Recreation	71	1.089	1.002	1.330	1.095
Accommodation and Food Services	72	1.042	0.991	1.388	1.143
Repair and Maintenance	811	1.042	0.991	1.388	1.143
Personal and Laundry Services	812	1.042	0.991	1.388	1.143
Religious-Grant-Civic-Professional-and Similar Org	813	1.019	0.993	1.617	1.301
Private Households	814	1.019	0.993	1.617	1.301
Public Administration	92	1.077	0.973	1.533	1.145

Base year is 2008.

TABLE III-2-9

NAIC Emission Growth Factors by County in the SCAB for the Year 2023

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Agriculture, Forestry, Animal, Fishing and Hunting	11	1.120	1.271	1.629	1.307
Oil and Gas Extraction	211	1.128	1.279	1.639	1.315
Mining (except Oil and Gas)	212	1.122	1.273	1.631	1.309
Support Activities for Mining	213	1.122	1.273	1.631	1.309
Utilities - Except Electricity	221	1.063	1.023	1.550	1.239
Utilities – Electricity *	221	0.859	0.859	0.859	0.859
Construction	23	1.033	1.137	2.085	1.597
Food Manufacturing	311	1.141	1.102	1.600	1.373
Beverage and Tobacco Product Manufacturing	312	0.960	0.927	1.346	1.155
Textile Mills	313	1.884	1.820	2.643	2.267
Textile Product Mills	314	1.701	1.644	2.387	2.047
Apparel Manufacturing	315	1.535	1.483	2.153	1.847
Leather and Allied Product Manufacturing	316	1.337	1.291	1.875	1.608
Wood Product Manufacturing	321	1.041	1.006	1.461	1.253
Paper Manufacturing	322	1.108	1.070	1.554	1.333
Printing and Related Support Activities	323	0.938	0.907	1.317	1.129
Petroleum and Coal Products Manufacturing	324	1.000	1.000	1.000	1.000
Chemical Manufacturing	325	1.356	1.310	1.902	1.631
Plastics and Rubber Products Manufacturing	326	1.494	1.444	2.096	1.798
Nonmetallic Mineral Product Manufacturing	327	1.097	1.060	1.539	1.320
Primary Metal Manufacturing	331	0.954	0.922	1.339	1.148
Fabricated Metal Product Manufacturing	332	1.162	1.123	1.631	1.399
Machinery Manufacturing	333	1.219	1.178	1.710	1.467

* These factors incorporate SCAG's employment growth projections (1.1035) and SCG's efficiency improvement and renewable portfolio standards of 0.778.

TABLE III-2-9 (continued)

NAIC Emission Growth Factors by County in the SCAB for the Year 2023

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Computer and Electronic Product Manufacturing	334	2.511	2.426	3.522	3.021
Electrical Equipment -Appliance-Component Manufacturing	335	1.235	1.193	1.733	1.486
Transportation Equipment Manufacturing	336	1.367	1.321	1.918	1.645
Furniture and Related Product Manufacturing	337	1.355	1.309	1.901	1.630
Miscellaneous Manufacturing	339	1.326	1.281	1.861	1.596
Wholesale Trade	42	1.043	0.975	1.352	1.185
Motor Vehicle and Parts Dealers	441	1.031	0.962	1.393	1.151
Furniture and Home Furniture Stores	442	1.031	0.962	1.393	1.151
Electronics and Appliance Stores	443	1.031	0.962	1.393	1.151
Building Material-Garden Equipment-Supplies Dealers	444	1.031	0.962	1.393	1.151
Food and Beverage Stores	445	1.031	0.962	1.393	1.151
Health and Personal Care Stores	446	1.031	0.962	1.393	1.151
Gasoline Stations	447	1.620	1.511	2.187	1.807
Clothing and Clothing Accessories Stores	448	1.620	1.511	2.187	1.807
Sporting Goods-Hobby-Book-Music Stores	451	1.620	1.511	2.187	1.807
General Merchandise Stores	452	1.620	1.511	2.187	1.807
Miscellaneous Store Retailers	453	1.620	1.511	2.187	1.807
Nonstore Retailers	454	1.620	1.511	2.187	1.807
Air Transportation	481	1.495	1.409	2.271	1.924
Rail Transportation	482	1.168	1.101	1.000	1.503
Water Transportation	483	1.577	1.487	2.396	2.030
Truck Transportation	484	1.319	1.243	2.004	1.698
Transit and Ground Passenger Transportation	485	1.132	1.066	1.719	1.456

TABLE III-2-9 (concluded)

NAIC Emission Growth Factors by County in the SCAB for the Year 2023

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Pipeline Transportation	486	1.122	1.057	1.704	1.443
Scenic and Sightseeing Transportation	487	1.105	1.041	1.679	1.422
Support Activities for Transportation	488	1.105	1.041	1.679	1.422
Postal Service	491	1.020	0.961	1.550	1.313
Couriers and Messengers	492	1.020	0.961	1.550	1.313
Warehousing and Storage	493	1.307	1.232	1.985	1.682
Information	51	1.899	1.757	2.882	2.089
Finance and Insurance	52	1.055	1.012	1.374	1.163
Real Estate and Rental and Leasing	53	1.055	1.012	1.374	1.163
Professional-Scientific-and Technical Services	541	1.148	1.122	1.463	1.237
Management of Companies and Enterprises	551	1.148	1.122	1.463	1.237
Administrative and Support Services	561	1.148	1.122	1.463	1.237
Waste Management and Remediation Services	562	1.148	1.122	1.463	1.237
Educational Services	611	0.990	1.044	1.200	1.097
Ambulatory Health Care Services	621	1.075	1.109	1.257	1.156
Hospitals	622	1.295	1.351	1.464	1.332
Nursing and Residential Care Facilities	623	1.459	1.507	1.661	1.589
Social Assistance	624	1.129	1.074	1.650	1.298
Arts, Entertainment, Museums, and Recreation	71	1.116	1.031	1.466	1.172
Accommodation and Food Services	72	1.063	1.023	1.550	1.239
Repair and Maintenance	811	1.063	1.023	1.550	1.239
Personal and Laundry Services	812	1.063	1.023	1.550	1.239
Religious-Grant-Civic-Professional-and Similar Org	813	1.033	1.028	1.851	1.437
Private Households	814	1.033	1.028	1.851	1.437
Public Administration	92	1.087	0.976	1.612	1.126

Base year is 2008.

TABLE III-2-10

NAIC Emission Growth Factors by County in the SCAB for the Year 2030

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Agriculture, Forestry, Animal, Fishing and Hunting	11	1.167	1.348	1.899	1.497
Oil and Gas Extraction	211	1.153	1.331	1.876	1.478
Mining (except Oil and Gas)	212	1.149	1.326	1.869	1.473
Support Activities for Mining	213	1.149	1.326	1.869	1.473
Utilities - Except Electricity	221	1.093	1.070	1.792	1.411
Utilities – Electricity *	221	0.861	0.861	0.861	0.861
Construction	23	1.054	1.214	2.517	1.898
Food Manufacturing	311	1.186	1.128	1.779	1.521
Beverage and Tobacco Product Manufacturing	312	0.955	0.909	1.434	1.226
Textile Mills	313	2.259	2.150	3.390	2.899
Textile Product Mills	314	1.950	1.855	2.926	2.502
Apparel Manufacturing	315	1.738	1.653	2.607	2.229
Leather and Allied Product Manufacturing	316	1.449	1.378	2.174	1.859
Wood Product Manufacturing	321	1.071	1.019	1.606	1.374
Paper Manufacturing	322	1.149	1.093	1.724	1.475
Printing and Related Support Activities	323	0.941	0.896	1.412	1.208
Petroleum and Coal Products Manufacturing	324	1.000	1.000	1.000	1.000
Chemical Manufacturing	325	1.476	1.404	2.215	1.894
Plastics and Rubber Products Manufacturing	326	1.664	1.583	2.497	2.135
Nonmetallic Mineral Product Manufacturing	327	1.128	1.073	1.692	1.447
Primary Metal Manufacturing	331	0.966	0.919	1.450	1.240
Fabricated Metal Product Manufacturing	332	1.215	1.156	1.823	1.559
Machinery Manufacturing	333	1.297	1.234	1.946	1.664

* These factors incorporate SCAG's employment growth projections (1.1648) and SCG's efficiency improvement and renewable portfolio standards of 0.739.

TABLE III-2-10 (continued)

NAIC Emission Growth Factors by County in the SCAB for the Year 2030

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Computer and Electronic Product Manufacturing	334	3.320	3.159	4.982	4.260
Electrical Equipment -Appliance-Component Manufacturing	335	1.313	1.250	1.971	1.685
Transportation Equipment Manufacturing	336	1.486	1.414	2.230	1.906
Furniture and Related Product Manufacturing	337	1.471	1.399	2.207	1.887
Miscellaneous Manufacturing	339	1.449	1.379	2.175	1.860
Wholesale Trade	42	1.061	1.001	1.497	1.312
Motor Vehicle and Parts Dealers	441	1.050	0.986	1.571	1.285
Furniture and Home Furniture Stores	442	1.050	0.986	1.571	1.285
Electronics and Appliance Stores	443	1.050	0.986	1.571	1.285
Building Material-Garden Equipment-Supplies Dealers	444	1.050	0.986	1.571	1.285
Food and Beverage Stores	445	1.050	0.986	1.571	1.285
Health and Personal Care Stores	446	1.050	0.986	1.571	1.285
Gasoline Stations	447	1.842	1.731	2.756	2.255
Clothing and Clothing Accessories Stores	448	1.842	1.731	2.756	2.255
Sporting Goods-Hobby-Book-Music Stores	451	1.842	1.731	2.756	2.255
General Merchandise Stores	452	1.842	1.731	2.756	2.255
Miscellaneous Store Retailers	453	1.842	1.731	2.756	2.255
Nonstore Retailers	454	1.842	1.731	2.756	2.255
Air Transportation	481	1.639	1.565	2.783	2.373
Rail Transportation	482	1.223	1.168	1.000	1.771
Water Transportation	483	1.719	1.641	2.918	2.488
Truck Transportation	484	1.430	1.365	2.428	2.070
Transit and Ground Passenger Transportation	485	1.173	1.120	1.992	1.698

TABLE III-2-10 (concluded)

NAIC Emission Growth Factors by County in the SCAB for the Year 2030

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Pipeline Transportation	486	1.157	1.104	1.965	1.675
Scenic and Sightseeing Transportation	487	1.138	1.086	1.932	1.647
Support Activities for Transportation	488	1.138	1.086	1.932	1.647
Postal Service	491	1.035	0.988	1.757	1.498
Couriers and Messengers	492	1.035	0.988	1.757	1.498
Warehousing and Storage	493	1.397	1.333	2.372	2.022
Information	51	2.254	2.112	3.794	2.767
Finance and Insurance	52	1.081	1.054	1.555	1.302
Real Estate and Rental and Leasing	53	1.081	1.054	1.555	1.302
Professional-Scientific-and Technical Services	541	1.203	1.206	1.706	1.421
Management of Companies and Enterprises	551	1.203	1.206	1.706	1.421
Administrative and Support Services	561	1.203	1.206	1.706	1.421
Waste Management and Remediation Services	562	1.203	1.206	1.706	1.421
Educational Services	611	1.020	1.065	1.324	1.170
Ambulatory Health Care Services	621	1.118	1.140	1.388	1.244
Hospitals	622	1.460	1.517	1.704	1.532
Nursing and Residential Care Facilities	623	1.720	1.763	2.039	1.952
Social Assistance	624	1.182	1.148	1.954	1.513
Arts, Entertainment, Museums, and Recreation	71	1.164	1.091	1.719	1.347
Accommodation and Food Services	72	1.093	1.070	1.792	1.411
Repair and Maintenance	811	1.093	1.070	1.792	1.411
Personal and Laundry Services	812	1.093	1.070	1.792	1.411
Religious-Grant-Civic-Professional-and Similar Org	813	1.055	1.072	2.177	1.669
Private Households	814	1.055	1.072	2.177	1.669
Public Administration	92	1.118	1.009	1.839	1.263

Base year is 2008.

TABLE III-2-11

Stationary Area Source Emission Growth Factors in the SCAB for the Year 2014

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
020	Cogeneration	0.882	0.882	0.882	0.882
030	Petroleum Production Fuel Combustion - Gaseous Fuel	1.073	0.997	1.289	0.903
050	Industrial Combustion And Stationary Ice- Natural Gas	0.865	0.825	0.860	0.860
050	Industrial Combustion - L.P.G./Distillate Oil/Other Fuel	1.105	1.082	1.140	1.110
060	Commercial Natural Gas Combustion - Space Heating	0.942	0.902	0.940	0.940
060	Commercial Natural Gas Combustion - Water Heating	0.993	0.950	0.991	0.991
060	Commercial Natural Gas Combustion - Other	0.973	0.945	0.985	0.985
060	Commercial L.P.G. Combustion	1.211	1.146	1.316	1.232
099	Resource Recovery	0.882	0.882	0.882	0.882
110	Sewage Treatment Plants-Potws - Ammonia	1.000	1.000	1.000	1.000
120	Landfills - Municipal Solid Waste Disposal (Biodegradation)	1.102	1.106	1.104	1.112
199	Composting - Ammonia	1.000	1.000	1.000	1.000
199	Composting Waste Disposal	1.027	1.043	1.095	1.054
210	Dry Cleaning	1.005	0.945	1.160	1.048
220	Degreasing	1.105	1.082	1.140	1.110
230	Auto Refinishing - Coatings	0.998	0.930	1.257	1.131
230	Marine Coatings	1.255	1.171	1.640	1.361
230	Paper Coatings	1.009	0.965	1.050	1.042
230	Fabric Coatings	1.250	1.196	1.301	1.291
230	Can And Coil, Metal Parts And Products Coatings	1.035	0.990	1.077	1.069
230	Wood Furniture And Fabricated Products Coatings	1.117	1.068	1.162	1.153
230	Plastic Parts	1.171	1.120	1.219	1.209

TABLE III-2-11 (continued)

Stationary Area Source Emission Growth Factors in the SCAB for the Year 2014

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
230	Semiconductor Coatings	1.485	1.421	1.546	1.534
230	Aircraft And Aerospace Coatings	1.212	1.131	1.584	1.314
240	Printing	0.927	0.886	0.964	0.957
250	Adhesives And Sealants	1.105	1.082	1.140	1.110
299	Miscellaneous Industrial Solvent Uses	1.105	1.082	1.140	1.110
310	Oil And Gas Production	1.073	0.997	1.289	0.903
330	Petroleum Marketing - Natural Gas Transmission Losses	0.910	0.910	0.910	0.910
330	LPG Transfer And Dispensing - Fugitive Losses	1.032	1.031	1.077	1.058
330	Gasoline Dispensing & Transfers/Storage/Cargo Tanks	1.017	1.042	1.135	1.107
330	Bulk Gasoline Storage & Transfer (Unspecified)	0.910	0.910	0.910	0.910
410	Chemical	1.171	1.120	1.219	1.209
420	Wine Fermentation & Aging	1.101	1.101	1.107	1.113
420	Bakeries	1.026	0.981	1.068	1.059
420	Agricultural Products Processing Losses	1.101	1.101	1.107	1.113
420	Agricultural Crop Processing Losses	1.061	0.985	1.265	0.892
430	Mineral Processes - Sand/Gravel/Cement Concrete	1.007	0.963	1.048	1.040
430	Asphaltic Concrete Production	1.000	1.000	1.000	1.000
430	Surface Blasting	1.070	0.993	1.276	0.900
440	Secondary Metal Production	0.932	0.892	0.970	0.963
450	Wood Processing Losses	1.117	1.068	1.162	1.153
499	Industrial Lubricant	1.027	1.043	1.095	1.054
499	Industrial Process Losses (Unspecified Material)	1.000	1.000	1.000	1.000
510	Consumer Products	1.027	1.043	1.095	1.054
520	Architectural Coatings	1.032	1.031	1.077	1.058

TABLE III-2-11 (continued)

Stationary Area Source Emission Growth Factors in the SCAB for the Year 2014

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
540	Asphalt Paving	0.862	0.875	1.099	1.019
610	Residential Wood Combustion	1.000	1.000	1.000	1.000
610	Residential Natural Gas Combustion - Space Heating	0.924	0.927	0.943	0.943
610	Residential Distillate Oil Combustion - Space Heating	1.032	1.031	1.077	1.058
610	Residential Natural Gas Combustion - Water Heating	0.914	0.918	0.933	0.933
610	Residential Natural Gas Combustion - Cooking	0.929	0.933	0.949	0.949
610	Residential Natural Gas Combustion - Other	0.933	0.930	0.945	0.945
610	Residential L.P.G. Combustion (Unspecified)	1.032	1.031	1.077	1.058
620	Tilling & Harvest Operations - Dust	1.041	1.065	0.713	0.993
620	Livestock Husbandry - Dairy Cattle	1.000	1.000	0.904	0.873
620	Livestock Husbandry - Others	1.000	1.000	1.000	1.000
630	Building And Road Construction - Dust	0.862	0.875	1.099	1.019
640	Paved Road Travel - Freeways - Dust	1.000	1.040	1.000	1.031
640	Paved Road Travel - (Unspecified) Dust	1.000	1.000	1.000	1.000
640	Paved Road Travel - Major Streets - Dust	1.002	1.002	1.005	1.017
640	Paved Road Travel - Local/Collector Streets – Dust	1.002	1.003	1.015	1.007
645	Unpaved Road Travel - Farm Roads - Dust	1.041	1.065	0.713	0.993
645	Unpaved Road Travel - Others - Dust	1.000	1.000	1.000	1.000
650	Agricultural Lands - Windblown Dust	0.742	0.735	0.870	0.778
650	Unpaved Roads And Associated Areas - Windblown Dust	1.000	1.000	1.000	1.000
660	Structural/Automobile Fires	1.000	1.000	1.000	1.000
670	Agricultural Burning - Pruning & Field Crops	1.041	1.065	0.713	0.993

TABLE III-2-11 (concluded)

Stationary Area Source Emission Growth Factors in the SCAB for the Year 2014

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
670	Agricultural Burning - Range Improvement	0.985	0.914	1.175	0.828
670	Wildland Fire Use And Waste Burning (Unspecified)	1.000	1.000	1.031	1.030
670	Agricultural Burning - Weed Abatement	1.000	1.000	1.000	1.000
690	Cooking	1.005	0.945	1.160	1.048

Base year is 2008.

TABLE III-2-12

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

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
020	Cogeneration	0.865	0.865	0.865	0.865
030	Petroleum Production Fuel Combustion - Gaseous Fuel=Lower(A1)	1.118	1.217	1.551	1.169
050	Industrial Combustion And Stationary Ice- Natural Gas	0.816	0.776	0.809	0.809
050	Industrial Combustion - L.P.G./Distillate Oil/Other Fuels	1.281	1.296	1.620	1.383
060	Commercial Natural Gas Combustion - Space Heating	0.915	0.876	0.913	0.913
060	Commercial Natural Gas Combustion - Water Heating	0.982	0.939	0.980	0.980
060	Commercial Natural Gas Combustion - Other	0.939	0.911	0.950	0.950
060	Commercial L.P.G. Combustion	1.517	1.440	1.745	1.530
099	Resource Recovery	0.865	0.865	0.865	0.865
110	Sewage Treatment Plants-Potws - Ammonia	1.000	1.000	1.000	1.000
120	Landfills - Municipal Solid Waste Disposal (Biodegradation)	1.177	1.187	1.183	1.197
199	Composting - Ammonia	1.000	1.000	1.000	1.000
199	Composting Waste Disposal	1.052	1.084	1.178	1.107
210	Dry Cleaning	1.042	0.991	1.388	1.143

TABLE III-2-12 (continued)

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

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
220	Degreasing	1.281	1.296	1.620	1.383
230	Auto Refinishing - Coatings	1.019	0.993	1.617	1.301
230	Marine Coatings	1.499	1.403	2.119	1.787
230	Paper Coatings	1.083	1.048	1.389	1.232
230	Fabric Coatings	1.572	1.521	2.017	1.787
230	Can And Coil, Metal Parts And Products Coatings	1.132	1.095	1.452	1.287
230	Wood Furniture And Fabricated Products Coatings	1.292	1.249	1.656	1.468
230	Plastic Parts	1.403	1.358	1.800	1.596
230	Semiconductor Coatings	2.139	2.070	2.747	2.433
230	Aircraft And Aerospace Coatings	1.416	1.325	2.001	1.687
240	Printing	0.936	0.905	1.200	1.064
250	Adhesives And Sealants	1.281	1.296	1.620	1.383
299	Miscellaneous Industrial Solvent Uses	1.281	1.296	1.620	1.383
310	Oil And Gas Production	1.118	1.217	1.551	1.169
330	Petroleum Marketing - Natural Gas Transmission Losses	0.835	0.835	0.835	0.835
330	LPG Transfer And Dispensing - Fugitive Losses	1.074	1.057	1.176	1.132
330	Gasoline Dispensing & Transfers/Storage/Cargo Tanks	1.037	1.083	1.264	1.203
330	Bulk Gasoline Storage & Transfer (Unspecified)	0.835	0.835	0.835	0.835
410	Chemical	1.403	1.358	1.800	1.596
420	Wine Fermentation & Aging	1.211	1.209	1.217	1.232
420	Bakeries	1.114	1.078	1.429	1.267
420	Agricultural Products Processing Losses	1.211	1.209	1.217	1.232
420	Agricultural Crop Processing Losses	1.099	1.197	1.524	1.008
430	Mineral Processes - Sand/Gravel/Cement Concrete	1.078	1.043	1.382	1.226

TABLE III-2-12 (continued)

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

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
430	Asphaltic Concrete Production	1.000	1.000	1.000	1.000
430	Surface Blasting	1.112	1.210	1.542	1.162
440	Secondary Metal Production	0.947	0.916	1.213	1.076
450	Wood Processing Losses	1.292	1.249	1.656	1.468
499	Industrial Lubricant	1.052	1.084	1.178	1.107
499	Industrial Process Losses (Unspecified Material)	1.000	1.000	1.000	1.000
510	Consumer Products	1.052	1.084	1.178	1.107
520	Architectural Coatings	1.074	1.057	1.176	1.132
540	Asphalt Paving	0.996	1.064	1.751	1.393
610	Residential Wood Combustion	1.000	1.000	1.000	1.000
610	Residential Natural Gas Combustion - Space Heating	0.914	0.917	0.933	0.933
610	Residential Distillate Oil Combustion - Space Heating	1.074	1.057	1.176	1.132
610	Residential Natural Gas Combustion - Water Heating	0.898	0.902	0.917	0.917
610	Residential Natural Gas Combustion - Cooking	0.926	0.930	0.945	0.945
610	Residential Natural Gas Combustion - Other	0.941	0.938	0.953	0.953
610	Residential L.P.G. Combustion (Unspecified)	1.074	1.057	1.176	1.132
620	Tilling & Harvest Operations - Dust	1.041	1.065	0.600	0.993
620	Livestock Husbandry - Dairy Cattle	1.000	1.000	0.663	0.642
620	Livestock Husbandry - Others	1.000	1.000	1.000	1.000
630	Building And Road Construction - Dust	0.996	1.064	1.751	1.393
640	Paved Road Travel - Freeways - Dust	1.005	1.061	1.112	1.041
640	Paved Road Travel - (Unspecified) - Dust	1.000	1.000	1.000	1.000
640	Paved Road Travel - Major Streets - Dust	1.002	1.002	1.033	1.021
640	Paved Road Travel - Local/Collector Streets - Dust	1.002	1.009	1.037	1.017

TABLE III-2-12 (concluded)

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

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
645	Unpaved Road Travel - Farm Roads - Dust	1.041	1.065	0.600	0.993
645	Unpaved Road Travel - Others - Dust	1.000	1.000	1.000	1.000
650	Agricultural Lands - Windblown Dust	0.577	0.566	0.775	0.630
650	Unpaved Roads And Associated Areas - Windblown Dust	1.000	1.000	1.000	1.000
660	Structural/Automobile Fires	1.000	1.000	1.000	1.000
670	Agricultural Burning - Pruning & Field Crops	1.041	1.065	0.600	0.993
670	Agricultural Burning - Range Improvement	0.965	1.050	1.338	1.008
670	Wildland Fire Use And Waste Burning (Unspecified)	1.000	1.000	1.075	1.075
670	Agricultural Burning - Weed Abatement	1.000	1.000	1.000	1.000
690	Cooking	1.042	0.991	1.388	1.143

Base year is 2008.

TABLE III-2-13

Stationary Area Source Emission Growth Factors in the SCAB for the Year 2023

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
020	Cogeneration	0.859	0.859	0.859	0.859
030	Petroleum Production Fuel Combustion - Gaseous Fuel	1.128	1.279	1.639	1.315
050	Industrial Combustion And Stationary Ice-Natural Gas	0.739	0.698	0.896	0.896
050	Industrial Combustion - L.P.G./Distillate Oil/Other Fuels	1.358	1.387	1.872	1.532
060	Commercial Natural Gas Combustion - Space Heating	0.860	0.819	1.052	1.052
060	Commercial Natural Gas Combustion - Water Heating	0.933	0.889	1.141	1.141

TABLE III-2-13 (continued)

Stationary Area Source Emission Growth Factors in the SCAB for the Year 2023

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
060	Commercial Natural Gas Combustion - Other	0.879	0.847	1.087	1.087
060	Commercial L.P.G. Combustion	1.685	1.621	2.073	1.775
099	Resource Recovery	0.859	0.859	0.859	0.859
110	SEWAGE TREATMENT PLANTS-Potws - AMMONIA	1.000	1.000	1.000	1.000
120	Landfills - Municipal Solid Waste Disposal (Biodegradation)	1.239	1.249	1.249	1.266
199	Composting - Ammonia	1.000	1.000	1.000	1.000
199	Composting Waste Disposal	1.075	1.109	1.257	1.156
210	Dry Cleaning	1.063	1.023	1.550	1.239
220	Degreasing	1.358	1.387	1.872	1.532
230	Auto Refinishing - Coatings	1.033	1.028	1.851	1.437
230	Marine Coatings	1.577	1.487	2.396	2.030
230	Paper Coatings	1.108	1.070	1.554	1.333
230	Fabric Coatings	1.701	1.644	2.387	2.047
230	Can And Coil, Metal Parts And Products Coatings	1.162	1.123	1.631	1.399
230	Wood Furniture And Fabricated Products Coatings	1.355	1.309	1.901	1.630
230	Plastic Parts	1.494	1.444	2.096	1.798
230	Semiconductor Coatings	2.511	2.426	3.522	3.021
230	Aircraft And Aerospace Coatings	1.495	1.409	2.271	1.924
240	Printing	0.938	0.907	1.317	1.129
250	Adhesives And Sealants	1.358	1.387	1.872	1.532
299	Miscellaneous Industrial Solvent Uses	1.358	1.387	1.872	1.532
310	Oil And Gas Production	1.128	1.279	1.639	1.315
330	Petroleum Marketing - Natural Gas Transmission Losses	0.775	0.775	0.775	0.775
330	LPG Transfer And Dispensing - Fugitive Losses	1.102	1.084	1.264	1.187

TABLE III-2-13 (continued)

Stationary Area Source Emission Growth Factors in the SCAB for the Year 2023

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
330	Gasoline Dispensing & Transfers/Storage/Cargo Tanks	1.055	1.101	1.368	1.282
330	Bulk Gasoline Storage & Transfer (Unspecified)	0.775	0.775	0.775	0.775
410	Chemical	1.494	1.444	2.096	1.798
420	Wine Fermentation & Aging	1.281	1.276	1.293	1.306
420	Bakeries	1.141	1.102	1.600	1.373
420	Agricultural Products Processing Losses	1.281	1.276	1.293	1.306
420	Agricultural Crop Processing Losses	1.120	1.271	1.629	1.119
430	Mineral Processes - Sand/Gravel/Cement Concrete	1.097	1.060	1.539	1.320
430	Asphaltic Concrete Production	1.000	1.000	1.000	1.000
430	Surface Blasting	1.122	1.273	1.631	1.309
440	Secondary Metal Production	0.954	0.922	1.339	1.148
450	Wood Processing Losses	1.355	1.309	1.901	1.630
499	Industrial Lubricant	1.075	1.109	1.257	1.156
499	Industrial Process Losses (Unspecified Material)	1.000	1.000	1.000	1.000
510	Consumer Products	1.075	1.109	1.257	1.156
520	Architectural Coatings	1.102	1.084	1.264	1.187
540	Asphalt Paving	1.033	1.137	2.085	1.597
610	Residential Wood Combustion	1.000	1.000	1.000	1.000
610	Residential Natural Gas Combustion - Space Heating	0.894	0.873	0.983	0.983
610	Residential Distillate Oil Combustion - Space Heating	1.102	1.084	1.264	1.187
610	Residential Natural Gas Combustion - Water Heating	0.876	0.856	0.964	0.964
610	Residential Natural Gas Combustion - Cooking	0.911	0.890	1.002	1.002

TABLE III-2-13 (concluded)

Stationary Area Source Emission Growth Factors in the SCAB for the Year 2023

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
610	Residential Natural Gas Combustion - Other	0.952	0.910	1.025	1.025
610	Residential L.P.G. Combustion (Unspecified)	1.102	1.084	1.264	1.187
620	Tilling & Harvest Operations - Dust	1.041	1.065	0.552	0.993
620	Livestock Husbandry - Dairy Cattle	1.000	1.000	0.470	0.458
620	Livestock Husbandry - Others	1.000	1.000	1.000	1.000
630	Building And Road Construction - Dust	1.033	1.137	2.085	1.597
640	Paved Road Travel - Freeways - Dust	1.011	1.080	1.224	1.051
640	Paved Road Travel - (Unspecified) - Dust	1.000	1.000	1.000	1.000
640	Paved Road Travel - Major Streets - Dust	1.002	1.002	1.061	1.025
640	Paved Road Travel - Local/Collector Streets - Dust	1.001	1.010	1.042	1.020
645	Unpaved Road Travel - Farm Roads - Dust	1.041	1.065	0.552	0.993
645	Unpaved Road Travel - Others - Dust	1.000	1.000	1.000	1.000
650	Agricultural Lands - Windblown Dust	0.472	0.461	0.706	0.532
650	Unpaved Roads And Associated Areas - Windblown Dust	1.000	1.000	1.000	1.000
660	Structural/Automobile Fires	1.000	1.000	1.000	1.000
670	Agricultural Burning - Pruning & Field Crops	1.041	1.065	0.552	0.993
670	Agricultural Burning - Range Improvement	0.959	1.088	1.394	1.119
670	Wildland Fire Use And Waste Burning (Unspecified)	1.000	1.000	1.131	1.130
670	Agricultural Burning - Weed Abatement	1.000	1.000	1.000	1.000
690	Cooking	1.063	1.023	1.550	1.239

Base year is 2008.

TABLE III-2-14

Stationary Area Source Emission Growth Factors in the SCAB for the Year 2030

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
020	Cogeneration	0.861	0.861	0.861	0.861
030	Petroleum Production Fuel Combustion - Gaseous Fuel	1.153	1.331	1.876	1.478
050	Industrial Combustion And Stationary Ice- Natural Gas	0.673	0.646	0.973	0.973
050	Industrial Combustion - L.P.G./Distillate Oil/Other Fuels	1.507	1.549	2.212	1.769
060	Commercial Natural Gas Combustion - Space Heating	0.818	0.795	0.883	0.883
060	Commercial Natural Gas Combustion - Water Heating	0.890	0.864	1.302	1.302
060	Commercial Natural Gas Combustion - Other	0.857	0.840	1.266	1.266
060	Commercial L.P.G. Combustion	2.014	1.989	2.716	2.310
099	Resource Recovery	0.861	0.861	0.861	0.861
110	Sewage Treatment Plants-POTWS - Ammonia	1.000	1.000	1.000	1.000
120	Landfills - Municipal Solid Waste Disposal (Biodegradation)	1.352	1.368	1.384	1.402
199	Composting - Ammonia	1.000	1.000	1.000	1.000
199	Composting Waste Disposal	1.118	1.140	1.388	1.244
210	Dry Cleaning	1.093	1.070	1.792	1.411
220	Degreasing	1.507	1.549	2.212	1.769
230	Auto Refinishing - Coatings	1.055	1.072	2.177	1.669
230	Marine Coatings	1.719	1.641	2.918	2.488
230	Paper Coatings	1.149	1.093	1.724	1.475
230	Fabric Coatings	1.950	1.855	2.926	2.502
230	Can And Coil, Metal Parts And Products Coatings	1.215	1.156	1.823	1.559
230	Wood Furniture And Fabricated Products Coatings	1.471	1.399	2.207	1.887
230	Plastic Parts	1.664	1.583	2.497	2.135

TABLE III-2-14 (continued)

Stationary Area Source Emission Growth Factors in the SCAB for the Year 2030

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
230	Semiconductor Coatings	3.320	3.159	4.982	4.260
230	Aircraft And Aerospace Coatings	1.639	1.565	2.783	2.373
240	Printing	0.941	0.896	1.412	1.208
250	Adhesives And Sealants	1.507	1.549	2.212	1.769
299	Miscellaneous Industrial Solvent Uses	1.507	1.549	2.212	1.769
310	Oil And Gas Production	1.153	1.331	1.876	1.478
330	Petroleum Marketing - Natural Gas Transmission Losses	0.670	0.670	0.670	0.670
330	LPG Transfer And Dispensing - Fugitive Losses	1.149	1.117	1.411	1.28
330	Gasoline Dispensing & Transfers/Storage/Cargo Tanks	1.091	1.145	1.540	1.413
330	Bulk Gasoline Storage & Transfer (Unspecified)	0.670	0.670	0.670	0.670
410	Chemical	1.664	1.583	2.497	2.135
420	Wine Fermentation & Aging	1.411	1.400	1.428	1.438
420	Bakeries	1.186	1.128	1.779	1.521
420	Agricultural Products Processing Losses	1.411	1.400	1.428	1.438
420	Agricultural Crop Processing Losses	1.167	1.348	1.899	1.226
430	Mineral Processes - Sand/Gravel/Cement Concrete	1.128	1.073	1.692	1.447
430	Asphaltic Concrete Production	1.000	1.000	1.000	1.000
430	Surface Blasting	1.149	1.326	1.869	1.473
440	Secondary Metal Production	0.966	0.919	1.450	1.240
450	Wood Processing Losses	1.471	1.399	2.207	1.887
499	Industrial Lubricant	1.118	1.140	1.388	1.244
499	Industrial Process Losses (Unspecified Material)	1.000	1.000	1.000	1.000
510	Consumer Products	1.118	1.140	1.388	1.244
520	Architectural Coatings	1.149	1.117	1.411	1.280

TABLE III-2-14 (continued)

Stationary Area Source Emission Growth Factors in the SCAB for the Year 2030

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
540	Asphalt Paving	1.054	1.214	2.517	1.898
610	Residential Wood Combustion	1.000	1.000	1.000	1.000
610	Residential Natural Gas Combustion - Space Heating	0.857	0.827	1.041	1.041
610	Residential Distillate Oil Combustion - Space Heating	1.149	1.117	1.411	1.280
610	Residential Natural Gas Combustion - Water Heating	0.844	0.814	1.025	1.025
610	Residential Natural Gas Combustion - Cooking	0.884	0.853	1.074	1.074
610	Residential Natural Gas Combustion - Other	0.949	0.874	1.100	1.100
610	Residential L.P.G. Combustion (Unspecified)	1.149	1.117	1.411	1.280
620	Tilling & Harvest Operations - Dust	1.041	1.065	0.490	0.993
620	Livestock Husbandry - Dairy Cattle	1.000	1.000	0.470	0.458
620	Livestock Husbandry - Others	1.000	1.000	1.000	1.000
630	Building And Road Construction - Dust	1.054	1.214	2.517	1.898
640	Paved Road Travel - Freeways - Dust	1.014	1.080	1.224	1.051
640	Paved Road Travel - (Unspecified)- Dust	1.000	1.000	1.000	1.000
640	Paved Road Travel - Major Streets - Dust	1.003	1.002	1.399	1.025
640	Paved Road Travel - Local/Collector Streets - Dust	1.003	1.010	1.066	1.029
645	Unpaved Road Travel - Farm Roads - Dust	1.041	1.065	0.490	0.993
645	Unpaved Road Travel - Others - Dust	1.000	1.000	1.000	1.000
650	Agricultural Lands - Windblown Dust	0.329	0.317	0.599	0.394
650	Unpaved Roads And Associated Areas - Windblown Dust	1.000	1.000	1.000	1.000
660	Structural/Automobile Fires	1.000	1.000	1.000	1.000
670	Agricultural Burning - Pruning & Field Crops	1.041	1.065	0.490	0.993

TABLE III-2-14 (concluded)

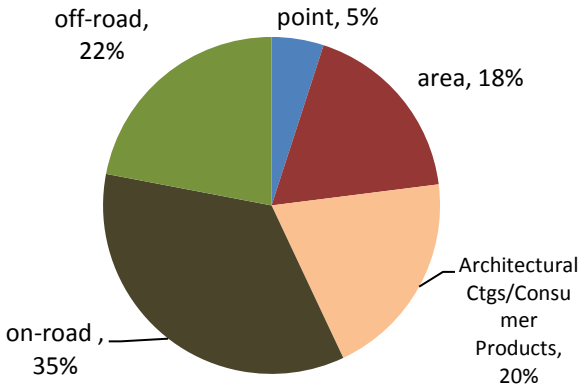
Stationary Area Source Emission Growth Factors in the SCAB for the Year 2030

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
670	Agricultural Burning - Range Improvement	0.956	1.104	1.556	1.226
670	Wildland Fire Use And Waste Burning (Unspecified)	1.000	1.000	1.259	1.259
670	Agricultural Burning - Weed Abatement	1.000	1.000	1.000	1.000
690	Cooking	1.093	1.070	1.792	1.411

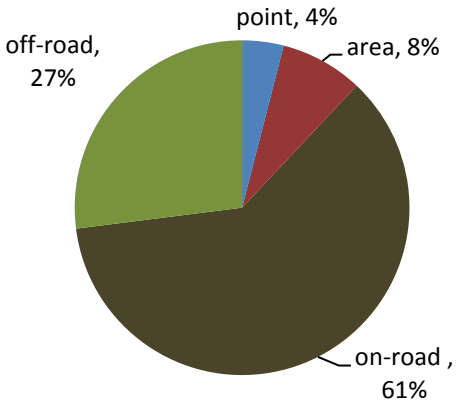
Base year is 2008.

Emission Trend Analysis

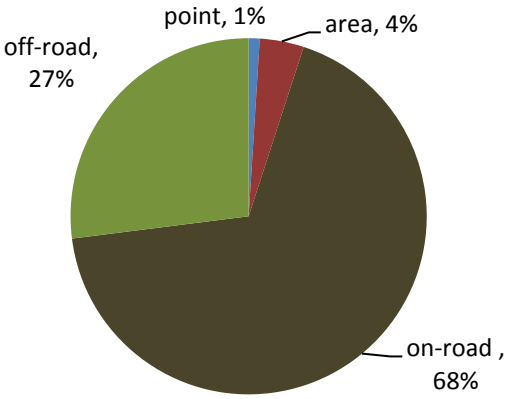
Figures 2-1 through 2-4 present the relative contributions by source categories (i.e., point, area, on-road, and off-road) to total emission levels in 2008 annual average (VOC, NOx, CO, SOx and PM2.5), 2008 summer planning (VOC and NOx), 2023 annual average (VOC, NOx, CO, SOx and PM2.5) and 2023 summer planning (VOC and NOx), respectively. As seen in the figures, in 2008 (average annual day) on-road and off-road mobile sources are major contributors of CO (95 percent), NOx (88 percent), SOx (75 percent) and VOC (57 percent) emissions. Top fine particulate matter (PM2.5) producers include cooking (14%); residential fuel consumption (10%); and entrained road dust (10%). For 2023 (average annual day), mobile sources continue to be major contributors to total CO and NOx emissions by approximately 90 percent, 78 percept, respectively. However, contribution to VOC and SOx by mobile sources is reduced due to CARB regulations over time. Area sources become major contributors to VOC emissions (from 38 percent in 2008 to 53 percent in 2023). Figures 2-5 through 2-8 illustrate the emission trends by pollutant (VOC, NOx, PM2.5, and SOx) for 2008, 2014, 2019, and 2023 respectively.



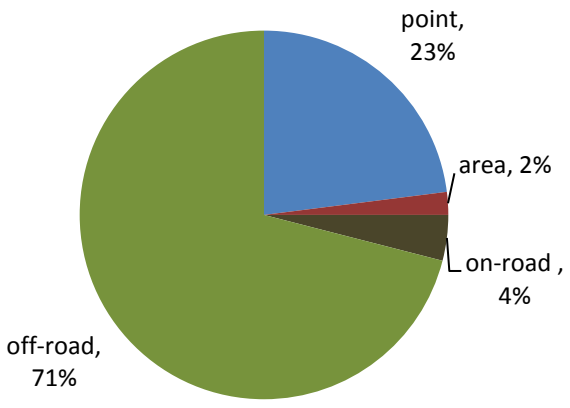
VOC Emissions: 593 tons/day



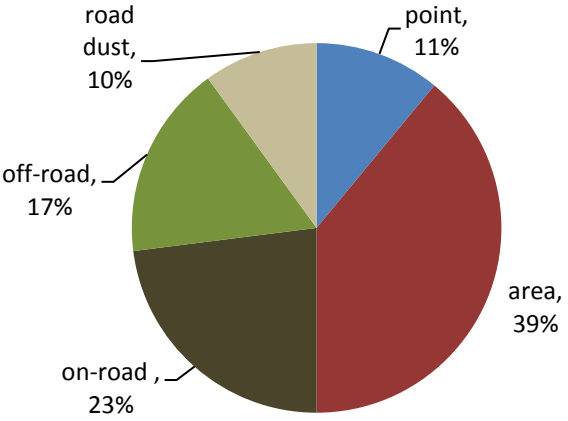
NOx Emissions: 758 tons/day



CO Emissions: 2881 tons/day



SOx Emissions: 54 tons/day



Directly Emitted PM2.5 Emissions: 80 tons/day

FIGURE III-2-1

Relative Contribution by Source Category to 2008 Emission Inventory – Average Annual Day

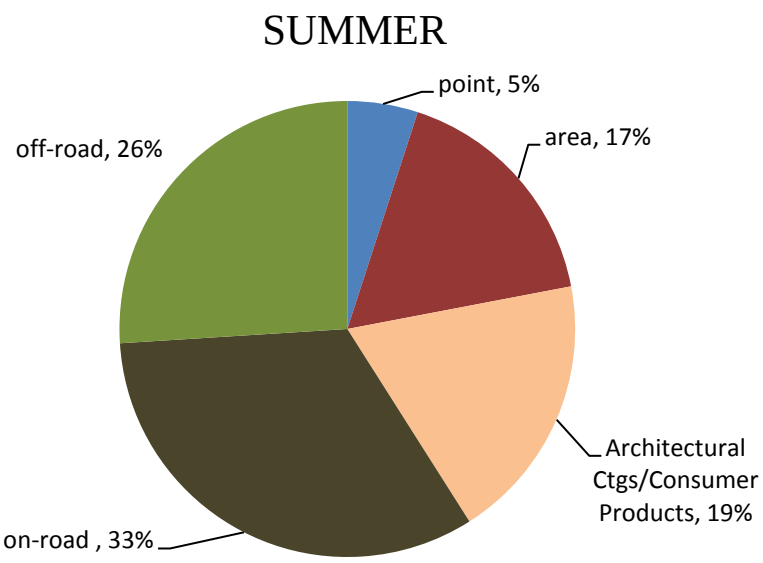
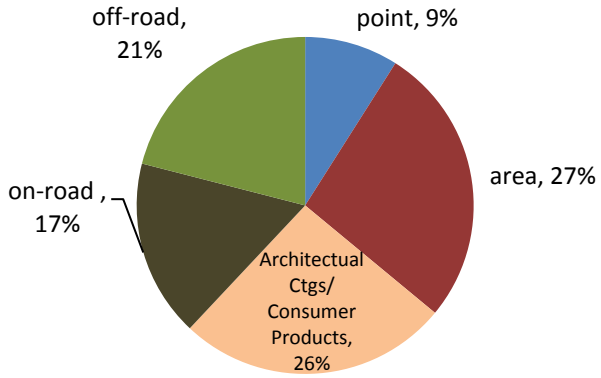
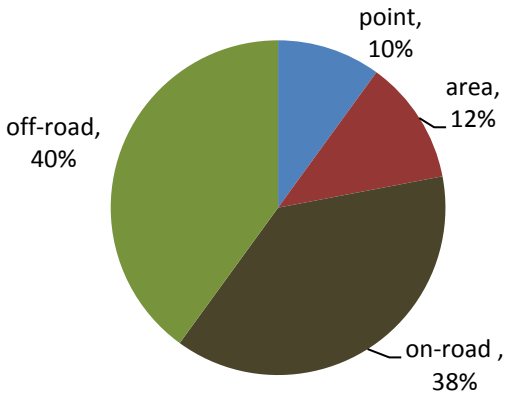


FIGURE III-2-2

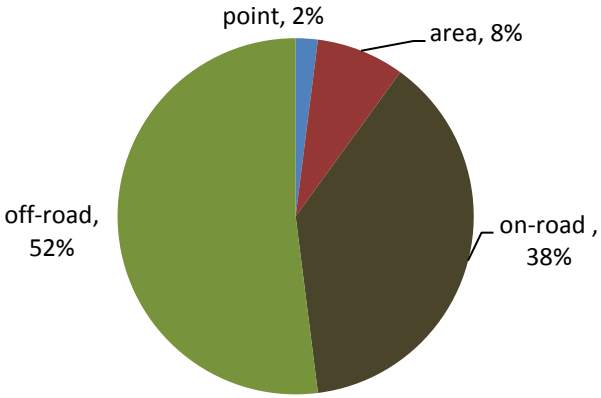
Relative Contribution by Source Category to 2008 Emissions Inventory – Summer Planning



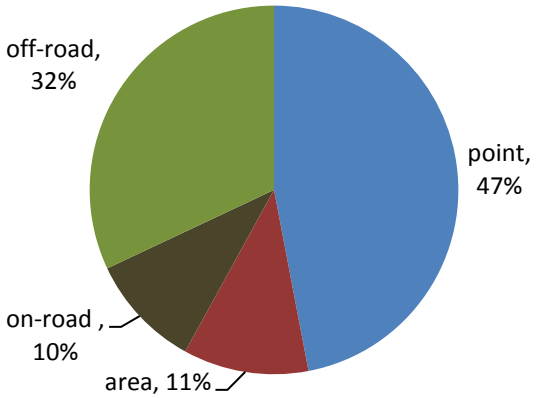
VOC Emissions: 406 tons/day



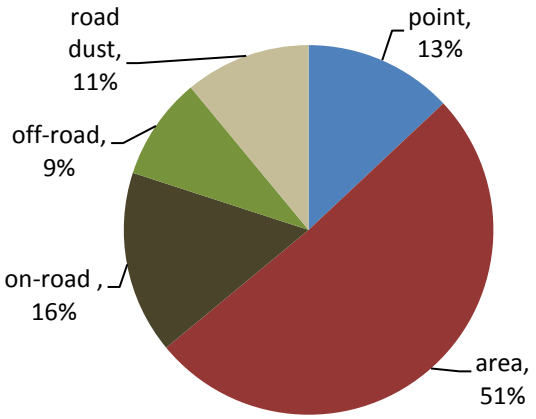
NOx Emissions: 328 tons/day



CO Emissions: 1583 tons/day



SOx Emissions: 18 tons/day

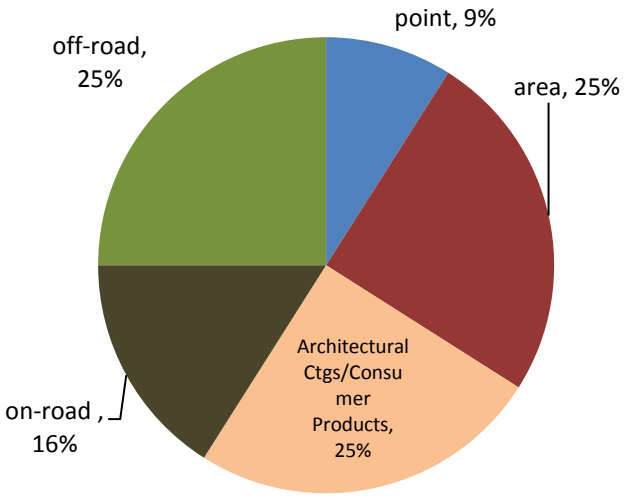


Directly Emitted PM2.5 Emissions: 71 tons/day

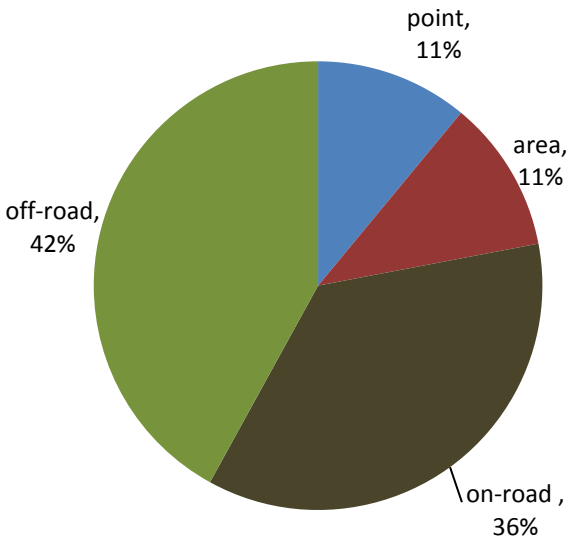
FIGURE III-2-3

Relative Contribution by Source Category to 2023 Emission Inventory – Average Annual Day

SUMMER



VOC Emissions: 438 tons/day



NOx Emissions: 319 tons/day

FIGURE III-2-4
Relative Contribution by Source Category to 2023 Emissions Inventory – Summer Planning

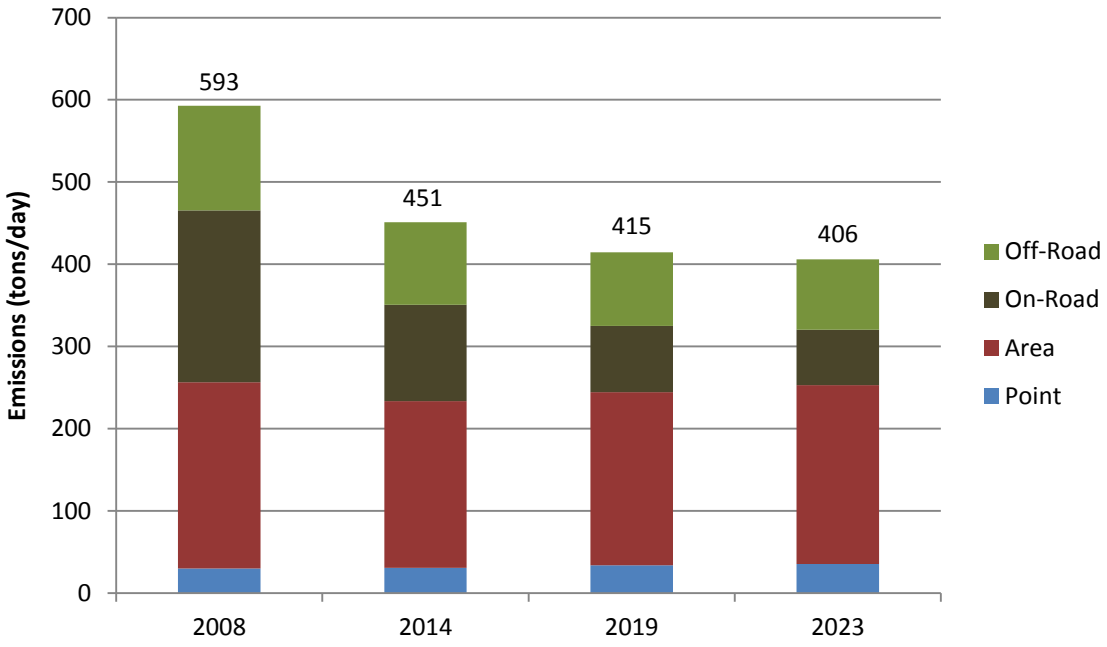


FIGURE III-2-5A
VOC Emission Trend by Source Category – Average Annual Day

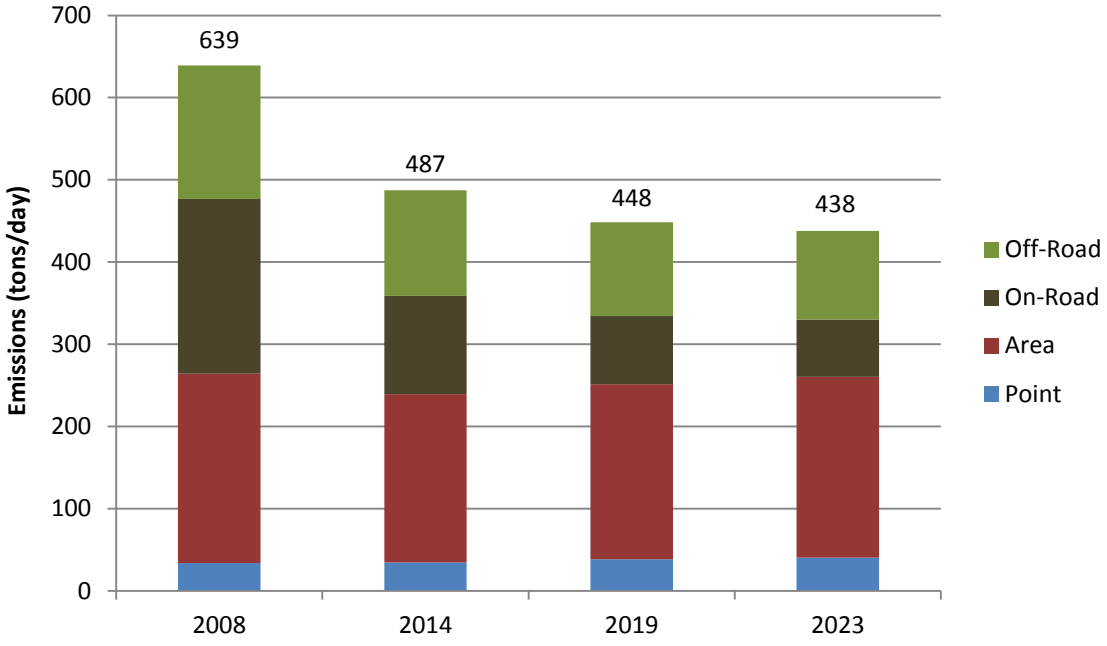


FIGURE III-2-5B
VOC Emission Trend by Source Category – Summer Planning

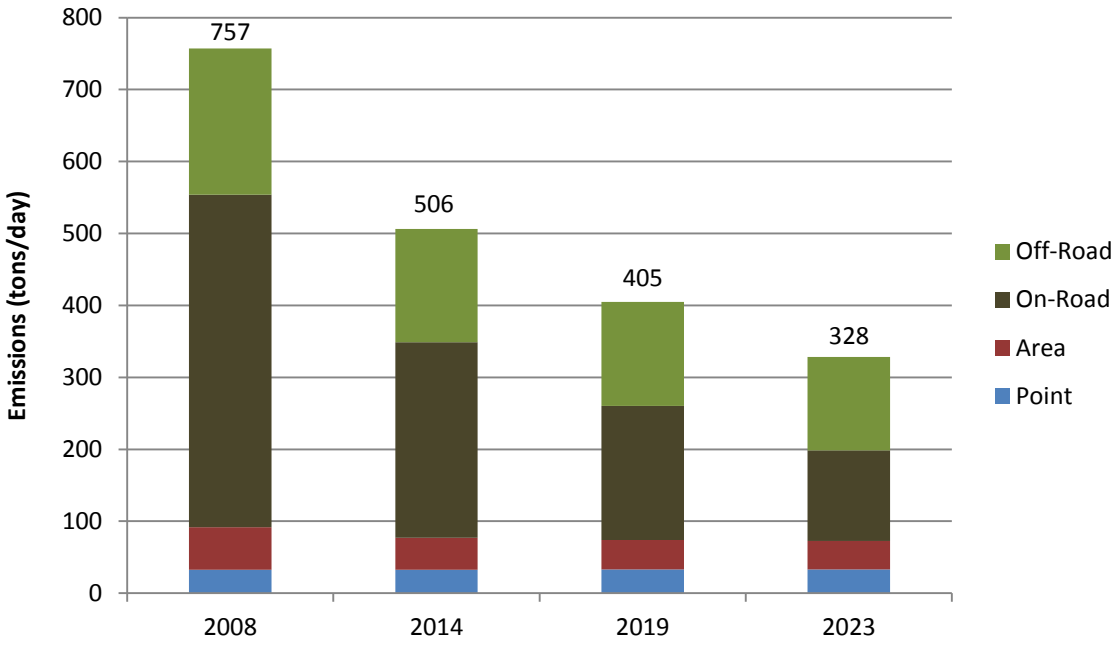


FIGURE III-2-6A
NOx Emission Trend by Source Category – Average Annual Day

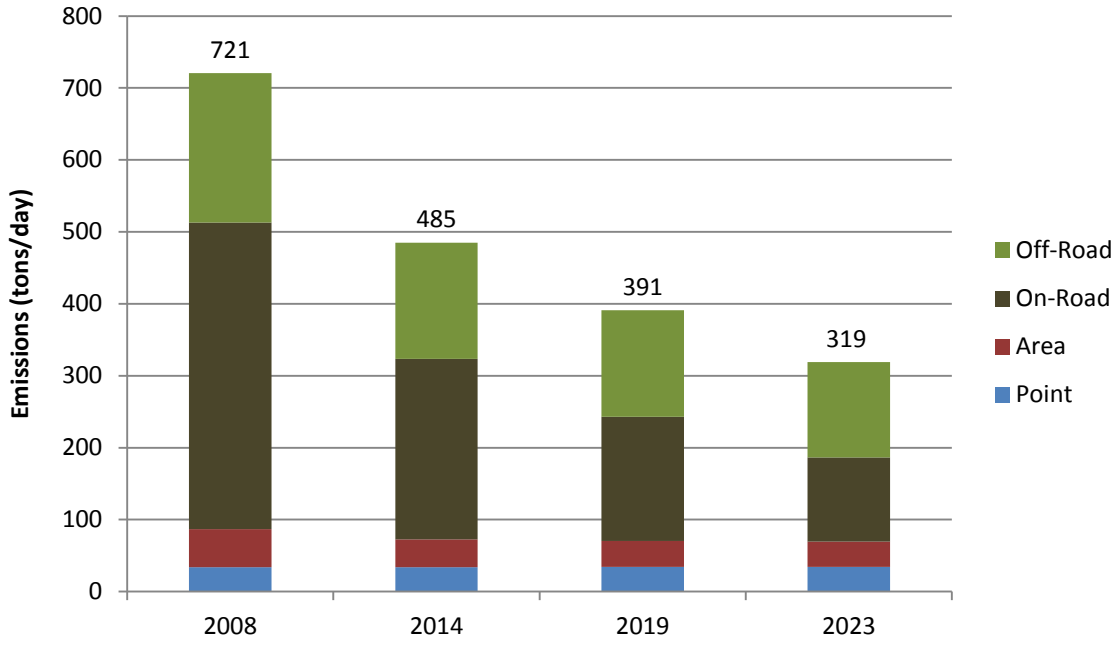


FIGURE III-2-6B
NOx Emission Trend by Source Category – Summer Planning

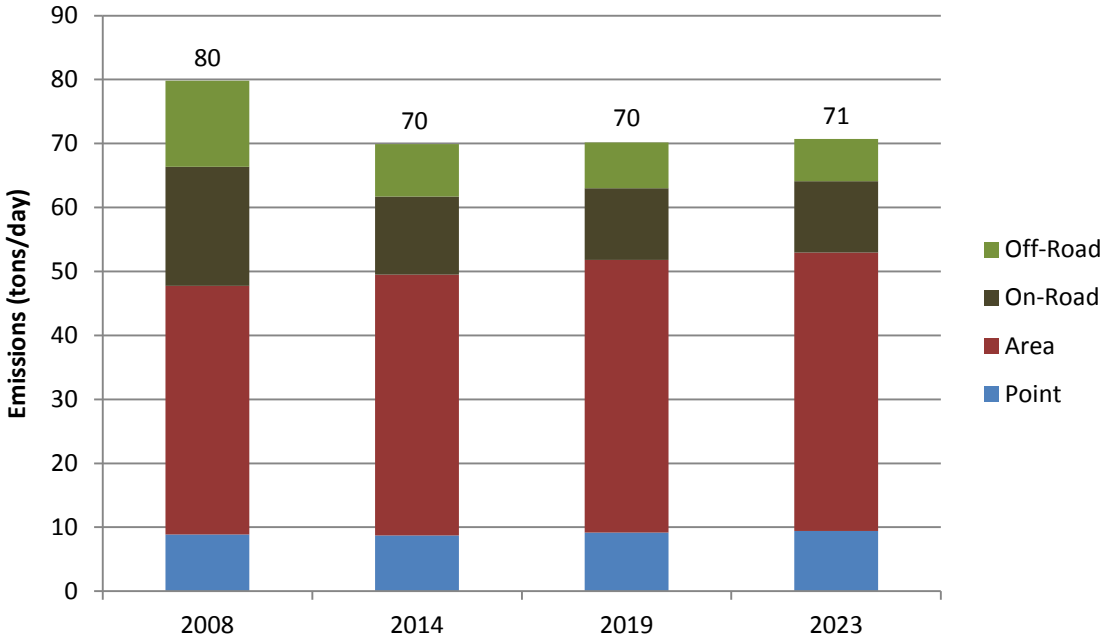


FIGURE III-2-7
PM2.5 Emission Trend by Source Category – Average Annual Day

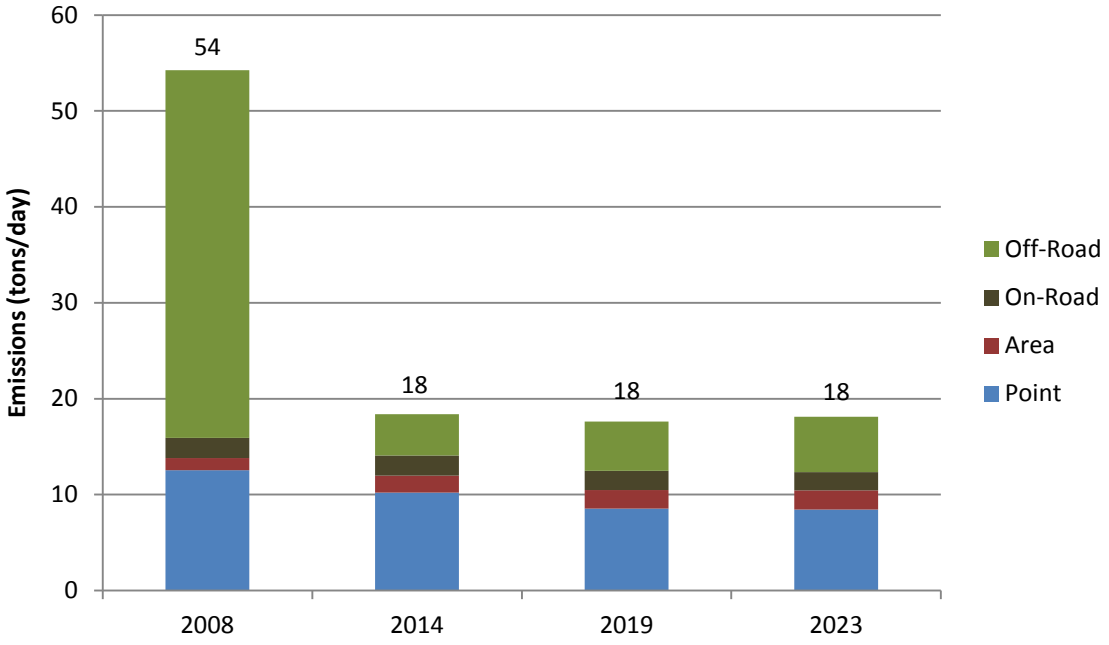


FIGURE III-2-8
SOx Emission Trend by Source Category – Average Annual Day

VOC Emissions

As presented in Figure III-2-5, emissions from area sources, off-road mobile sources and on-road mobile sources all show a significant decrease over time. Between 2008 and 2023, summer planning VOC emissions from off-road mobile sources are expected to fall from 162 tons per day to 108 tons per day, while on-road emissions should fall from 213 tons per day to 70 tons per day. Area source reductions are derived mainly from the AQMD's adopted rules for architectural coatings (Rule 1113), refinery flares (Rule 1118), greenwaste composting operations (Rule 1133.3), consumer paint thinners and multi-purpose solvents (Rule 1143) and metalworking fluids and direct-contact lubricants (Rule 1144). Off-road reductions result primarily from turnover to cleaner off-road equipment, pleasure craft and off-road recreational vehicles. Since its adoption in 1990, California's Low Emission Vehicle I (LEV I) program has produced significant emission reductions from on-road passenger vehicles by relying on a systems-wide approach to achieve reductions from fuels and mobile source exhaust and evaporative emissions. Both LEV I and LEV II, adopted in 1998, include four primary elements: (1) increasingly stringent exhaust emission standards, (2) an increasingly stringent annual fleet average standard for non-methane organic gas (NMOG), (3) banking and trading provisions, and (4) a requirement that a specific percentage of vehicles be Zero Emission Vehicles (ZEVs), vehicles with no emissions. Under LEV II, sport utility vehicles, pick-up trucks, and mini-vans must achieve the same emission standards as cars, beginning in 2004-2007. Additional VOC emission reductions are from the adoption of the LEV III program.

NOx Emissions

Figure III-2-6 illustrates the NOx emissions by major source category. Summer planning NOx emissions are projected to decrease from both off-road mobile (208 tons per day to 133 tons per day) and on-road mobile (426 tons per day to 117 tons per day) sources from 2008 to 2023. The on-road reductions largely reflect the cleaner in-use heavy-duty trucks and buses. Reductions from on-road emissions are also projected for light- and medium-duty vehicles through the adoption of the LEVIII program with more stringent tail-pipe and greenhouse gas standards for light- and medium-duty vehicles. Off-road NOx emission reductions result primarily from cleaner in-use off-road equipment (over 25 horse power); ship auxiliary engine cold ironing & clean technology; cleaner main ship engines.

PM2.5 Emissions

Figure III-2-7 shows the PM2.5 emission trend. A good portion of the emissions are from dust. The projected dust inventories in 2008 and 2023 for paved and unpaved roads are both 8 tons per day (annual average inventory).

SOx Emissions

Figure III-2-8 illustrate the SOx emissions trend. The significant decrease in SOx emissions between 2008 and 2014 (from 54 tons per day to 18 tons per day) is due to the full implementation of the SOx RECLAIM and implementation of the cleaner sulfur content marine fuels.

Impact of Growth

The Final 2012 AQMP forecasts the 2030 emissions inventories ‘‘with growth’’ through a detailed consultation process with the Southern California Association of Governments (SCAG). The region is likely to see a 16% growth in population, 18% growth in housing units, 16% growth in employment, and 11% growth in vehicle miles traveled between 2008 and 2030. To illustrate the impact of demographic growth on emissions, year 2030 no-growth emissions were estimated by removing the growth factors from the 2030 baseline emissions. Table III-2-15 presents the comparison of the projected 2030 emissions with and without growth. It should be noted that in this analysis, the benefit of potential applications of BACT under New Source Review (NSR) is not included. The growth impacts to year 2030 for VOC, NOx, CO, SOx and PM2.5 are 77, 76, 311, 5 and 11 tons per day respectively.

General Conformity Budget

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

South Coast Air Basin is designated as an extreme nonattainment area for ozone and as a nonattainment area for PM2.5. The general conformity de minimis threshold is 10 tons per year of VOC and 10 tons per year of NOx for the extreme ozone nonattainment areas; and 100 tons per year of PM2.5 for the PM2.5 nonattainment areas.

Based on historical records none of the projects requiring general conformity determinations received by the District exceeded the PM2.5 threshold. Rather, NOx is the main pollutant of concern, with emissions occurring primarily during the two to three year construction phase of projects. To streamline the review process and to facilitate the conformity determination, two separate VOC and NOx general conformity budgets are established: 1 tpd of NOx and 0.2 tpd of VOC are set aside for this purpose every year, starting in 2013 until 2030, from the projected emission growth in the Final 2012 AQMP. This set aside account will be re-evaluated in the next AQMP for need and adequacy based on the data gathered at that time. These set-aside emissions in the Final 2012 AQMP represent less than 1% and 2% of projected mobile source growth in emissions shown in Table 2-15 for VOC and NOx, respectively.

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

Southern California Edison (SCE) is currently in the process of, or has plans to construct six linear transmission line projects which would traverse federal lands within the jurisdiction of the District. The projects are: (1) Devers-Palo Verde NO. 2 Transmission Project (DPV2); (2) Tehachapi Renewable Transmission Project (TRTP); (3) Falcon Ridge Substation Project (Falcon Ridge); (4) Path 42 Upgrade Project (Path 42); (5) West of Devers Interim Project (WOD Interim); and (6) West of Devers Upgrade Project (WOD Upgrade). SCE submitted to the District the NOx emissions estimates expected to be generated during the construction of these transmission lines from 2012 and 2022. The total estimated NOx emissions from these six projects within the South Coast Air Basin are 95 tons per year for 2012; 55 tons per year for year 2013; 10 tons per year for year 2014; 20 tons per year for 2015; 50 tons per year for 2016 and 2017; and 20 tons per year for 2018 through 2022. These emissions have been accounted for in the general conformity set aside account for NOx.

Pre-Base-Year Offsets

The District's growth projections include pre-base year emissions, consistent with the requirements of 40 CFR § 51.165(a)(3)(i)(C)(*1*). To the extent offsets are required under NSR for permitted facilities to be sited or expanded in this region, pre-2008 emission credits authorized under District's Reg XIII can be used and are explicitly identified and accounted for in the Final 2012 AQMP through growth projections, up to the amounts shown in Table III-2-15. While Table III-2-15 includes projected growth in certain sources not subject to NSR, the AQMP does not limit growth to individual source categories. Therefore, Table III-2-15 explicitly identifies pre-base-year offsets in the amounts up to the difference between the growth and no-growth projections for the point and area source categories that are potentially subject to NSR and could potentially require the use of pre-base-year offsets. *See* 57 Fed. Reg. 13,498.

This growth presents a formidable challenge to our air quality improvement efforts, because the projected growth will offset the impressive progress made in reducing VOC and NOx and PM2.5 emissions through adopted regulations. Meeting U.S. EPA's current and future more stringent air quality standards will require the continuation of aggressive emissions reductions efforts from all levels of government.

It should be noted that the AQMP is designed to accommodate growth. Therefore, the proposed control measures are sufficient to reduce emissions while allowing growth. For permitted stationary sources, offsets are required under the federal and state new source review programs. To the extent offsets are required, either via the open market trades or accessing the District's R1315 bank, pre-2008 emission credits can be used and these emissions are accounted for in the SIP through growth projections as shown in Table III-2-15. However, It needs to be emphasized that AQMP emissions reflect projected actual emissions for the source category, not potential to emit or allowable emissions and do not include offset ratio greater than one for certain pollutants.

TABLE III-2-15

Growth Impact to 2030 Emissions* in Tons per Day

WITH GROWTH	VOC	NOx	CO	SOx	PM2.5
Point	38	33	38	9	10
Area	230	39	131	2	37
Road Dust	0	0	0	0	8
On-Road	55	101	446	2	12
Off-Road	84	116	886	7	6
Total	407	289	1501	20	73
NO GROWTH	**VOC**	**NOx**	**CO**	**SOx**	**PM2.5**
Point	29	32	33	8	8
Area	188	28	117	1	32
Road Dust	0	0	0	0	8
On-Road	49	82	398	2	10
Off-Road	64	71	642	4	4
Total	330	213	1190	15	62
IMPACT OF GROWTH	**VOC**	**NOx**	**CO**	**SOx**	**PM2.5**
Point	9	1	5	1	2
Area	42	11	14	1	5
Road Dust	0	0	0	0	0
On-Road	6	19	47	0	2
Off-Road	20	45	245	3	2
Total	77	76	311	5	11

*Annual Average Inventory

UNCERTAINTY IN THE INVENTORY

An effective AQMP relies on an adequate emission inventory. Over the years, significant improvements have been made to quantify emission sources for which control measures are developed. Increased use of continuous monitoring and source tests has contributed to the improvement in point source inventories. Technical assistance to facilities and auditing of reported emissions by the District also have improved the accuracy of the emissions inventory. Area source inventories that rely on average emission factors and regional activities have inherent uncertainty. Industry-specific surveys and source-specific studies during rule development have provided much-needed refinement to the emissions estimates.

Mobile source inventories remain the greatest challenge due to the constantly new collected information from the large number and types of equipment and engines. Every AQMP revision provides an opportunity to further improve the current knowledge of mobile source inventories. The Final 2012 AQMP is not an exception. As described earlier, many improvements were made to EMFAC2011 and such work is still ongoing. However, it should be acknowledged that there are still areas that could be significantly improved if better data were available. Technology change and improvement in the area of electric, hybrid, flexible fuel, and fuel cell vehicles, or the change in future gasoline prices, all add uncertainty to the on-road emissions inventory.

Additionally, the latest recession started in 2007. The recession was unforeseen and was not considered in the 2007 AQMP. As we prepare the Final 2012 AQMP, we are still in the midst of economic recovery. The impact of this recession is deep and thus adds to the uncertainty in the emissions provided here. Relative to future growth, there are many challenges with making accurate projections, such as where vehicle trips will occur, the distribution between various modes of transportation (such as trucks and trains), as well as estimates for population growth and changes to the number and type of jobs. Forecasts are made with the best information available; nevertheless, they contribute to the overall uncertainty in emission projections. Fortunately, AQMP updates are generally performed every three to four years; thereby allowing for frequent improvements to the inventories.

CONTROLLED EMISSION INVENTORIES

This section describes the methodology used to estimate the controlled and remaining emissions after the proposed control measures in the Final 2012 AQMP are implemented for the years 2014 and 2023. Emission reductions are derived by applying the control efficiency of a control measure to the projected baseline inventories. In addition to the

proposed control measures, the impacts of phase-out VOC and SIP Reserve set aside tracking and other budgeted emissions for various District programs are also discussed in this section.

To project emission reductions and remaining emissions from the implementation of the proposed control measures, a mathematical algorithm called Controlled Emissions Projection Algorithm (CEPA) is used. CEPA is developed to calculate projected remaining emissions and/or emission reductions for specified control scenarios. CEPA is briefly discussed in this section. A more comprehensive and extensive discussion of CEPA is presented in Technical Report III-A of the 1991 AQMP.

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

Based contracts awarded and executed since the 2007 AQMP under the Proposition 1B and Carl Moyer programs, the typical useful life of the vehicles, and the expected emissions benefits in 2014 beyond the benefits included in the future-year baseline inventory, an additional 16 tons/day of NOx emissions reductions, 0.28 tons/day of VOC emissions reductions, and 0.46 tons/day of direct PM2.5 emissions reductions will be achieved in 2014. These contracts continue to be closely tracked and the resulting level of emission reductions will be confirmed once achieved. The District has dedicated staff performing field audits to ensure that the agreed upon protocols are followed. Based on past contract performance, emission reductions from these awarded contracts were discounted by 30 percent to reflect the fact that occasionally, contract awards are not completed and monies are returned.

Table III-2-16 summarizes emission reductions in 2014 from the mobile source incentive programs. It should be noted that these surplus reductions, attributable to accelerated fleet turnover or early compliance with state regulations, will diminish over time given that the baseline emissions inventory already incorporates normal fleet turnover and rule compliance.

TABLE III-2-16

Summary of Emissions Reductions from Mobile Source Incentive Programs
(2014 Tons per Day)

	VOC	NOx	PM2.5
Carl Moyer Programs	0.28	8.0	0.20
Proposition 1B Incentive Funding	--	7.6	0.26
Total	0.28	15.6	0.46

Emission Impacts of AQMD Programs

There are several District regulatory programs that have specific impacts on future emissions through certain "set-aside" or exemption provisions. As a result, special emission accounts were created for the Final 2012 AQMP to track these emissions. For air quality modeling purposes, these emissions (except RECLAIM allocations) are distributed across the entire non-RECLAIM point source.

SIP Set Aside Accounts

Background

The Final 2012 AQMP includes a few accounts to track growth from emission trade-offs from regulatory programs, and a SIP Reserve for potential technology assessments (Table III-2-17). The methodology and assumptions used to develop these tracking accounts for the Final 2012 AQMP are discussed in detail below. It should be noted that emission increases or decreases discussed herein are in reference to the projected AQMP baseline.

VOC Emissions from Phase-Out of Toxics

Due to increasing focus on air toxic controls certain amount of conversion from toxics to VOCs may be inevitable in the future. Therefore, three tons per day are included for potential VOC emission increases to reduce toxics, such as controlling of methylene chloride in coating stripping applications may increase VOC emissions.

SIP Reserve for Potential Technology Assessments

To achieve air quality goals, adopted and amended rules and regulations that rely on technology forcing emission limits are often needed. Technology forcing emission limits are designed to provide ample time for the development and implementation of new air pollution technologies. In the event, however, that the new air pollution control

technology does not come to fruition by the implementation date of the adopted or amended rule there may be a need to delay or relax the future emission limits. The SIP Reserve is designed to ensure that delaying or relaxing future emission limits for technology forcing rules will not interfere with the Basin's attainment demonstration. In addition, the SIP Reserve allows the District to adopt and amend rules with technology forcing limits, while maintaining SIP approvability if a rule relaxation or delay is needed.

The potential delay of R1110.2 biogas engine reductions beyond 2014 was included in the estimates for 2011.

TABLE III-2-17

Summary of SIP Set-Aside Accounts for the Final 2012 AQMP
(2014/2023 Tons per Day)

	VOC	NOx
VOC Emissions from Phase-out of ODC or Toxics	1/3	N/A
SIP Reserve (Technology Assessment)	0/2	1/2
Total Addition to Controlled SIP Inventories	1/5	1/2

Proposed Control Measures

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

Control Efficiency/Control Factor

One factor that determines the effectiveness of a control measure is its control efficiency (CE), expressed in percentage. Control efficiency is dependent on the specific control technologies proposed, and each control measure may have one or more technology options available. If there is only one feasible control technology in a control measure, its control efficiency is primarily based on an engineering evaluation of the proposed technology. However, if several control technologies are available to control an emission source, the average control efficiency is used. If multiple control technologies are proposed to reduce emissions from various steps of an operation, a weighted average control efficiency is developed to represent an overall control of the emission sources. Once the control efficiency of a control measure is determined, it is used to estimate emission reductions of the proposed measure. Control efficiencies for the proposed control measures are identified and discussed in detail in Appendix IV of the Final 2012 AQMP.

The control factor (CF) is used to estimate remaining emissions once a proposed control measure is implemented. A control factor equal to 0 indicates complete emission control or 100 percent efficiency. A control factor equal to 1 indicates no emission control or emissions remain unchanged. A high control factor value indicates a low control efficiency. As the control efficiency goes up, the control factor value goes down. The equation to calculate a control factor follows:

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

And, the remaining emissions can be calculated as:

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

Where REM is Remaining Emissions, and BE is Baseline Emissions

The Final 2012 AQMP has many milestones for which emission reduction progress needs to be projected. As a result, control factors for each milestone year were developed. The control factor profile for each measure is developed considering the following factors:

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

The adoption date as proposed in the Final 2012 AQMP is the date the District or other agency is expected to adopt the control measure as a rule. The implementation lead time reflects the time allowed for the emission sources to install controls. When a rule is implemented, it is not unusual that it may have multiple interim implementation dates prior to full implementation. This is because the requirements in a rule may require two or three phases to reach the final emission target (e.g., a technology-forcing regulation). Or, a rule may regulate such a large population of equipment that it is impractical to implement it all at once, and it becomes administratively necessary to phase in its implementation. In either case, a control profile would indicate an initial implementation date and an ending implementation date. The adoption and implementation schedule of the proposed control measures is presented in Chapter 4 of the Final 2012 AQMP.

Impact Factors

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

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

For some measures the controls apply not only to the type of equipment, but also to the industries engaged in a particular activity. In those cases, control factors will be developed by pairing SCCs and Standard Industrial Classification (SIC) Codes to clearly and specifically point out the emission sources in the inventory that the measure is designed to reduce. Such SCC/SIC pairs significantly enhance the ability to quantify emissions closely following the intent of a proposed control measure.

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

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

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

CEPA Emission Calculations

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

CEPA allows interaction of multiple control measures affecting a specific emission source, avoiding double counting of emission reductions from additional measures. It

also provides flexibility in analyzing various scenarios and improves accuracy by standardizing calculation methodologies.

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

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

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

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

4. Baseline Emission File - This file contains projected emission data (tons per day) for future years based on the 2008 emissions inventory. There are different types of baseline emission data available for CEPA runs. These are the average annual day emissions inventory with pollutants VOC, NOx, CO, SOx, PM10; and PM2.5; and the planning inventory with pollutants VOC and NOx during summer, and CO and NO_2 during winter.

CEPA calculates the remaining emissions at the SCC/SIC level. It can generate many types of emission summary reports or electronic files. For example, the program can provide composite control factors for on-road mobile sources in sixteen categories used in the air quality modeling analysis or composite control factors from all the proposed control measures in the scenario file. It can also provide remaining emissions by SCC/S1C or CES/CES pairs; by major source category; or by SIC. It can present emission reductions by each control measure in the absence of other competing measures; or reductions for each control measure following a pre-determined implementation sequence. The result of CEPA runs will be presented in Appendix V of the Final 2012 AQMP.

CARB Emission Data Reports System

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

In both systems, emissions are tracked by CARB's coding method called Emission Inventory Codes (EIC code). The EIC code is a 14-digit number arranged into four fields: major category, source category, materials description and emission sub-category. For example, EIC 210-200-3300-0000 is for dry cleaning using perchloroethylene. 210 indicates this source is under laundering group. 200 means the source category is dry cleaning. 3300 refers to the material perchloroethylene. 0000 implies there is no sub-category for this particular source. EIC separates emission sources into four major divisions: stationary, area, non-anthropogenic, and mobile source. This coding system allows flexibility in how sources are selected, sorted and grouped to fit users' needs. EIC links area sources and point sources together to allow a computer program to automatically reconcile point and area source emissions. In the Final 2012 AQMP, all the emission summary reports are based on CARB's EIC codes. Because only the anthropogenic sources are included in this document, all summary reports in appendices include three major divisions. They are stationary, area, and mobile source.

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REFERENCES

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ATTACHMENT A

FINAL 2012 AQMP APPENDIX III

ANNUAL AVERAGE EMISSIONS
BY MAJOR SOURCE CATEGORY

Table A-1

2008 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	CO	NOx	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	5.54	1.01	9.91	0.50	0.31	1.18	1.18	1.17	1.32
20	Cogeneration	0.33	0.05	0.40	0.02	0.01	0.06	0.05	0.05	0.29
30	Oil and Gas Production (combustion)	0.90	0.10	0.56	0.73	0.02	0.10	0.10	0.10	0.24
40	Petroleum Refining (Combustion)	4.65	1.30	5.09	0.00	0.00	1.62	1.56	1.54	0.97
50	Manufacturing and Industrial	30.15	6.08	18.91	19.28	0.49	1.35	1.34	1.34	2.21
52	Food and Agricultural Processing	0.20	0.06	1.07	0.29	0.00	0.06	0.06	0.06	0.10
60	Service and Commercial	15.34	4.80	17.61	15.48	0.87	1.36	1.36	1.35	3.21
99	Other (Fuel Combustion)	1.76	0.40	3.38	4.16	0.25	0.38	0.29	0.21	0.01
Total Fuel Combustion		**58.87**	**13.81**	**56.94**	**40.46**	**1.95**	**6.11**	**5.95**	**5.82**	**8.35**
Waste Disposal										
110	Sewage Treatment	0.09	0.05	0.01	0.01	0.00	0.01	0.01	0.01	0.17
120	Landfills	556.59	7.90	0.51	0.51	0.32	0.13	0.13	0.13	3.54
130	Incineration	0.39	0.07	0.37	1.00	0.08	0.17	0.08	0.06	0.14
140	Soil Remediation	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
199	Other (Waste Disposal)	4.80	4.05	0.01	0.00	0.03	0.60	0.29	0.03	22.97
Total Waste Disposal		**561.88**	**12.07**	**0.89**	**1.53**	**0.42**	**0.92**	**0.51**	**0.24**	**26.81**
Cleaning and Surface Coatings										
210	Laundering	3.20	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	54.28	10.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	21.43	20.49	0.01	0.01	0.00	1.64	1.57	1.52	0.14
240	Printing	2.03	2.03	0.00	0.00	0.00	0.00	0.00	0.00	0.05
250	Adhesives and Sealants	4.07	3.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.52	0.52	0.04	0.06	0.00	0.01	0.01	0.01	0.01
Total Cleaning and Surface Coatings		**85.53**	**37.02**	**0.04**	**0.07**	**0.00**	**1.65**	**1.58**	**1.53**	**0.20**
Petroleum Production and Marketing										
310	Oil and Gas Production	2.39	1.35	0.07	0.08	0.00	0.01	0.01	0.01	0.00
320	Petroleum Refining	6.17	4.12	5.38	0.32	0.67	2.99	1.92	1.68	0.20
330	Petroleum Marketing	125.26	35.35	0.00	0.01	0.01	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Petroleum Production and Marketing		**133.84**	**40.83**	**5.45**	**0.41**	**0.68**	**3.00**	**1.93**	**1.68**	**0.20**
Industrial Processes										
410	Chemical	7.58	6.18	0.16	0.00	0.00	0.63	0.49	0.41	0.06
420	Food and Agriculture	1.54	1.52	0.00	0.00	0.00	0.47	0.24	0.10	0.00
430	Mineral Processes	0.45	0.40	0.84	0.03	0.01	8.61	5.68	3.11	0.07
440	Metal Processes	0.16	0.13	0.22	0.03	0.01	0.58	0.40	0.27	0.00
450	Wood and Paper	0.14	0.14	0.00	0.00	0.00	5.52	3.85	2.32	0.00
460	Glass and Related Products	0.01	0.01	0.00	0.00	0.00	0.11	0.10	0.09	0.00
470	Electronics	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00
499	Other (Industrial Processes)	8.21	7.40	0.34	0.03	0.00	1.31	0.91	0.58	9.32
Total Industrial Processes		**18.09**	**15.76**	**1.57**	**0.09**	**0.03**	**17.26**	**11.68**	**6.87**	**9.45**
Solvent Evaporation										
510	Consumer Products	123.26	97.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	23.55	21.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.17	1.17	0.00	0.00	0.00	0.00	0.00	0.00	1.53
540	Asphalt Paving/Roofing	0.96	0.88	0.00	0.00	0.00	0.02	0.02	0.02	0.00
Total Solvent Evaporation		**148.95**	**121.70**	**0.00**	**0.00**	**0.00**	**0.02**	**0.02**	**0.02**	**1.53**

Table A-1 (Continued)

2008 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	CO	NOx	SOx	TSP	PM10	PM2.5	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	19.96	8.71	49.17	24.35	0.50	8.59	8.17	7.94	0.11
620	Farming Operations	36.61	2.93	0.00	0.00	0.00	2.70	1.38	0.34	15.51
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	43.19	21.12	2.12	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	101.97	46.60	7.04	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	9.93	5.90	0.59	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	4.09	2.03	0.29	0.00
660	Fires	0.34	0.24	3.02	0.08	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	3.28	1.87	19.75	1.44	0.04	2.44	2.35	2.11	0.04
690	Cooking	2.57	1.80	0.00	0.00	0.00	10.79	10.79	10.79	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.03
	RECLAIM				23.23	10.20				
Total Miscellaneous Processes		**62.76**	**15.54**	**71.95**	**49.10**	**10.74**	**184.15**	**98.77**	**31.62**	**40.69**
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	102.31	94.99	830.87	72.33	0.80	11.18	10.95	5.02	8.95
722	Light Duty Trucks 1 (T1)	24.96	23.08	218.99	18.92	0.11	1.45	1.41	0.70	1.22
723	Light Duty Trucks 2 (T2)	33.15	30.60	328.65	41.81	0.39	3.90	3.82	1.70	4.56
724	Medium Duty Trucks (T3)	25.46	23.18	286.54	37.77	0.42	3.23	3.17	1.39	4.96
732	Light Heavy Duty Gas Trucks 1 (T4)	9.30	8.50	87.71	18.62	0.08	0.62	0.61	0.26	0.93
733	Light Heavy Duty Gas Trucks 2 (T5)	1.24	1.13	11.94	2.08	0.01	0.07	0.06	0.03	0.10
734	Medium Heavy Duty Gas Trucks (T6)	2.89	2.67	29.01	4.35	0.01	0.05	0.05	0.02	0.04
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.74	0.68	12.78	1.27	0.00	0.01	0.01	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.76	0.64	3.24	24.57	0.02	0.53	0.52	0.30	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.26	0.22	1.10	8.13	0.01	0.20	0.20	0.11	0.00
744	Medium Heavy Duty Diesel Truck (T6)	2.01	1.68	6.33	41.76	0.05	2.22	2.21	1.69	0.13
746	Heavy Heavy Duty Diesel Trucks (HHD)	10.70	8.95	37.97	160.61	0.16	7.44	7.43	6.32	0.26
750	Motorcycles (MCY)	10.89	9.71	78.09	2.42	0.00	0.08	0.08	0.04	0.01
760	Diesel Urban Buses (UB)	0.62	0.52	2.52	14.05	0.02	0.93	0.92	0.51	0.02
762	Gas Urban Buses (UB)	0.47	0.40	4.58	0.78	0.00	0.01	0.01	0.00	0.01
771	Gas School Buses (SB)	0.19	0.17	2.65	0.18	0.00	0.00	0.00	0.00	0.00
772	Diesel School Buses (SB)	0.23	0.19	0.67	2.78	0.00	0.28	0.28	0.19	0.01
777	Gas Other Buses (OB)	0.63	0.58	6.98	1.27	0.00	0.02	0.02	0.01	0.02
779	Diesel Other Buses (OB)	0.36	0.30	1.28	6.13	0.01	0.28	0.28	0.23	0.01
780	Motor Homes (MH)	0.54	0.46	13.62	2.20	0.01	0.08	0.08	0.05	0.03
Total On-Road Motor Vehicles		**227.71**	**208.64**	**1965.51**	**462.05**	**2.10**	**32.59**	**32.10**	**18.57**	**21.27**
Other Mobile Sources										
810	Aircraft	2.92	2.84	33.48	12.82	1.32	0.81	0.76	0.37	0.00
820	Trains	2.57	2.15	6.12	26.07	0.12	0.75	0.75	0.69	0.00
833	Ocean Going Vessels	2.16	1.93	3.74	40.73	36.77	4.12	4.01	3.87	0.03
835	Commercial Habor Crafts	1.52	1.27	5.50	18.54	0.01	0.86	0.86	0.79	0.00
840	Recreational Boats	38.51	36.24	107.81	6.36	0.00	2.28	2.19	2.09	0.00
850	Off-Road Recreational Vehicles	7.73	7.39	9.22	0.13	0.01	0.04	0.04	0.03	0.00
860	Off-Road Equipment	70.62	63.85	605.13	92.24	0.08	5.74	5.67	5.28	0.06
870	Farm Equipment	1.56	1.35	7.16	6.66	0.01	0.40	0.40	0.37	0.00
890	Fuel Storage and Handling	10.37	10.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**137.95**	**127.35**	**778.17**	**203.55**	**38.32**	**15.00**	**14.68**	**13.48**	**0.09**
Total Stationary and Area Sources		1069.91	256.73	136.84	91.65	13.82	213.11	120.44	47.77	87.23
Total On-Road Vehicles		227.71	208.64	1965.51	462.05	2.10	32.59	32.10	18.57	21.27
Total Other Mobile		137.95	127.35	778.17	203.55	38.32	15.00	14.68	13.48	0.09
Total		**1435.57**	**592.72**	**2880.53**	**757.26**	**54.24**	**260.69**	**167.22**	**79.83**	**108.60**

Table A-2

2014 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	CO	NOx	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	4.87	0.89	8.71	0.20	0.28	1.04	1.04	1.04	1.17
20	Cogeneration	0.33	0.05	0.39	0.01	0.01	0.06	0.05	0.05	0.27
30	Oil and Gas Production (combustion)	0.93	0.10	0.57	0.66	0.02	0.10	0.10	0.10	0.25
40	Petroleum Refining (Combustion)	4.42	1.28	5.06	0.00	0.00	1.62	1.56	1.54	0.97
50	Manufacturing and Industrial	25.87	5.93	18.23	13.20	0.52	1.31	1.30	1.29	2.01
52	Food and Agricultural Processing	0.19	0.06	1.06	0.09	0.00	0.06	0.06	0.06	0.10
60	Service and Commercial	14.47	4.47	16.78	9.53	0.93	1.38	1.37	1.37	3.17
99	Other (Fuel Combustion)	1.56	0.36	3.05	3.80	0.22	0.36	0.28	0.20	0.01
Total Fuel Combustion		**52.65**	**13.15**	**53.85**	**27.49**	**1.99**	**5.93**	**5.77**	**5.64**	**7.94**
Waste Disposal										
110	Sewage Treatment	0.09	0.05	0.01	0.01	0.00	0.01	0.01	0.01	0.17
120	Landfills	614.57	8.71	0.51	0.51	0.32	0.14	0.14	0.14	3.90
130	Incineration	0.43	0.07	0.38	0.90	0.08	0.18	0.08	0.06	0.14
140	Soil Remediation	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Waste Disposal)	4.21	3.41	0.01	0.00	0.03	0.62	0.30	0.03	23.40
Total Waste Disposal		**619.30**	**12.24**	**0.92**	**1.43**	**0.43**	**0.95**	**0.53**	**0.24**	**27.61**
Cleaning and Surface Coatings										
210	Laundering	3.24	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	59.63	11.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	22.48	21.52	0.01	0.00	0.00	1.72	1.65	1.59	0.14
240	Printing	1.82	1.82	0.00	0.00	0.00	0.00	0.00	0.00	0.04
250	Adhesives and Sealants	4.49	3.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.58	0.58	0.04	0.03	0.00	0.01	0.01	0.01	0.01
Total Cleaning and Surface Coatings		**92.24**	**39.28**	**0.05**	**0.03**	**0.00**	**1.74**	**1.66**	**1.60**	**0.20**
Petroleum Production and Marketing										
310	Oil and Gas Production	2.51	1.42	0.07	0.09	0.00	0.01	0.01	0.01	0.00
320	Petroleum Refining	6.15	4.11	4.98	0.19	0.56	2.84	1.82	1.58	0.20
330	Petroleum Marketing	112.98	31.99	0.00	0.01	0.01	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Petroleum Production and Marketing		**121.66**	**37.54**	**5.05**	**0.29**	**0.57**	**2.85**	**1.83**	**1.59**	**0.20**
Industrial Processes										
410	Chemical	8.48	6.90	0.18	0.00	0.00	0.71	0.55	0.46	0.06
420	Food and Agriculture	1.52	1.49	0.00	0.00	0.00	0.48	0.24	0.10	0.00
430	Mineral Processes	0.45	0.40	0.86	0.02	0.01	8.72	5.73	3.11	0.08
440	Metal Processes	0.16	0.13	0.21	0.03	0.01	0.58	0.39	0.26	0.00
450	Wood and Paper	0.15	0.15	0.00	0.00	0.00	6.12	4.27	2.57	0.00
460	Glass and Related Products	0.01	0.01	0.00	0.00	0.00	0.11	0.10	0.09	0.00
470	Electronics	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.01	0.00
499	Other (Industrial Processes)	4.44	3.88	0.25	0.03	0.00	1.26	0.87	0.54	9.32
Total Industrial Processes		**15.21**	**12.95**	**1.50**	**0.08**	**0.03**	**18.00**	**12.17**	**7.14**	**9.45**
Solvent Evaporation										
510	Consumer Products	103.24	84.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	16.49	15.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	0.99	0.99	0.00	0.00	0.00	0.00	0.00	0.00	1.05
540	Asphalt Paving/Roofing	0.91	0.84	0.00	0.00	0.00	0.02	0.02	0.02	0.00
Total Solvent Evaporation		**121.64**	**102.01**	**0.00**	**0.00**	**0.00**	**0.02**	**0.02**	**0.02**	**1.05**

Table A-2 (continued)

2014 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	CO	NOx	SOx	TSP	PM10	PM2.5	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	19.73	8.61	48.36	19.79	0.49	7.73	7.36	7.15	0.11
620	Farming Operations	34.11	2.73	0.00	0.00	0.00	2.29	1.18	0.30	13.93
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	39.59	19.36	1.94	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	102.76	46.96	7.09	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	9.85	5.85	0.58	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	3.51	1.76	0.25	0.00
660	Fires	0.34	0.24	3.02	0.08	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	5.66	3.23	50.65	1.52	0.47	5.37	5.17	4.60	0.04
690	Cooking	2.60	1.82	0.00	0.00	0.00	10.89	10.89	10.89	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.03
	RECLAIM				26.51	7.99				
Total Miscellaneous Processes		**62.44**	**16.62**	**102.03**	**47.90**	**8.95**	**182.45**	**98.97**	**33.23**	**39.11**
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	46.70	42.86	421.38	34.77	0.83	10.76	10.56	4.52	6.51
722	Light Duty Trucks 1 (T1)	14.22	13.12	120.88	10.23	0.11	1.37	1.34	0.62	0.97
723	Light Duty Trucks 2 (T2)	20.46	18.79	202.78	22.85	0.39	3.75	3.69	1.58	3.49
724	Medium Duty Trucks (T3)	21.35	19.39	218.73	26.78	0.39	2.96	2.91	1.25	4.07
732	Light Heavy Duty Gas Trucks 1 (T4)	7.53	6.86	62.75	16.32	0.09	0.63	0.62	0.26	0.79
733	Light Heavy Duty Gas Trucks 2 (T5)	0.75	0.69	6.16	1.61	0.01	0.07	0.06	0.03	0.08
734	Medium Heavy Duty Gas Trucks (T6)	1.40	1.27	16.86	2.69	0.01	0.05	0.05	0.02	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.24	0.20	8.45	1.14	0.00	0.01	0.01	0.00	0.01
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.67	0.56	3.29	18.44	0.02	0.50	0.50	0.27	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.23	0.19	1.12	5.99	0.01	0.19	0.19	0.10	0.00
744	Medium Heavy Duty Diesel Truck (T6)	1.13	0.94	3.82	24.55	0.05	1.39	1.38	0.94	0.12
746	Heavy Heavy Duty Diesel Trucks (HHD)	3.97	3.33	17.84	80.39	0.16	2.55	2.54	1.84	0.24
750	Motorcycles (MCY)	8.42	7.04	61.89	2.35	0.00	0.09	0.09	0.04	0.02
760	Diesel Urban Buses (UB)	0.60	0.50	2.41	13.40	0.02	0.95	0.94	0.51	0.02
762	Gas Urban Buses (UB)	0.41	0.32	3.98	0.76	0.00	0.01	0.01	0.00	0.01
771	Gas School Buses (SB)	0.10	0.09	1.50	0.13	0.00	0.00	0.00	0.00	0.00
772	Diesel School Buses (SB)	0.05	0.04	0.16	2.25	0.00	0.17	0.16	0.08	0.01
777	Gas Other Buses (OB)	0.43	0.40	5.20	0.93	0.00	0.01	0.01	0.01	0.01
779	Diesel Other Buses (OB)	0.16	0.13	0.59	4.42	0.01	0.15	0.15	0.10	0.01
780	Motor Homes (MH)	0.22	0.18	5.35	1.61	0.01	0.08	0.08	0.04	0.03
Total On-Road Motor Vehicles		**129.05**	**116.91**	**1165.13**	**271.62**	**2.10**	**25.70**	**25.29**	**12.23**	**16.46**
Other Mobile Sources										
810	Aircraft	3.59	3.51	37.02	13.94	1.50	0.88	0.83	0.42	0.00
820	Trains	2.00	1.68	6.59	21.73	0.02	0.62	0.62	0.57	0.00
833	Ocean Going Vessels	2.33	2.08	3.86	35.13	2.70	0.85	0.85	0.82	0.03
835	Commercial Habor Crafts	1.28	1.08	6.27	11.89	0.01	0.53	0.53	0.49	0.00
840	Recreational Boats	30.94	29.30	104.40	5.91	0.00	1.84	1.77	1.69	0.00
850	Off-Road Recreational Vehicles	6.79	6.54	7.87	0.13	0.01	0.03	0.03	0.02	0.00
860	Off-Road Equipment	53.11	48.72	593.53	64.03	0.08	4.27	4.20	3.93	0.06
870	Farm Equipment	1.03	0.89	6.53	4.62	0.01	0.27	0.26	0.24	0.00
890	Fuel Storage and Handling	6.63	6.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**107.71**	**100.41**	**766.07**	**157.38**	**4.33**	**9.28**	**9.09**	**8.18**	**0.10**
Total Stationary and Area Sources		1085.13	233.80	163.40	77.22	11.97	211.94	120.95	49.47	85.57
Total On-Road Vehicles		129.05	116.91	1165.13	271.62	2.10	25.70	25.29	12.23	16.46
Total Other Mobile		107.71	100.41	766.07	157.38	4.33	9.28	9.09	8.18	0.10
Total		**1321.90**	**451.12**	**2094.59**	**506.22**	**18.40**	**246.92**	**155.33**	**69.89**	**102.13**

Table A-3

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

CODE	Source Category	TOG	VOC	CO	NOx	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	4.85	0.89	8.67	0.20	0.28	1.04	1.04	1.03	1.16
20	Cogeneration	0.34	0.05	0.40	0.01	0.01	0.06	0.05	0.05	0.27
30	Oil and Gas Production (combustion)	1.00	0.11	0.61	0.73	0.02	0.11	0.11	0.11	0.26
40	Petroleum Refining (Combustion)	4.42	1.28	5.06	0.00	0.00	1.62	1.56	1.54	0.97
50	Manufacturing and Industrial	26.09	6.37	19.45	13.49	0.58	1.37	1.36	1.35	2.02
52	Food and Agricultural Processing	0.21	0.06	1.12	0.07	0.00	0.07	0.07	0.07	0.10
60	Service and Commercial	14.61	4.47	16.90	9.29	1.02	1.39	1.39	1.38	3.15
99	Other (Fuel Combustion)	1.53	0.32	2.91	3.30	0.22	0.35	0.27	0.20	0.01
Total Fuel Combustion		**53.05**	**13.55**	**55.13**	**27.09**	**2.13**	**6.00**	**5.84**	**5.72**	**7.95**
Waste Disposal										
110	Sewage Treatment	0.10	0.05	0.02	0.01	0.00	0.01	0.01	0.01	0.17
120	Landfills	640.92	9.09	0.53	0.54	0.34	0.14	0.14	0.14	4.07
130	Incineration	0.47	0.08	0.41	0.96	0.08	0.19	0.09	0.07	0.16
140	Soil Remediation	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00
199	Other (Waste Disposal)	4.57	3.66	0.01	0.00	0.03	0.72	0.35	0.04	24.23
Total Waste Disposal		**646.07**	**12.89**	**0.97**	**1.52**	**0.45**	**1.07**	**0.60**	**0.26**	**28.62**
Cleaning and Surface Coatings										
210	Laundering	3.38	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	67.03	12.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	24.59	23.54	0.01	0.00	0.00	1.88	1.81	1.74	0.15
240	Printing	1.91	1.91	0.00	0.00	0.00	0.00	0.00	0.00	0.05
250	Adhesives and Sealants	5.16	4.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.65	0.65	0.04	0.03	0.00	0.01	0.01	0.01	0.01
Total Cleaning and Surface Coatings		**102.72**	**43.44**	**0.05**	**0.03**	**0.00**	**1.90**	**1.82**	**1.75**	**0.21**
Petroleum Production and Marketing										
310	Oil and Gas Production	2.67	1.51	0.07	0.09	0.00	0.01	0.01	0.01	0.00
320	Petroleum Refining	6.15	4.11	4.98	0.19	0.56	2.84	1.82	1.58	0.20
330	Petroleum Marketing	108.41	29.57	0.00	0.01	0.01	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.02	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Total Petroleum Production and Marketing		**117.24**	**35.21**	**5.06**	**0.29**	**0.57**	**2.85**	**1.83**	**1.59**	**0.20**
Industrial Processes										
410	Chemical	9.64	7.85	0.19	0.00	0.00	0.79	0.62	0.52	0.06
420	Food and Agriculture	1.60	1.57	0.00	0.00	0.00	0.53	0.26	0.11	0.00
430	Mineral Processes	0.46	0.41	0.90	0.02	0.01	9.08	5.95	3.21	0.08
440	Metal Processes	0.17	0.14	0.23	0.03	0.01	0.61	0.42	0.28	0.00
450	Wood and Paper	0.16	0.16	0.00	0.00	0.00	6.89	4.81	2.90	0.00
460	Glass and Related Products	0.01	0.01	0.00	0.00	0.00	0.12	0.11	0.10	0.00
470	Electronics	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.01	0.00
499	Other (Industrial Processes)	4.58	3.98	0.28	0.03	0.00	1.31	0.90	0.56	9.33
Total Industrial Processes		**16.63**	**14.12**	**1.60**	**0.09**	**0.03**	**19.36**	**13.09**	**7.67**	**9.47**
Solvent Evaporation										
510	Consumer Products	104.93	86.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	16.94	15.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	0.96	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.87
540	Asphalt Paving/Roofing	1.09	1.00	0.00	0.00	0.00	0.03	0.02	0.02	0.00
Total Solvent Evaporation		**123.93**	**103.94**	**0.00**	**0.00**	**0.00**	**0.03**	**0.02**	**0.02**	**0.87**

Table A-3 (continued)

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

CODE	Source Category	TOG	VOC	CO	NOx	SOx	TSP	PM10	PM2.5	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	19.71	8.61	48.29	17.31	0.50	7.72	7.34	7.14	0.11
620	Farming Operations	31.27	2.50	0.00	0.00	0.00	2.05	1.06	0.29	11.93
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	46.17	22.58	2.26	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	103.04	47.09	7.11	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	9.83	5.84	0.58	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	3.28	1.66	0.24	0.00
660	Fires	0.34	0.24	3.02	0.08	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	5.67	3.23	50.66	1.52	0.47	5.37	5.17	4.60	0.04
690	Cooking	2.70	1.89	0.00	0.00	0.00	11.31	11.31	11.31	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.03
	RECLAIM				26.51	6.99				
Total Miscellaneous Processes		**59.69**	**16.46**	**101.97**	**45.42**	**7.96**	**189.21**	**102.49**	**33.95**	**37.11**
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	33.97	31.21	312.91	25.85	0.80	10.71	10.52	4.47	5.89
722	Light Duty Trucks 1 (T1)	11.46	10.63	93.85	8.28	0.11	1.34	1.31	0.59	0.88
723	Light Duty Trucks 2 (T2)	16.18	14.91	154.20	16.66	0.38	3.77	3.70	1.57	3.16
724	Medium Duty Trucks (T3)	19.04	17.38	181.16	21.67	0.38	2.95	2.90	1.24	3.75
732	Light Heavy Duty Gas Trucks 1 (T4)	6.74	6.17	52.88	14.96	0.09	0.65	0.64	0.27	0.74
733	Light Heavy Duty Gas Trucks 2 (T5)	0.62	0.57	4.55	1.40	0.01	0.07	0.07	0.03	0.08
734	Medium Heavy Duty Gas Trucks (T6)	1.05	0.96	12.89	2.08	0.01	0.05	0.05	0.02	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.18	0.15	7.91	1.07	0.00	0.01	0.01	0.00	0.01
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.60	0.50	3.16	15.66	0.02	0.50	0.49	0.26	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.20	0.17	1.14	5.12	0.01	0.19	0.19	0.10	0.00
744	Medium Heavy Duty Diesel Truck (T6)	0.83	0.69	3.04	17.35	0.05	1.20	1.19	0.75	0.13
746	Heavy Heavy Duty Diesel Trucks (HHD)	3.87	3.24	18.65	67.67	0.18	2.33	2.32	1.59	0.27
750	Motorcycles (MCY)	8.10	6.64	58.07	2.35	0.00	0.09	0.09	0.03	0.02
760	Diesel Urban Buses (UB)	0.56	0.47	2.24	12.32	0.02	0.95	0.94	0.50	0.02
762	Gas Urban Buses (UB)	0.40	0.31	3.65	0.73	0.00	0.01	0.01	0.00	0.01
771	Gas School Buses (SB)	0.09	0.07	1.14	0.12	0.00	0.00	0.00	0.00	0.00
772	Diesel School Buses (SB)	0.04	0.04	0.14	2.09	0.00	0.16	0.16	0.08	0.01
777	Gas Other Buses (OB)	0.39	0.36	4.47	0.79	0.00	0.01	0.01	0.01	0.01
779	Diesel Other Buses (OB)	0.13	0.11	0.52	3.25	0.01	0.13	0.13	0.08	0.01
780	Motor Homes (MH)	0.15	0.12	3.29	1.38	0.01	0.08	0.08	0.04	0.03
Total On-Road Motor Vehicles		**104.61**	**94.69**	**919.87**	**220.79**	**2.08**	**25.19**	**24.78**	**11.63**	**15.07**
Other Mobile Sources										
810	Aircraft	3.94	3.86	38.79	14.51	1.59	0.91	0.86	0.45	0.00
820	Trains	1.81	1.51	7.43	23.52	0.02	0.58	0.58	0.54	0.00
833	Ocean Going Vessels	2.76	2.47	4.48	39.87	3.11	0.98	0.98	0.94	0.04
835	Commercial Habor Crafts	1.26	1.06	6.65	10.66	0.01	0.45	0.45	0.42	0.00
840	Recreational Boats	27.58	26.19	108.09	5.87	0.00	1.65	1.58	1.51	0.00
850	Off-Road Recreational Vehicles	6.84	6.62	8.35	0.15	0.00	0.03	0.03	0.02	0.00
860	Off-Road Equipment	49.19	45.07	602.32	58.21	0.09	3.92	3.85	3.60	0.07
870	Farm Equipment	0.78	0.68	6.31	3.61	0.01	0.20	0.20	0.18	0.00
890	Fuel Storage and Handling	5.70	5.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**99.87**	**93.14**	**782.41**	**156.40**	**4.83**	**8.72**	**8.53**	**7.66**	**0.11**
Total Stationary and Area Sources		1119.33	239.61	164.79	74.44	11.14	220.42	125.68	50.97	84.44
Total On-Road Vehicles		104.61	94.69	919.87	220.79	2.08	25.19	24.78	11.63	15.07
Total Other Mobile		99.87	93.14	782.41	156.40	4.83	8.72	8.53	7.66	0.11
Total		**1323.80**	**427.43**	**1867.06**	**451.63**	**18.05**	**254.32**	**158.99**	**70.26**	**99.62**

Table A-4

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

CODE	Source Category	TOG	VOC	CO	NOx	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	4.77	0.88	8.54	0.19	0.27	1.02	1.02	1.02	1.14
20	Cogeneration	0.34	0.05	0.40	0.01	0.01	0.06	0.05	0.05	0.27
30	Oil and Gas Production (combustion)	1.03	0.11	0.63	0.78	0.02	0.11	0.11	0.11	0.27
40	Petroleum Refining (Combustion)	4.42	1.28	5.06	0.00	0.00	1.62	1.56	1.54	0.97
50	Manufacturing and Industrial	26.03	6.57	20.02	13.70	0.62	1.39	1.38	1.37	2.01
52	Food and Agricultural Processing	0.22	0.06	1.16	0.07	0.00	0.07	0.07	0.07	0.11
60	Service and Commercial	14.65	4.45	16.92	9.22	1.07	1.39	1.39	1.38	3.13
99	Other (Fuel Combustion)	1.55	0.33	2.93	3.30	0.22	0.35	0.27	0.20	0.01
Total Fuel Combustion		**53.02**	**13.73**	**55.67**	**27.27**	**2.21**	**6.02**	**5.86**	**5.73**	**7.91**
Waste Disposal										
110	Sewage Treatment	0.10	0.05	0.02	0.01	0.00	0.01	0.01	0.01	0.17
120	Landfills	658.26	9.33	0.54	0.56	0.35	0.15	0.15	0.15	4.17
130	Incineration	0.50	0.08	0.43	0.99	0.08	0.20	0.09	0.07	0.16
140	Soil Remediation	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00
199	Other (Waste Disposal)	4.76	3.80	0.01	0.00	0.03	0.78	0.38	0.04	24.65
Total Waste Disposal		**663.63**	**13.27**	**1.00**	**1.56**	**0.46**	**1.13**	**0.63**	**0.27**	**29.15**
Cleaning and Surface Coatings										
210	Laundering	3.45	0.15	0.00	0.00	0.00	0.01	0.00	0.00	0.00
220	Degreasing	70.75	13.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	25.68	24.59	0.01	0.00	0.00	1.96	1.88	1.82	0.15
240	Printing	1.96	1.96	0.00	0.00	0.00	0.00	0.00	0.00	0.05
250	Adhesives and Sealants	5.53	4.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.69	0.69	0.04	0.03	0.00	0.01	0.01	0.01	0.01
Total Cleaning and Surface Coatings		**108.07**	**45.60**	**0.05**	**0.03**	**0.00**	**1.98**	**1.90**	**1.83**	**0.21**
Petroleum Production and Marketing										
310	Oil and Gas Production	2.73	1.55	0.08	0.09	0.00	0.01	0.01	0.01	0.00
320	Petroleum Refining	6.15	4.11	4.98	0.19	0.56	2.84	1.82	1.58	0.20
330	Petroleum Marketing	108.23	29.97	0.00	0.01	0.01	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.02	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Total Petroleum Production and Marketing		**117.14**	**35.65**	**5.06**	**0.29**	**0.57**	**2.85**	**1.83**	**1.59**	**0.20**
Industrial Processes										
410	Chemical	10.24	8.35	0.20	0.00	0.00	0.83	0.65	0.55	0.06
420	Food and Agriculture	1.63	1.61	0.00	0.00	0.00	0.55	0.27	0.11	0.00
430	Mineral Processes	0.47	0.41	0.91	0.03	0.01	9.26	6.07	3.26	0.09
440	Metal Processes	0.18	0.14	0.23	0.03	0.01	0.64	0.43	0.29	0.00
450	Wood and Paper	0.17	0.17	0.00	0.00	0.00	7.27	5.08	3.06	0.00
460	Glass and Related Products	0.01	0.01	0.00	0.00	0.00	0.12	0.11	0.10	0.00
470	Electronics	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.01	0.00
499	Other (Industrial Processes)	4.66	4.04	0.29	0.03	0.00	1.33	0.92	0.57	9.34
Total Industrial Processes		**17.37**	**14.74**	**1.64**	**0.09**	**0.03**	**20.03**	**13.54**	**7.94**	**9.49**
Solvent Evaporation										
510	Consumer Products	106.21	87.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	17.25	16.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	0.94	0.94	0.00	0.00	0.00	0.00	0.00	0.00	0.76
540	Asphalt Paving/Roofing	1.20	1.10	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**125.60**	**105.38**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**0.76**

Table A-4 (continued)

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

CODE	Source Category	TOG	VOC	CO	NOx	SOx	TSP	PM10	PM2.5	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	19.70	8.60	48.26	16.74	0.50	7.71	7.34	7.14	0.11
620	Farming Operations	29.37	2.35	0.00	0.00	0.00	1.88	0.99	0.28	10.60
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	50.38	24.63	2.47	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	104.00	47.53	7.18	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	9.83	5.84	0.58	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	3.13	1.59	0.23	0.00
660	Fires	0.34	0.24	3.02	0.08	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	5.67	3.23	50.67	1.53	0.47	5.37	5.17	4.61	0.04
690	Cooking	2.75	1.92	0.00	0.00	0.00	11.53	11.53	11.53	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.03
	RECLAIM				26.51	6.23				
Total Miscellaneous Processes		**57.83**	**16.34**	**101.95**	**44.85**	**7.20**	**194.27**	**105.05**	**34.42**	**35.78**
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	25.37	23.43	239.48	19.65	0.76	10.66	10.47	4.42	5.47
722	Light Duty Trucks 1 (T1)	9.71	9.07	75.26	6.80	0.11	1.31	1.29	0.57	0.81
723	Light Duty Trucks 2 (T2)	13.42	12.45	121.27	12.48	0.37	3.78	3.71	1.57	2.93
724	Medium Duty Trucks (T3)	17.65	16.20	156.39	18.24	0.37	2.95	2.89	1.23	3.54
732	Light Heavy Duty Gas Trucks 1 (T4)	6.23	5.73	46.28	13.87	0.09	0.66	0.65	0.27	0.70
733	Light Heavy Duty Gas Trucks 2 (T5)	0.53	0.49	3.49	1.25	0.01	0.07	0.07	0.03	0.07
734	Medium Heavy Duty Gas Trucks (T6)	0.82	0.75	10.24	1.67	0.01	0.05	0.05	0.02	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.15	0.12	7.55	1.03	0.00	0.01	0.01	0.00	0.01
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.55	0.46	3.20	13.71	0.02	0.49	0.48	0.25	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.19	0.16	1.22	4.50	0.01	0.18	0.18	0.09	0.00
744	Medium Heavy Duty Diesel Truck (T6)	0.63	0.53	2.51	12.55	0.05	1.07	1.06	0.61	0.13
746	Heavy Heavy Duty Diesel Trucks (HHD)	3.80	3.18	19.19	59.19	0.19	2.19	2.18	1.42	0.29
750	Motorcycles (MCY)	7.91	6.40	55.53	2.35	0.00	0.09	0.09	0.03	0.02
760	Diesel Urban Buses (UB)	0.54	0.45	2.13	11.59	0.02	0.95	0.94	0.50	0.02
762	Gas Urban Buses (UB)	0.39	0.30	3.43	0.71	0.00	0.01	0.01	0.00	0.01
771	Gas School Buses (SB)	0.07	0.06	0.90	0.11	0.00	0.00	0.00	0.00	0.00
772	Diesel School Buses (SB)	0.04	0.03	0.13	1.99	0.00	0.16	0.16	0.07	0.01
777	Gas Other Buses (OB)	0.36	0.34	3.98	0.69	0.00	0.01	0.01	0.01	0.01
779	Diesel Other Buses (OB)	0.11	0.09	0.48	2.47	0.01	0.11	0.11	0.07	0.01
780	Motor Homes (MH)	0.11	0.09	1.92	1.22	0.01	0.08	0.07	0.04	0.04
Total On-Road Motor Vehicles		**88.58**	**80.32**	**754.59**	**186.08**	**2.03**	**24.84**	**24.43**	**11.21**	**14.15**
Other Mobile Sources										
810	Aircraft	4.16	4.08	39.96	14.88	1.65	0.93	0.88	0.47	0.00
820	Trains	1.67	1.40	7.80	23.04	0.02	0.55	0.55	0.51	0.00
833	Ocean Going Vessels	3.00	2.69	4.82	36.09	3.32	1.04	1.04	1.00	0.04
835	Commercial Habor Crafts	1.24	1.04	7.08	9.69	0.01	0.38	0.38	0.35	0.00
840	Recreational Boats	25.55	24.31	110.29	5.84	0.00	1.53	1.47	1.40	0.00
850	Off-Road Recreational Vehicles	6.93	6.72	8.65	0.17	0.00	0.03	0.03	0.02	0.00
860	Off-Road Equipment	47.61	43.61	610.71	52.03	0.09	3.55	3.48	3.27	0.07
870	Farm Equipment	0.65	0.56	6.24	3.01	0.01	0.16	0.16	0.14	0.00
890	Fuel Storage and Handling	5.28	5.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**96.10**	**89.67**	**795.56**	**144.74**	**5.12**	**8.17**	**7.98**	**7.16**	**0.11**
Total Stationary and Area Sources		1142.65	244.71	165.39	74.10	10.47	226.32	128.83	51.81	83.51
Total On-Road Vehicles		88.58	80.32	754.59	186.08	2.03	24.84	24.43	11.21	14.15
Total Other Mobile		96.10	89.67	795.56	144.74	5.12	8.17	7.98	7.16	0.11
Total		**1327.32**	**414.70**	**1715.53**	**404.93**	**17.62**	**259.32**	**161.24**	**70.17**	**97.77**

Table A-5

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

CODE	Source Category	TOG	VOC	CO	NOx	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	4.75	0.87	8.49	0.19	0.27	1.02	1.01	1.01	1.14
20	Cogeneration	0.35	0.05	0.41	0.01	0.01	0.06	0.05	0.05	0.27
30	Oil and Gas Production (combustion)	1.05	0.12	0.64	0.81	0.02	0.12	0.12	0.12	0.27
40	Petroleum Refining (Combustion)	4.42	1.28	5.06	0.00	0.00	1.62	1.56	1.54	0.97
50	Manufacturing and Industrial	25.29	6.78	20.60	13.82	0.66	1.41	1.40	1.39	2.01
52	Food and Agricultural Processing	0.23	0.06	1.22	0.07	0.00	0.07	0.07	0.07	0.11
60	Service and Commercial	14.75	4.42	17.02	9.17	1.14	1.40	1.40	1.39	3.05
99	Other (Fuel Combustion)	1.55	0.30	2.87	2.94	0.22	0.34	0.26	0.19	0.01
Total Fuel Combustion		**52.39**	**13.89**	**56.30**	**27.01**	**2.33**	**6.03**	**5.87**	**5.75**	**7.84**
Waste Disposal										
110	Sewage Treatment	0.10	0.05	0.02	0.01	0.00	0.01	0.01	0.01	0.17
120	Landfills	693.45	9.83	0.56	0.58	0.36	0.15	0.15	0.15	4.40
130	Incineration	0.53	0.09	0.45	1.03	0.09	0.21	0.09	0.08	0.17
140	Soil Remediation	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00
199	Other (Waste Disposal)	5.06	4.00	0.01	0.00	0.03	0.86	0.42	0.04	25.27
Total Waste Disposal		**699.15**	**13.99**	**1.05**	**1.62**	**0.48**	**1.23**	**0.68**	**0.29**	**30.01**
Cleaning and Surface Coatings										
210	Laundering	3.59	0.15	0.00	0.00	0.00	0.01	0.00	0.00	0.00
220	Degreasing	75.79	14.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	27.29	26.13	0.01	0.01	0.00	2.07	1.99	1.92	0.16
240	Printing	2.03	2.02	0.00	0.00	0.00	0.00	0.00	0.00	0.05
250	Adhesives and Sealants	6.04	5.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.75	0.75	0.04	0.03	0.00	0.01	0.01	0.01	0.01
Total Cleaning and Surface Coatings		**115.47**	**48.65**	**0.06**	**0.03**	**0.00**	**2.09**	**2.00**	**1.93**	**0.22**
Petroleum Production and Marketing										
310	Oil and Gas Production	2.79	1.58	0.08	0.10	0.00	0.01	0.01	0.01	0.00
320	Petroleum Refining	6.15	4.11	4.98	0.19	0.56	2.84	1.82	1.58	0.20
330	Petroleum Marketing	107.80	30.78	0.00	0.01	0.01	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.02	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Total Petroleum Production and Marketing		**116.76**	**36.49**	**5.07**	**0.30**	**0.57**	**2.85**	**1.83**	**1.59**	**0.20**
Industrial Processes										
410	Chemical	11.03	9.01	0.21	0.00	0.00	0.89	0.70	0.58	0.06
420	Food and Agriculture	1.68	1.65	0.00	0.00	0.00	0.58	0.28	0.11	0.00
430	Mineral Processes	0.47	0.42	0.94	0.03	0.02	9.50	6.22	3.33	0.09
440	Metal Processes	0.19	0.15	0.25	0.03	0.01	0.66	0.45	0.30	0.00
450	Wood and Paper	0.18	0.18	0.00	0.00	0.00	7.73	5.40	3.25	0.00
460	Glass and Related Products	0.02	0.01	0.00	0.00	0.00	0.12	0.11	0.10	0.00
470	Electronics	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.01	0.00
499	Other (Industrial Processes)	4.78	4.15	0.30	0.04	0.00	1.37	0.95	0.59	9.35
Total Industrial Processes		**18.35**	**15.56**	**1.71**	**0.09**	**0.03**	**20.89**	**14.12**	**8.27**	**9.50**
Solvent Evaporation										
510	Consumer Products	108.99	89.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	17.82	16.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	0.91	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.59
540	Asphalt Paving/Roofing	1.34	1.23	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**129.06**	**108.33**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**0.59**

Table A-5 (continued)

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

CODE	Source Category	TOG	VOC	CO	NOx	SOx	TSP	PM10	PM2.5	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	19.68	8.59	48.17	15.58	0.50	7.70	7.32	7.12	0.11
620	Farming Operations	26.74	2.14	0.00	0.00	0.00	1.67	0.89	0.27	8.68
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	54.99	26.89	2.69	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	104.87	47.93	7.24	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	9.81	5.83	0.58	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	2.87	1.47	0.21	0.00
660	Fires	0.34	0.24	3.02	0.08	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	5.67	3.23	50.70	1.53	0.47	5.38	5.17	4.61	0.04
690	Cooking	2.86	2.00	0.00	0.00	0.00	11.97	11.97	11.97	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.03
	RECLAIM				26.51	6.08				
Total Miscellaneous Processes		**55.29**	**16.20**	**101.90**	**43.69**	**7.05**	**199.71**	**107.91**	**35.10**	**33.86**
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	18.92	17.47	181.50	13.83	0.66	10.62	10.43	4.40	5.17
722	Light Duty Trucks 1 (T1)	7.94	7.46	54.81	4.86	0.10	1.30	1.28	0.55	0.73
723	Light Duty Trucks 2 (T2)	11.20	10.45	92.58	8.57	0.34	3.85	3.78	1.59	2.76
724	Medium Duty Trucks (T3)	15.46	14.38	119.86	13.38	0.35	3.00	2.95	1.25	3.33
732	Light Heavy Duty Gas Trucks 1 (T4)	5.32	4.96	36.80	11.72	0.09	0.69	0.68	0.27	0.66
733	Light Heavy Duty Gas Trucks 2 (T5)	0.43	0.41	2.57	1.06	0.01	0.07	0.07	0.03	0.07
734	Medium Heavy Duty Gas Trucks (T6)	0.63	0.58	7.29	1.17	0.01	0.05	0.05	0.02	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.12	0.09	7.08	0.96	0.00	0.01	0.01	0.00	0.01
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.46	0.39	3.36	10.24	0.02	0.48	0.48	0.23	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.17	0.14	1.44	3.36	0.01	0.18	0.18	0.09	0.00
744	Medium Heavy Duty Diesel Truck (T6)	0.48	0.40	2.05	5.24	0.05	0.95	0.93	0.49	0.14
746	Heavy Heavy Duty Diesel Trucks (HHD)	3.73	3.12	19.30	32.63	0.20	2.31	2.30	1.49	0.31
750	Motorcycles (MCY)	7.69	6.19	51.71	2.31	0.00	0.09	0.08	0.03	0.02
760	Diesel Urban Buses (UB)	0.52	0.43	2.09	11.03	0.02	0.97	0.96	0.50	0.02
762	Gas Urban Buses (UB)	0.39	0.29	3.02	0.70	0.00	0.01	0.01	0.00	0.01
771	Gas School Buses (SB)	0.05	0.04	0.58	0.08	0.00	0.00	0.00	0.00	0.00
772	Diesel School Buses (SB)	0.04	0.04	0.14	1.81	0.00	0.15	0.15	0.07	0.00
777	Gas Other Buses (OB)	0.32	0.30	3.21	0.53	0.00	0.01	0.01	0.01	0.01
779	Diesel Other Buses (OB)	0.12	0.10	0.54	0.98	0.01	0.12	0.11	0.07	0.02
780	Motor Homes (MH)	0.08	0.06	0.89	1.05	0.01	0.08	0.08	0.04	0.04
Total On-Road Motor Vehicles		**74.07**	**67.31**	**590.80**	**125.51**	**1.88**	**24.94**	**24.53**	**11.14**	**13.37**
Other Mobile Sources										
810	Aircraft	4.61	4.52	42.32	15.62	1.77	0.98	0.93	0.51	0.00
820	Trains	1.54	1.29	8.60	22.23	0.02	0.51	0.51	0.47	0.00
833	Ocean Going Vessels	3.64	3.26	5.76	32.04	3.85	1.23	1.23	1.18	0.05
835	Commercial Habor Crafts	1.25	1.05	7.39	9.20	0.01	0.35	0.35	0.32	0.00
840	Recreational Boats	21.84	20.85	114.79	5.83	0.01	1.32	1.27	1.21	0.00
850	Off-Road Recreational Vehicles	7.13	6.93	9.12	0.19	0.00	0.03	0.03	0.02	0.00
860	Off-Road Equipment	46.38	42.50	632.13	42.67	0.11	3.03	2.96	2.79	0.08
870	Farm Equipment	0.50	0.43	6.22	2.11	0.01	0.10	0.10	0.09	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		**91.51**	**85.43**	**826.33**	**129.89**	**5.78**	**7.54**	**7.36**	**6.59**	**0.13**
Total Stationary and Area Sources		1186.49	253.11	166.08	72.75	10.46	232.83	132.45	52.97	82.23
Total On-Road Vehicles		74.07	67.31	590.80	125.51	1.88	24.94	24.53	11.14	13.37
Total Other Mobile		91.51	85.43	826.33	129.89	5.78	7.54	7.36	6.59	0.13
Total		**1352.07**	**405.85**	**1583.21**	**328.14**	**18.12**	**265.32**	**164.34**	**70.69**	**95.72**

Table A-6

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

CODE	Source Category	TOG	VOC	CO	NOx	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	4.77	0.87	8.52	0.19	0.27	1.02	1.02	1.01	1.14
20	Cogeneration	0.36	0.05	0.42	0.01	0.01	0.06	0.05	0.05	0.27
30	Oil and Gas Production (combustion)	1.08	0.12	0.66	0.84	0.02	0.12	0.12	0.12	0.28
40	Petroleum Refining (Combustion)	4.42	1.28	5.06	0.00	0.00	1.62	1.56	1.54	0.97
50	Manufacturing and Industrial	25.17	7.27	21.95	14.52	0.73	1.47	1.45	1.44	2.05
52	Food and Agricultural Processing	0.24	0.07	1.32	0.07	0.00	0.07	0.07	0.07	0.12
60	Service and Commercial	15.44	4.60	17.84	9.60	1.28	1.46	1.46	1.45	3.09
99	Other (Fuel Combustion)	1.61	0.31	2.94	2.97	0.22	0.34	0.27	0.20	0.01
Total Fuel Combustion		**53.10**	**14.57**	**58.71**	**28.21**	**2.54**	**6.16**	**6.00**	**5.88**	**7.94**
Waste Disposal										
110	Sewage Treatment	0.11	0.06	0.02	0.01	0.00	0.01	0.01	0.01	0.17
120	Landfills	760.70	10.79	0.59	0.60	0.38	0.16	0.16	0.16	4.81
130	Incineration	0.59	0.10	0.49	1.09	0.09	0.22	0.10	0.08	0.18
140	Soil Remediation	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00
199	Other (Waste Disposal)	5.58	4.36	0.02	0.00	0.03	0.99	0.48	0.05	26.39
Total Waste Disposal		**766.98**	**15.31**	**1.11**	**1.71**	**0.50**	**1.39**	**0.76**	**0.31**	**31.55**
Cleaning and Surface Coatings										
210	Laundering	3.82	0.16	0.00	0.00	0.00	0.01	0.00	0.00	0.00
220	Degreasing	84.74	16.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	29.72	28.46	0.01	0.01	0.00	2.23	2.14	2.06	0.16
240	Printing	2.10	2.10	0.00	0.00	0.00	0.00	0.00	0.00	0.05
250	Adhesives and Sealants	6.85	5.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.84	0.84	0.05	0.03	0.00	0.01	0.01	0.01	0.01
Total Cleaning and Surface Coatings		**128.06**	**53.56**	**0.06**	**0.03**	**0.00**	**2.25**	**2.16**	**2.08**	**0.22**
Petroleum Production and Marketing										
310	Oil and Gas Production	2.87	1.63	0.08	0.10	0.00	0.01	0.01	0.01	0.00
320	Petroleum Refining	6.15	4.11	4.98	0.19	0.56	2.84	1.82	1.58	0.20
330	Petroleum Marketing	108.50	32.26	0.00	0.01	0.01	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.02	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Total Petroleum Production and Marketing		**117.55**	**38.02**	**5.07**	**0.30**	**0.57**	**2.85**	**1.83**	**1.59**	**0.20**
Industrial Processes										
410	Chemical	12.30	10.06	0.23	0.00	0.00	0.98	0.77	0.65	0.07
420	Food and Agriculture	1.73	1.70	0.00	0.00	0.00	0.62	0.29	0.11	0.00
430	Mineral Processes	0.48	0.42	0.97	0.03	0.02	9.83	6.43	3.41	0.10
440	Metal Processes	0.21	0.17	0.27	0.03	0.01	0.71	0.48	0.32	0.00
450	Wood and Paper	0.20	0.20	0.00	0.00	0.00	8.48	5.92	3.56	0.00
460	Glass and Related Products	0.02	0.01	0.00	0.00	0.00	0.13	0.11	0.10	0.00
470	Electronics	0.00	0.00	0.00	0.00	0.00	0.05	0.03	0.02	0.00
499	Other (Industrial Processes)	4.98	4.31	0.33	0.04	0.00	1.45	1.00	0.62	9.36
Total Industrial Processes		**19.92**	**16.87**	**1.81**	**0.10**	**0.03**	**22.23**	**15.03**	**8.80**	**9.52**
Solvent Evaporation										
510	Consumer Products	113.73	93.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	18.75	17.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	0.89	0.89	0.00	0.00	0.00	0.00	0.00	0.00	0.38
540	Asphalt Paving/Roofing	1.50	1.39	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**134.88**	**113.29**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**0.38**

Table A-6 (continued)

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

CODE	Source Category	TOG	VOC	CO	NOx	SOx	TSP	PM10	PM2.5	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	19.63	8.57	48.02	13.45	0.51	7.67	7.29	7.09	0.11
620	Farming Operations	26.74	2.14	0.00	0.00	0.00	1.62	0.86	0.26	8.68
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	60.31	29.49	2.96	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	107.73	49.23	7.43	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	9.80	5.82	0.58	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	2.50	1.30	0.18	0.00
660	Fires	0.34	0.24	3.02	0.08	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	5.68	3.24	50.77	1.53	0.47	5.38	5.18	4.62	0.04
690	Cooking	3.02	2.11	0.00	0.00	0.00	12.65	12.65	12.65	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.03
	RECLAIM				26.51	6.08				
Total Miscellaneous Processes		**55.42**	**16.30**	**101.81**	**41.57**	**7.06**	**208.10**	**112.27**	**36.18**	**33.86**
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	11.50	10.57	123.73	8.46	0.64	11.16	10.96	4.67	5.22
722	Light Duty Trucks 1 (T1)	5.68	5.35	33.18	2.70	0.11	1.39	1.37	0.59	0.69
723	Light Duty Trucks 2 (T2)	9.39	8.78	71.48	5.50	0.35	4.19	4.11	1.74	2.83
724	Medium Duty Trucks (T3)	13.48	12.66	87.98	8.70	0.32	3.25	3.20	1.36	3.28
732	Light Heavy Duty Gas Trucks 1 (T4)	4.39	4.14	27.86	8.95	0.08	0.74	0.72	0.29	0.64
733	Light Heavy Duty Gas Trucks 2 (T5)	0.36	0.34	2.02	0.86	0.01	0.08	0.08	0.03	0.06
734	Medium Heavy Duty Gas Trucks (T6)	0.55	0.51	5.25	0.80	0.01	0.06	0.06	0.02	0.06
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.12	0.10	7.46	1.05	0.00	0.01	0.01	0.00	0.01
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.36	0.30	3.88	5.80	0.02	0.50	0.49	0.22	0.02
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.15	0.12	1.88	1.90	0.01	0.19	0.19	0.08	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0.54	0.45	2.26	5.65	0.06	1.03	1.01	0.53	0.15
746	Heavy Heavy Duty Diesel Trucks (HHD)	4.34	3.63	21.90	35.83	0.24	2.63	2.61	1.66	0.37
750	Motorcycles (MCY)	8.14	6.56	49.84	2.42	0.00	0.09	0.09	0.03	0.02
760	Diesel Urban Buses (UB)	0.43	0.36	1.69	8.47	0.02	0.99	0.97	0.49	0.03
762	Gas Urban Buses (UB)	0.17	0.14	1.94	0.59	0.00	0.01	0.01	0.00	0.01
771	Gas School Buses (SB)	0.04	0.03	0.34	0.06	0.00	0.00	0.00	0.00	0.00
772	Diesel School Buses (SB)	0.06	0.05	0.19	1.27	0.00	0.15	0.15	0.07	0.00
777	Gas Other Buses (OB)	0.29	0.28	2.52	0.40	0.00	0.01	0.01	0.01	0.01
779	Diesel Other Buses (OB)	0.14	0.12	0.62	1.15	0.01	0.13	0.13	0.08	0.02
780	Motor Homes (MH)	0.06	0.05	0.37	0.92	0.01	0.09	0.09	0.04	0.05
Total On-Road Motor Vehicles		**60.18**	**54.54**	**446.40**	**101.48**	**1.91**	**26.68**	**26.24**	**11.92**	**13.47**
Other Mobile Sources										
810	Aircraft	5.40	5.31	46.45	16.94	1.98	1.06	1.01	0.58	0.00
820	Trains	1.27	1.07	10.39	19.03	0.03	0.41	0.41	0.37	0.00
833	Ocean Going Vessels	5.30	4.74	8.24	28.55	5.23	1.73	1.73	1.66	0.07
835	Commercial Habor Crafts	1.26	1.06	7.49	8.99	0.01	0.34	0.34	0.32	0.00
840	Recreational Boats	17.41	16.64	123.77	5.90	0.01	1.05	1.01	0.96	0.00
850	Off-Road Recreational Vehicles	7.51	7.33	9.91	0.22	0.00	0.03	0.03	0.02	0.00
860	Off-Road Equipment	47.74	43.84	673.74	34.99	0.12	2.66	2.58	2.45	0.09
870	Farm Equipment	0.36	0.32	6.29	1.25	0.01	0.04	0.04	0.04	0.00
890	Fuel Storage and Handling	3.96	3.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**90.22**	**84.25**	**886.27**	**115.87**	**7.39**	**7.32**	**7.15**	**6.40**	**0.16**
Total Stationary and Area Sources		1275.90	267.92	168.58	71.92	10.70	243.01	138.08	54.87	83.68
Total On-Road Vehicles		60.18	54.54	446.40	101.48	1.91	26.68	26.24	11.92	13.47
Total Other Mobile		90.22	84.25	886.27	115.87	7.39	7.32	7.15	6.40	0.16
Total		**1426.30**	**406.71**	**1501.25**	**289.27**	**20.00**	**277.02**	**171.47**	**73.19**	**97.31**

ATTACHMENT B

FINAL 2012 AQMP APPENDIX III

SUMMER PLANNING EMISSIONS BY MAJOR SOURCE CATEGORY

Table B-1

2008 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	CO	NOx	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	5.58	1.03	9.94	0.54	0.31	1.19	1.18	1.18	1.34
20	Cogeneration	0.33	0.05	0.40	0.02	0.01	0.06	0.05	0.05	0.29
30	Oil and Gas Production (combustion)	0.90	0.10	0.56	0.73	0.02	0.10	0.10	0.10	0.24
40	Petroleum Refining (Combustion)	4.65	1.30	5.09	0.00	0.00	1.62	1.56	1.54	0.97
50	Manufacturing and Industrial	30.38	6.15	19.54	19.63	0.50	1.42	1.41	1.40	2.32
52	Food and Agricultural Processing	0.22	0.06	1.14	0.33	0.00	0.07	0.07	0.07	0.10
60	Service and Commercial	15.42	4.82	17.99	15.69	0.87	1.38	1.38	1.37	3.23
99	Other (Fuel Combustion)	1.77	0.41	3.42	4.30	0.26	0.39	0.30	0.22	0.01
Total Fuel Combustion		**59.26**	**13.92**	**58.07**	**41.25**	**1.97**	**6.22**	**6.05**	**5.92**	**8.50**
Waste Disposal										
110	Sewage Treatment	0.09	0.05	0.01	0.01	0.00	0.01	0.01	0.01	0.17
120	Landfills	556.95	7.91	0.56	0.59	0.37	0.16	0.16	0.16	3.54
130	Incineration	0.41	0.07	0.38	1.05	0.08	0.18	0.08	0.07	0.15
140	Soil Remediation	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00
199	Other (Waste Disposal)	4.82	4.06	0.01	0.00	0.03	0.60	0.29	0.03	23.05
Total Waste Disposal		**562.28**	**12.10**	**0.97**	**1.65**	**0.48**	**0.95**	**0.54**	**0.27**	**26.90**
Cleaning and Surface Coatings										
210	Laundering	3.22	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	56.42	10.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	26.63	25.49	0.01	0.01	0.00	2.20	2.11	2.04	0.17
240	Printing	2.27	2.27	0.00	0.00	0.00	0.00	0.00	0.00	0.05
250	Adhesives and Sealants	4.13	3.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.53	0.53	0.04	0.06	0.00	0.01	0.01	0.01	0.01
Total Cleaning and Surface Coatings		**93.19**	**42.95**	**0.05**	**0.07**	**0.00**	**2.22**	**2.13**	**2.05**	**0.23**
Petroleum Production and Marketing										
310	Oil and Gas Production	2.39	1.35	0.07	0.08	0.00	0.01	0.01	0.01	0.00
320	Petroleum Refining	6.17	4.12	5.38	0.32	0.67	2.99	1.92	1.68	0.20
330	Petroleum Marketing	125.33	35.42	0.00	0.01	0.01	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Petroleum Production and Marketing		**133.91**	**40.90**	**5.45**	**0.41**	**0.69**	**3.00**	**1.93**	**1.68**	**0.20**
Industrial Processes										
410	Chemical	8.39	6.84	0.16	0.00	0.00	0.69	0.53	0.44	0.06
420	Food and Agriculture	1.60	1.57	0.00	0.00	0.00	0.55	0.26	0.10	0.00
430	Mineral Processes	0.51	0.45	0.95	0.04	0.02	9.55	6.22	3.35	0.08
440	Metal Processes	0.19	0.15	0.23	0.04	0.02	0.73	0.50	0.33	0.00
450	Wood and Paper	0.15	0.15	0.00	0.00	0.00	5.55	3.87	2.33	0.00
460	Glass and Related Products	0.01	0.01	0.00	0.00	0.00	0.11	0.10	0.09	0.00
470	Electronics	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.01	0.00
499	Other (Industrial Processes)	10.70	9.69	0.34	0.04	0.00	1.42	0.98	0.62	9.32
Total Industrial Processes		**21.55**	**18.87**	**1.68**	**0.11**	**0.04**	**18.62**	**12.48**	**7.27**	**9.46**
Solvent Evaporation										
510	Consumer Products	125.63	99.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	26.51	24.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.31	1.31	0.00	0.00	0.00	0.00	0.00	0.00	1.87
540	Asphalt Paving/Roofing	1.18	1.09	0.00	0.00	0.00	0.03	0.03	0.02	0.00
Total Solvent Evaporation		**154.63**	**126.79**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.02**	**1.87**

Table B-1 (continued)

2008 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	CO	NOx	SOx	TSP	PM10	PM2.5	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	5.50	2.38	15.74	18.05	0.31	2.85	2.77	2.73	0.02
620	Farming Operations	36.61	2.93	0.00	0.00	0.00	2.50	1.29	0.33	15.51
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	64.82	31.70	3.18	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	102.22	46.72	7.05	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	10.25	6.09	0.60	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	6.08	2.94	0.43	0.00
660	Fires	0.34	0.24	3.02	0.08	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	2.70	1.54	16.46	1.17	0.04	2.02	1.95	1.74	0.04
690	Cooking	2.57	1.80	0.00	0.00	0.00	10.79	10.79	10.79	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.03
	RECLAIM				23.86	10.24				
Total Miscellaneous Processes		**47.72**	**8.88**	**35.22**	**43.16**	**10.59**	**201.98**	**104.67**	**27.26**	**40.60**
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	105.47	98.25	831.84	64.40	0.84	11.18	10.95	5.02	8.95
722	Light Duty Trucks 1 (T1)	25.47	23.61	218.69	16.67	0.11	1.45	1.41	0.70	1.22
723	Light Duty Trucks 2 (T2)	33.59	31.05	331.36	37.14	0.41	3.90	3.82	1.70	4.56
724	Medium Duty Trucks (T3)	25.65	23.38	288.51	33.57	0.44	3.23	3.17	1.39	4.96
732	Light Heavy Duty Gas Trucks 1 (T4)	8.96	8.18	80.93	16.98	0.08	0.62	0.61	0.26	0.93
733	Light Heavy Duty Gas Trucks 2 (T5)	1.18	1.08	11.04	1.90	0.01	0.07	0.07	0.03	0.10
734	Medium Heavy Duty Gas Trucks (T6)	2.68	2.48	26.47	3.93	0.01	0.05	0.05	0.03	0.04
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.69	0.63	12.35	1.12	0.00	0.01	0.01	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.76	0.64	3.24	23.30	0.02	0.53	0.53	0.30	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.26	0.22	1.10	7.71	0.01	0.20	0.20	0.11	0.00
744	Medium Heavy Duty Diesel Truck (T6)	2.01	1.68	6.26	39.49	0.05	2.22	2.21	1.69	0.13
746	Heavy Heavy Duty Diesel Trucks (HHD)	10.66	8.92	37.32	152.39	0.16	7.43	7.41	6.31	0.26
750	Motorcycles (MCY)	11.02	9.91	73.24	2.12	0.00	0.08	0.08	0.04	0.01
760	Diesel Urban Buses (UB)	0.62	0.52	2.52	13.28	0.02	0.93	0.92	0.51	0.02
762	Gas Urban Buses (UB)	0.47	0.40	4.52	0.69	0.00	0.01	0.01	0.00	0.01
771	Gas School Buses (SB)	0.18	0.16	2.55	0.16	0.00	0.00	0.00	0.00	0.00
772	Diesel School Buses (SB)	0.23	0.19	0.64	2.65	0.00	0.28	0.28	0.19	0.01
777	Gas Other Buses (OB)	0.58	0.54	6.10	1.16	0.00	0.02	0.02	0.01	0.02
779	Diesel Other Buses (OB)	0.36	0.30	1.24	5.83	0.01	0.28	0.28	0.23	0.01
780	Motor Homes (MH)	0.54	0.46	13.37	1.98	0.01	0.08	0.08	0.05	0.03
Total On-Road Motor Vehicles		**231.38**	**212.58**	**1953.27**	**426.48**	**2.18**	**32.57**	**32.08**	**18.56**	**21.27**
Other Mobile Sources										
810	Aircraft	2.92	2.84	33.50	12.82	1.32	0.81	0.76	0.37	0.00
820	Trains	2.57	2.15	6.12	26.07	0.12	0.75	0.75	0.69	0.00
833	Ocean Going Vessels	2.16	1.93	3.75	40.74	36.78	4.12	4.01	3.87	0.03
835	Commercial Habor Crafts	1.52	1.27	5.50	18.55	0.01	0.86	0.86	0.79	0.00
840	Recreational Boats	61.58	57.73	153.00	8.88	0.01	3.72	3.58	3.41	0.00
850	Off-Road Recreational Vehicles	9.76	9.42	8.90	0.12	0.01	0.04	0.04	0.03	0.00
860	Off-Road Equipment	76.67	69.66	644.09	92.37	0.08	5.97	5.89	5.49	0.06
870	Farm Equipment	1.90	1.65	9.23	8.10	0.01	0.49	0.49	0.45	0.01
890	Fuel Storage and Handling	15.39	15.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**174.47**	**161.98**	**864.09**	**207.65**	**38.34**	**16.75**	**16.37**	**15.10**	**0.10**
Total Stationary and Area Sources		1072.54	264.41	101.44	86.65	13.77	233.01	127.83	44.48	87.76
Total On-Road Vehicles		231.38	212.58	1953.27	426.48	2.18	32.57	32.08	18.56	21.27
Total Other Mobile		174.47	162.98	864.09	207.65	38.34	16.75	16.37	15.10	0.10
Total		**1478.39**	**638.97**	**2918.80**	**720.78**	**54.29**	**282.34**	**176.29**	**78.13**	**109.13**

Table B-2

2014 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	CO	NOx	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	4.90	0.90	8.74	0.23	0.28	1.05	1.04	1.04	1.18
20	Cogeneration	0.33	0.05	0.39	0.01	0.01	0.06	0.05	0.05	0.27
30	Oil and Gas Production (combustion)	0.93	0.10	0.57	0.66	0.02	0.10	0.10	0.10	0.25
40	Petroleum Refining (Combustion)	4.42	1.28	5.06	0.00	0.00	1.62	1.56	1.54	0.97
50	Manufacturing and Industrial	26.09	6.00	18.89	13.34	0.53	1.38	1.37	1.36	2.12
52	Food and Agricultural Processing	0.22	0.06	1.13	0.10	0.00	0.07	0.07	0.07	0.10
60	Service and Commercial	14.56	4.49	17.14	9.61	0.94	1.39	1.39	1.38	3.19
99	Other (Fuel Combustion)	1.57	0.37	3.08	3.94	0.23	0.37	0.29	0.21	0.01
Total Fuel Combustion		**53.02**	**13.26**	**55.00**	**27.91**	**2.01**	**6.04**	**5.87**	**5.75**	**8.10**
Waste Disposal										
110	Sewage Treatment	0.09	0.05	0.01	0.01	0.00	0.01	0.01	0.01	0.17
120	Landfills	614.93	8.73	0.56	0.59	0.38	0.16	0.16	0.16	3.90
130	Incineration	0.45	0.08	0.40	0.93	0.08	0.18	0.08	0.07	0.15
140	Soil Remediation	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Waste Disposal)	4.22	3.42	0.01	0.00	0.03	0.63	0.31	0.03	23.47
Total Waste Disposal		**619.70**	**12.28**	**0.99**	**1.53**	**0.48**	**0.98**	**0.56**	**0.27**	**27.70**
Cleaning and Surface Coatings										
210	Laundering	3.26	0.16	0.00	0.00	0.00	0.01	0.00	0.00	0.00
220	Degreasing	61.97	11.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	27.88	26.71	0.01	0.01	0.00	2.31	2.22	2.14	0.16
240	Printing	2.03	2.03	0.00	0.00	0.00	0.00	0.00	0.00	0.05
250	Adhesives and Sealants	4.56	3.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.59	0.59	0.04	0.03	0.00	0.01	0.01	0.01	0.01
Total Cleaning and Surface Coatings		**100.28**	**45.44**	**0.05**	**0.03**	**0.00**	**2.33**	**2.23**	**2.15**	**0.22**
Petroleum Production and Marketing										
310	Oil and Gas Production	2.51	1.42	0.07	0.09	0.00	0.01	0.01	0.01	0.00
320	Petroleum Refining	6.15	4.11	4.98	0.19	0.56	2.84	1.82	1.58	0.20
330	Petroleum Marketing	113.05	32.07	0.00	0.01	0.01	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Petroleum Production and Marketing		**121.73**	**37.61**	**5.05**	**0.29**	**0.57**	**2.85**	**1.83**	**1.59**	**0.20**
Industrial Processes										
410	Chemical	9.39	7.65	0.18	0.00	0.00	0.77	0.60	0.49	0.06
420	Food and Agriculture	1.57	1.54	0.00	0.00	0.00	0.57	0.27	0.10	0.00
430	Mineral Processes	0.51	0.46	0.97	0.03	0.02	9.69	6.29	3.36	0.08
440	Metal Processes	0.19	0.16	0.22	0.04	0.01	0.73	0.49	0.33	0.00
450	Wood and Paper	0.16	0.16	0.00	0.00	0.00	6.15	4.29	2.59	0.00
460	Glass and Related Products	0.01	0.01	0.00	0.00	0.00	0.11	0.10	0.09	0.00
470	Electronics	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.01	0.00
499	Other (Industrial Processes)	5.46	4.77	0.25	0.04	0.00	1.37	0.93	0.58	9.32
Total Industrial Processes		**17.29**	**14.74**	**1.62**	**0.11**	**0.04**	**19.41**	**12.99**	**7.55**	**9.46**
Solvent Evaporation										
510	Consumer Products	104.63	86.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	19.29	18.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.10	1.10	0.00	0.00	0.00	0.00	0.00	0.00	1.28
540	Asphalt Paving/Roofing	1.12	1.03	0.00	0.00	0.00	0.02	0.02	0.02	0.00
Total Solvent Evaporation		**126.14**	**106.29**	**0.00**	**0.00**	**0.00**	**0.02**	**0.02**	**0.02**	**1.28**

Table B-2 (continued)

2014 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	CO	NOx	SOx	TSP	PM10	PM2.5	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	5.32	2.30	15.10	13.97	0.31	2.60	2.53	2.49	0.02
620	Farming Operations	34.11	2.73	0.00	0.00	0.00	2.13	1.11	0.29	13.93
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	59.42	29.06	2.91	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	103.01	47.07	7.11	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	10.17	6.04	0.60	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	5.12	2.50	0.36	0.00
660	Fires	0.34	0.24	3.02	0.08	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	4.61	2.63	41.19	1.24	0.38	4.37	4.20	3.74	0.04
690	Cooking	2.60	1.82	0.00	0.00	0.00	10.89	10.89	10.89	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.03
	RECLAIM				27.23	8.02				
Total Miscellaneous Processes		**46.98**	**9.71**	**59.32**	**42.52**	**8.71**	**198.16**	**103.85**	**28.81**	**39.02**
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	48.46	44.63	424.91	31.00	0.87	10.76	10.56	4.52	6.51
722	Light Duty Trucks 1 (T1)	14.71	13.61	121.57	9.02	0.12	1.37	1.34	0.62	0.97
723	Light Duty Trucks 2 (T2)	20.93	19.24	205.12	20.33	0.41	3.75	3.69	1.58	3.49
724	Medium Duty Trucks (T3)	21.70	19.71	220.13	23.84	0.41	2.96	2.91	1.25	4.07
732	Light Heavy Duty Gas Trucks 1 (T4)	7.23	6.58	57.18	15.01	0.09	0.63	0.62	0.26	0.79
733	Light Heavy Duty Gas Trucks 2 (T5)	0.72	0.66	5.60	1.49	0.01	0.07	0.06	0.03	0.08
734	Medium Heavy Duty Gas Trucks (T6)	1.31	1.18	15.01	2.43	0.01	0.05	0.05	0.02	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.23	0.19	8.23	1.02	0.00	0.01	0.01	0.00	0.01
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.67	0.56	3.29	17.48	0.02	0.50	0.50	0.27	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.23	0.19	1.12	5.69	0.01	0.19	0.19	0.10	0.00
744	Medium Heavy Duty Diesel Truck (T6)	1.13	0.94	3.77	23.30	0.05	1.39	1.38	0.94	0.12
746	Heavy Heavy Duty Diesel Trucks (HHD)	3.94	3.29	16.93	76.43	0.16	2.55	2.54	1.84	0.24
750	Motorcycles (MCY)	8.62	7.29	58.21	2.06	0.00	0.09	0.09	0.04	0.02
760	Diesel Urban Buses (UB)	0.60	0.50	2.41	12.67	0.02	0.95	0.94	0.51	0.02
762	Gas Urban Buses (UB)	0.41	0.32	3.94	0.67	0.00	0.01	0.01	0.00	0.01
771	Gas School Buses (SB)	0.10	0.08	1.45	0.12	0.00	0.00	0.00	0.00	0.00
772	Diesel School Buses (SB)	0.05	0.04	0.15	2.15	0.00	0.17	0.16	0.08	0.01
777	Gas Other Buses (OB)	0.40	0.36	4.45	0.86	0.00	0.01	0.01	0.01	0.01
779	Diesel Other Buses (OB)	0.16	0.13	0.56	4.21	0.01	0.15	0.14	0.10	0.01
780	Motor Homes (MH)	0.23	0.19	5.36	1.47	0.01	0.08	0.08	0.04	0.03
Total On-Road Motor Vehicles		**131.81**	**119.73**	**1159.39**	**251.27**	**2.19**	**25.69**	**25.28**	**12.23**	**16.46**
Other Mobile Sources										
810	Aircraft	3.59	3.51	37.04	13.94	1.50	0.88	0.83	0.42	0.00
820	Trains	2.00	1.68	6.59	21.73	0.02	0.62	0.62	0.57	0.00
833	Ocean Going Vessels	2.33	2.08	3.86	35.14	2.70	0.85	0.85	0.82	0.03
835	Commercial Habor Crafts	1.28	1.08	6.27	11.89	0.01	0.53	0.53	0.49	0.00
840	Recreational Boats	49.95	47.09	147.84	8.28	0.01	3.00	2.89	2.75	0.00
850	Off-Road Recreational Vehicles	8.70	8.46	7.47	0.12	0.01	0.03	0.03	0.02	0.00
860	Off-Road Equipment	57.91	53.29	632.12	64.40	0.09	4.48	4.40	4.12	0.07
870	Farm Equipment	1.25	1.08	8.43	5.62	0.01	0.32	0.32	0.30	0.01
890	Fuel Storage and Handling	10.19	10.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**137.21**	**128.42**	**849.63**	**161.12**	**4.34**	**10.71**	**10.46**	**9.49**	**0.10**
Total Stationary and Area Sources		1085.16	239.34	122.03	72.39	11.82	229.79	127.36	46.15	85.99
Total On-Road Vehicles		131.81	119.73	1159.39	251.27	2.19	25.69	25.28	12.23	16.46
Total Other Mobile		137.21	128.42	849.63	161.12	4.34	10.71	10.46	9.49	0.10
Total		**1354.18**	**487.49**	**2131.06**	**484.78**	**18.35**	**266.20**	**163.11**	**67.87**	**102.56**

Table B-3

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

CODE	Source Category	TOG	VOC	CO	NOx	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	4.88	0.90	8.70	0.23	0.28	1.04	1.04	1.03	1.18
20	Cogeneration	0.34	0.05	0.40	0.01	0.01	0.06	0.05	0.05	0.27
30	Oil and Gas Production (combustion)	1.00	0.11	0.61	0.73	0.02	0.11	0.11	0.11	0.26
40	Petroleum Refining (Combustion)	4.42	1.28	5.06	0.00	0.00	1.62	1.56	1.54	0.97
50	Manufacturing and Industrial	26.34	6.44	20.17	13.63	0.59	1.45	1.43	1.42	2.14
52	Food and Agricultural Processing	0.23	0.07	1.20	0.08	0.00	0.07	0.07	0.07	0.11
60	Service and Commercial	14.70	4.49	17.28	9.37	1.02	1.41	1.40	1.40	3.17
99	Other (Fuel Combustion)	1.54	0.33	2.94	3.44	0.24	0.36	0.28	0.21	0.01
Total Fuel Combustion		**53.46**	**13.67**	**56.36**	**27.50**	**2.16**	**6.12**	**5.95**	**5.83**	**8.12**
Waste Disposal										
110	Sewage Treatment	0.10	0.05	0.02	0.01	0.00	0.01	0.01	0.01	0.17
120	Landfills	641.29	9.10	0.59	0.62	0.40	0.17	0.17	0.17	4.07
130	Incineration	0.50	0.08	0.43	0.98	0.08	0.19	0.09	0.07	0.16
140	Soil Remediation	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00
199	Other (Waste Disposal)	4.59	3.68	0.01	0.00	0.03	0.73	0.36	0.04	24.31
Total Waste Disposal		**646.49**	**12.92**	**1.05**	**1.62**	**0.51**	**1.10**	**0.63**	**0.29**	**28.71**
Cleaning and Surface Coatings										
210	Laundering	3.40	0.17	0.00	0.00	0.00	0.01	0.00	0.00	0.00
220	Degreasing	69.66	13.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	30.48	29.21	0.01	0.01	0.00	2.53	2.43	2.34	0.17
240	Printing	2.13	2.13	0.00	0.00	0.00	0.00	0.00	0.00	0.05
250	Adhesives and Sealants	5.24	4.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.66	0.66	0.04	0.03	0.00	0.01	0.01	0.01	0.01
Total Cleaning and Surface Coatings		**111.57**	**50.19**	**0.05**	**0.03**	**0.00**	**2.55**	**2.44**	**2.35**	**0.23**
Petroleum Production and Marketing										
310	Oil and Gas Production	2.67	1.51	0.07	0.09	0.00	0.01	0.01	0.01	0.00
320	Petroleum Refining	6.15	4.11	4.98	0.19	0.56	2.84	1.82	1.58	0.20
330	Petroleum Marketing	108.49	29.65	0.00	0.01	0.02	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.02	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Total Petroleum Production and Marketing		**117.32**	**35.29**	**5.06**	**0.29**	**0.58**	**2.85**	**1.83**	**1.59**	**0.20**
Industrial Processes										
410	Chemical	10.68	8.70	0.19	0.00	0.00	0.86	0.67	0.56	0.07
420	Food and Agriculture	1.66	1.62	0.00	0.00	0.00	0.63	0.29	0.11	0.00
430	Mineral Processes	0.52	0.47	1.01	0.03	0.02	10.13	6.56	3.47	0.09
440	Metal Processes	0.21	0.17	0.23	0.04	0.02	0.78	0.52	0.35	0.00
450	Wood and Paper	0.18	0.18	0.00	0.00	0.00	6.93	4.83	2.91	0.00
460	Glass and Related Products	0.02	0.01	0.00	0.00	0.00	0.12	0.11	0.10	0.00
470	Electronics	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.01	0.00
499	Other (Industrial Processes)	5.62	4.90	0.28	0.04	0.00	1.43	0.97	0.60	9.34
Total Industrial Processes		**18.88**	**16.05**	**1.72**	**0.11**	**0.04**	**20.90**	**13.98**	**8.11**	**9.49**
Solvent Evaporation										
510	Consumer Products	106.36	87.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	19.82	18.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.05	1.05	0.00	0.00	0.00	0.00	0.00	0.00	1.06
540	Asphalt Paving/Roofing	1.33	1.24	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**128.57**	**108.35**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**1.06**

Table B-3 (continued)

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

CODE	Source Category	TOG	VOC	CO	NOx	SOx	TSP	PM10	PM2.5	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	5.31	2.30	15.06	12.02	0.31	2.59	2.52	2.49	0.02
620	Farming Operations	31.27	2.50	0.00	0.00	0.00	1.89	0.99	0.28	11.93
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	69.30	33.89	3.40	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	103.28	47.20	7.13	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	10.16	6.04	0.60	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	4.72	2.32	0.33	0.00
660	Fires	0.34	0.24	3.02	0.08	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	4.62	2.63	41.22	1.24	0.38	4.37	4.20	3.74	0.04
690	Cooking	2.70	1.89	0.00	0.00	0.00	11.31	11.31	11.31	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.03
	RECLAIM				27.23	7.01				
Total Miscellaneous Processes		**44.23**	**9.55**	**59.29**	**40.56**	**7.71**	**208.07**	**108.91**	**29.69**	**37.02**
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	35.40	32.60	317.59	23.02	0.84	10.71	10.52	4.47	5.89
722	Light Duty Trucks 1 (T1)	11.93	11.08	94.77	7.30	0.12	1.34	1.31	0.59	0.88
723	Light Duty Trucks 2 (T2)	16.65	15.36	156.69	14.83	0.40	3.77	3.70	1.57	3.16
724	Medium Duty Trucks (T3)	19.46	17.77	182.54	19.28	0.40	2.95	2.90	1.24	3.75
732	Light Heavy Duty Gas Trucks 1 (T4)	6.48	5.92	47.82	13.84	0.09	0.65	0.64	0.27	0.74
733	Light Heavy Duty Gas Trucks 2 (T5)	0.59	0.54	4.09	1.30	0.01	0.07	0.07	0.03	0.08
734	Medium Heavy Duty Gas Trucks (T6)	0.98	0.89	11.29	1.89	0.01	0.05	0.05	0.02	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.18	0.14	7.72	0.95	0.00	0.01	0.01	0.00	0.01
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.60	0.50	3.16	14.85	0.02	0.50	0.49	0.26	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.20	0.17	1.14	4.85	0.01	0.19	0.19	0.10	0.00
744	Medium Heavy Duty Diesel Truck (T6)	0.83	0.69	2.99	16.44	0.05	1.20	1.19	0.75	0.13
746	Heavy Heavy Duty Diesel Trucks (HHD)	3.82	3.19	17.44	64.46	0.18	2.33	2.32	1.58	0.27
750	Motorcycles (MCY)	8.37	6.96	54.57	2.07	0.00	0.09	0.09	0.03	0.02
760	Diesel Urban Buses (UB)	0.56	0.47	2.24	11.64	0.02	0.95	0.94	0.50	0.02
762	Gas Urban Buses (UB)	0.40	0.31	3.62	0.65	0.00	0.01	0.01	0.00	0.01
771	Gas School Buses (SB)	0.08	0.07	1.11	0.10	0.00	0.00	0.00	0.00	0.00
772	Diesel School Buses (SB)	0.04	0.04	0.13	2.00	0.00	0.16	0.16	0.08	0.01
777	Gas Other Buses (OB)	0.36	0.33	3.79	0.73	0.00	0.01	0.01	0.01	0.01
779	Diesel Other Buses (OB)	0.13	0.11	0.50	3.10	0.01	0.13	0.12	0.08	0.01
780	Motor Homes (MH)	0.16	0.13	3.31	1.26	0.01	0.08	0.08	0.04	0.03
Total On-Road Motor Vehicles		**107.22**	**97.28**	**916.51**	**204.57**	**2.16**	**25.19**	**24.78**	**11.63**	**15.07**
Other Mobile Sources										
810	Aircraft	3.93	3.85	38.81	14.51	1.59	0.91	0.86	0.45	0.00
820	Trains	1.81	1.51	7.43	23.52	0.02	0.58	0.58	0.54	0.00
833	Ocean Going Vessels	2.76	2.47	4.48	39.88	3.11	0.98	0.98	0.94	0.04
835	Commercial Habor Crafts	1.26	1.06	6.65	10.66	0.01	0.45	0.45	0.42	0.00
840	Recreational Boats	44.70	42.25	152.44	8.24	0.01	2.69	2.58	2.46	0.00
850	Off-Road Recreational Vehicles	8.83	8.62	7.93	0.14	0.00	0.03	0.03	0.02	0.00
860	Off-Road Equipment	53.68	49.33	641.78	58.49	0.09	4.11	4.03	3.78	0.07
870	Farm Equipment	0.95	0.82	8.16	4.38	0.01	0.24	0.24	0.22	0.01
890	Fuel Storage and Handling	8.82	8.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**126.74**	**118.70**	**867.69**	**159.83**	**4.84**	**9.99**	**9.76**	**8.83**	**0.11**
Total Stationary and Area Sources		1120.53	246.02	123.54	70.13	11.00	241.63	133.78	47.90	84.85
Total On-Road Vehicles		107.22	97.28	916.51	204.57	2.16	25.19	24.78	11.63	15.07
Total Other Mobile		126.74	118.70	867.69	159.83	4.84	9.99	9.76	8.83	0.11
Total		**1354.48**	**462.00**	**1907.74**	**434.53**	**18.00**	**276.80**	**168.31**	**68.36**	**100.03**

Table B-4

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

CODE	Source Category	TOG	VOC	CO	NOx	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	4.81	0.89	8.57	0.23	0.27	1.03	1.02	1.02	1.16
20	Cogeneration	0.34	0.05	0.40	0.01	0.01	0.06	0.05	0.05	0.27
30	Oil and Gas Production (combustion)	1.03	0.11	0.63	0.78	0.02	0.11	0.11	0.11	0.27
40	Petroleum Refining (Combustion)	4.42	1.28	5.06	0.00	0.00	1.62	1.56	1.54	0.97
50	Manufacturing and Industrial	26.29	6.65	20.77	13.84	0.62	1.47	1.46	1.45	2.14
52	Food and Agricultural Processing	0.24	0.07	1.23	0.08	0.00	0.08	0.07	0.07	0.12
60	Service and Commercial	14.75	4.48	17.31	9.30	1.07	1.41	1.41	1.40	3.15
99	Other (Fuel Combustion)	1.57	0.33	2.97	3.45	0.24	0.36	0.28	0.21	0.01
Total Fuel Combustion		**53.44**	**13.86**	**56.94**	**27.70**	**2.24**	**6.14**	**5.97**	**5.85**	**8.09**
Waste Disposal										
110	Sewage Treatment	0.10	0.05	0.02	0.01	0.00	0.01	0.01	0.01	0.17
120	Landfills	658.64	9.35	0.60	0.64	0.41	0.18	0.18	0.18	4.17
130	Incineration	0.52	0.09	0.45	1.01	0.08	0.20	0.09	0.08	0.17
140	Soil Remediation	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00
199	Other (Waste Disposal)	4.78	3.81	0.01	0.00	0.03	0.78	0.38	0.04	24.74
Total Waste Disposal		**664.06**	**13.31**	**1.08**	**1.67**	**0.53**	**1.17**	**0.67**	**0.31**	**29.25**
Cleaning and Surface Coatings										
210	Laundering	3.47	0.17	0.00	0.00	0.00	0.01	0.00	0.00	0.00
220	Degreasing	73.51	14.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	31.83	30.51	0.02	0.01	0.00	2.64	2.53	2.44	0.18
240	Printing	2.18	2.18	0.00	0.00	0.00	0.00	0.00	0.00	0.05
250	Adhesives and Sealants	5.62	4.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.70	0.70	0.04	0.03	0.00	0.01	0.01	0.01	0.01
Total Cleaning and Surface Coatings		**117.32**	**52.65**	**0.06**	**0.03**	**0.00**	**2.66**	**2.55**	**2.46**	**0.24**
Petroleum Production and Marketing										
310	Oil and Gas Production	2.73	1.55	0.08	0.09	0.00	0.01	0.01	0.01	0.00
320	Petroleum Refining	6.15	4.11	4.98	0.19	0.56	2.84	1.82	1.58	0.20
330	Petroleum Marketing	108.32	30.06	0.00	0.01	0.02	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.02	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Total Petroleum Production and Marketing		**117.22**	**35.73**	**5.06**	**0.29**	**0.58**	**2.85**	**1.83**	**1.59**	**0.20**
Industrial Processes										
410	Chemical	11.35	9.26	0.20	0.00	0.00	0.91	0.71	0.59	0.07
420	Food and Agriculture	1.70	1.66	0.00	0.00	0.00	0.66	0.30	0.11	0.00
430	Mineral Processes	0.53	0.47	1.03	0.03	0.02	10.36	6.71	3.54	0.09
440	Metal Processes	0.21	0.18	0.24	0.04	0.02	0.80	0.54	0.36	0.00
450	Wood and Paper	0.18	0.18	0.00	0.00	0.00	7.31	5.10	3.07	0.00
460	Glass and Related Products	0.02	0.01	0.00	0.00	0.00	0.12	0.11	0.10	0.00
470	Electronics	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.01	0.00
499	Other (Industrial Processes)	5.72	4.98	0.29	0.04	0.00	1.45	0.99	0.61	9.34
Total Industrial Processes		**19.71**	**16.74**	**1.77**	**0.12**	**0.04**	**21.64**	**14.48**	**8.39**	**9.50**
Solvent Evaporation										
510	Consumer Products	107.66	88.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	20.17	18.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.03	1.03	0.00	0.00	0.00	0.00	0.00	0.00	0.93
540	Asphalt Paving/Roofing	1.47	1.36	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**130.34**	**109.87**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**0.93**

Table B-4 (continued)

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

CODE	Source Category	TOG	VOC	CO	NOx	SOx	TSP	PM10	PM2.5	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	5.30	2.29	15.04	11.83	0.32	2.59	2.52	2.48	0.02
620	Farming Operations	29.37	2.35	0.00	0.00	0.00	1.74	0.92	0.27	10.60
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	75.62	36.98	3.71	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	104.24	47.64	7.19	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	10.15	6.03	0.60	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	4.47	2.21	0.32	0.00
660	Fires	0.34	0.24	3.02	0.08	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	4.62	2.63	41.24	1.24	0.38	4.37	4.21	3.74	0.04
690	Cooking	2.75	1.92	0.00	0.00	0.00	11.53	11.53	11.53	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.03
	RECLAIM				27.23	6.25				
Total Miscellaneous Processes		**42.38**	**9.44**	**59.30**	**40.38**	**6.95**	**215.16**	**112.47**	**30.26**	**35.68**
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	26.57	24.56	244.89	17.48	0.79	10.66	10.47	4.42	5.47
722	Light Duty Trucks 1 (T1)	10.15	9.49	76.32	5.98	0.11	1.31	1.29	0.57	0.81
723	Light Duty Trucks 2 (T2)	13.91	12.90	123.86	11.12	0.39	3.78	3.71	1.57	2.93
724	Medium Duty Trucks (T3)	18.13	16.65	157.77	16.22	0.39	2.95	2.89	1.23	3.54
732	Light Heavy Duty Gas Trucks 1 (T4)	5.98	5.50	41.57	12.90	0.09	0.66	0.65	0.27	0.70
733	Light Heavy Duty Gas Trucks 2 (T5)	0.51	0.47	3.09	1.17	0.01	0.07	0.07	0.03	0.07
734	Medium Heavy Duty Gas Trucks (T6)	0.77	0.70	8.81	1.54	0.01	0.05	0.05	0.02	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.14	0.11	7.38	0.90	0.00	0.01	0.01	0.00	0.01
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.55	0.46	3.20	13.01	0.02	0.49	0.48	0.25	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.19	0.16	1.22	4.26	0.01	0.18	0.18	0.09	0.00
744	Medium Heavy Duty Diesel Truck (T6)	0.63	0.53	2.47	11.87	0.05	1.07	1.06	0.61	0.13
746	Heavy Heavy Duty Diesel Trucks (HHD)	3.74	3.13	17.78	56.47	0.19	2.19	2.17	1.41	0.29
750	Motorcycles (MCY)	8.23	6.76	52.14	2.07	0.00	0.09	0.09	0.03	0.02
760	Diesel Urban Buses (UB)	0.54	0.45	2.13	10.96	0.02	0.95	0.94	0.50	0.02
762	Gas Urban Buses (UB)	0.40	0.30	3.41	0.63	0.00	0.01	0.01	0.00	0.01
771	Gas School Buses (SB)	0.07	0.06	0.89	0.10	0.00	0.00	0.00	0.00	0.00
772	Diesel School Buses (SB)	0.04	0.03	0.12	1.90	0.00	0.16	0.16	0.07	0.01
777	Gas Other Buses (OB)	0.34	0.31	3.35	0.64	0.00	0.01	0.01	0.01	0.01
779	Diesel Other Buses (OB)	0.11	0.09	0.45	2.36	0.01	0.11	0.11	0.07	0.01
780	Motor Homes (MH)	0.11	0.09	1.95	1.12	0.01	0.08	0.07	0.04	0.04
Total On-Road Motor Vehicles		**91.09**	**82.77**	**752.79**	**172.70**	**2.11**	**24.83**	**24.43**	**11.20**	**14.15**
Other Mobile Sources										
810	Aircraft	4.16	4.08	40.01	14.88	1.65	0.93	0.88	0.47	0.00
820	Trains	1.67	1.40	7.80	23.04	0.02	0.55	0.55	0.51	0.00
833	Ocean Going Vessels	3.01	2.69	4.82	36.10	3.33	1.04	1.04	1.00	0.04
835	Commercial Habor Crafts	1.24	1.04	7.08	9.69	0.01	0.38	0.38	0.35	0.00
840	Recreational Boats	41.48	39.28	155.34	8.22	0.01	2.49	2.39	2.28	0.00
850	Off-Road Recreational Vehicles	8.99	8.78	8.23	0.16	0.00	0.03	0.03	0.02	0.00
860	Off-Road Equipment	52.04	47.82	651.01	52.25	0.10	3.73	3.66	3.44	0.07
870	Farm Equipment	0.79	0.68	8.08	3.66	0.01	0.19	0.19	0.18	0.01
890	Fuel Storage and Handling	8.17	8.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**121.54**	**113.91**	**882.37**	**147.99**	**5.13**	**9.35**	**9.12**	**8.25**	**0.12**
Total Stationary and Area Sources		1144.47	251.60	124.21	70.19	10.33	249.65	138.00	48.88	83.91
Total On-Road Vehicles		91.09	82.77	752.79	172.70	2.11	24.83	24.43	11.20	14.15
Total Other Mobile		121.54	113.91	882.37	147.99	5.13	9.35	9.12	8.25	0.12
Total		**1357.10**	**448.27**	**1759.37**	**390.89**	**17.56**	**283.83**	**171.55**	**68.33**	**98.18**

Table B-5

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

CODE	Source Category	TOG	VOC	CO	NOx	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	4.78	0.88	8.51	0.23	0.27	1.02	1.02	1.01	1.15
20	Cogeneration	0.35	0.05	0.41	0.01	0.01	0.06	0.05	0.05	0.27
30	Oil and Gas Production (combustion)	1.05	0.12	0.64	0.81	0.02	0.12	0.12	0.12	0.27
40	Petroleum Refining (Combustion)	4.42	1.28	5.06	0.00	0.00	1.62	1.56	1.54	0.97
50	Manufacturing and Industrial	25.57	6.86	21.38	13.97	0.67	1.49	1.48	1.47	2.15
52	Food and Agricultural Processing	0.25	0.07	1.30	0.08	0.01	0.08	0.08	0.08	0.12
60	Service and Commercial	14.85	4.45	17.42	9.26	1.15	1.42	1.42	1.41	3.07
99	Other (Fuel Combustion)	1.57	0.31	2.91	3.09	0.24	0.36	0.28	0.20	0.01
Total Fuel Combustion		**52.84**	**14.02**	**57.63**	**27.45**	**2.35**	**6.16**	**6.00**	**5.88**	**8.03**
Waste Disposal										
110	Sewage Treatment	0.10	0.05	0.02	0.01	0.00	0.01	0.01	0.01	0.17
120	Landfills	693.85	9.85	0.62	0.66	0.43	0.18	0.18	0.18	4.40
130	Incineration	0.56	0.09	0.48	1.05	0.09	0.21	0.10	0.08	0.18
140	Soil Remediation	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00
199	Other (Waste Disposal)	5.08	4.02	0.01	0.00	0.03	0.86	0.42	0.04	25.38
Total Waste Disposal		**699.59**	**14.03**	**1.13**	**1.73**	**0.54**	**1.27**	**0.72**	**0.32**	**30.12**
Cleaning and Surface Coatings										
210	Laundering	3.62	0.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00
220	Degreasing	78.73	15.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	33.78	32.37	0.02	0.01	0.00	2.79	2.67	2.58	0.18
240	Printing	2.25	2.25	0.00	0.00	0.00	0.00	0.00	0.00	0.05
250	Adhesives and Sealants	6.13	5.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.76	0.75	0.04	0.03	0.00	0.01	0.01	0.01	0.01
Total Cleaning and Surface Coatings		**125.26**	**56.10**	**0.06**	**0.03**	**0.00**	**2.81**	**2.69**	**2.59**	**0.25**
Petroleum Production and Marketing										
310	Oil and Gas Production	2.79	1.58	0.08	0.10	0.00	0.01	0.01	0.01	0.00
320	Petroleum Refining	6.15	4.11	4.98	0.19	0.56	2.84	1.82	1.58	0.20
330	Petroleum Marketing	107.88	30.86	0.00	0.01	0.02	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.03	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Total Petroleum Production and Marketing		**116.85**	**36.57**	**5.07**	**0.30**	**0.58**	**2.85**	**1.83**	**1.59**	**0.20**
Industrial Processes										
410	Chemical	12.22	9.98	0.21	0.00	0.00	0.96	0.75	0.63	0.07
420	Food and Agriculture	1.74	1.70	0.00	0.00	0.00	0.70	0.32	0.12	0.00
430	Mineral Processes	0.54	0.48	1.05	0.03	0.02	10.66	6.90	3.62	0.10
440	Metal Processes	0.23	0.19	0.26	0.04	0.02	0.84	0.57	0.37	0.00
450	Wood and Paper	0.20	0.20	0.00	0.00	0.00	7.77	5.42	3.27	0.00
460	Glass and Related Products	0.02	0.02	0.00	0.00	0.00	0.12	0.11	0.10	0.00
470	Electronics	0.00	0.00	0.00	0.00	0.00	0.04	0.02	0.01	0.00
499	Other (Industrial Processes)	5.87	5.11	0.30	0.04	0.00	1.50	1.02	0.63	9.35
Total Industrial Processes		**20.82**	**17.66**	**1.83**	**0.12**	**0.04**	**22.59**	**15.11**	**8.75**	**9.52**
Solvent Evaporation										
510	Consumer Products	110.48	90.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	20.85	19.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	0.99	0.99	0.00	0.00	0.00	0.00	0.00	0.00	0.73
540	Asphalt Paving/Roofing	1.64	1.52	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**133.96**	**112.98**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**0.73**

Table B-5 (continued)

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

CODE	Source Category	TOG	VOC	CO	NOx	SOx	TSP	PM10	PM2.5	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	5.29	2.29	14.99	11.46	0.32	2.58	2.51	2.47	0.02
620	Farming Operations	26.74	2.14	0.00	0.00	0.00	1.53	0.82	0.26	8.68
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	82.55	40.36	4.04	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	105.11	48.04	7.25	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	10.14	6.03	0.60	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	4.04	2.01	0.29	0.00
660	Fires	0.34	0.24	3.02	0.08	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	4.63	2.64	41.30	1.24	0.38	4.38	4.21	3.75	0.04
690	Cooking	2.86	2.00	0.00	0.00	0.00	11.97	11.97	11.97	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.03
	RECLAIM				27.23	6.10				
Total Miscellaneous Processes		**39.86**	**9.30**	**59.31**	**40.01**	**6.80**	**222.75**	**116.40**	**31.05**	**33.76**
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	19.75	18.24	186.96	12.34	0.69	10.62	10.43	4.40	5.17
722	Light Duty Trucks 1 (T1)	8.33	7.83	55.92	4.33	0.10	1.30	1.28	0.55	0.73
723	Light Duty Trucks 2 (T2)	11.68	10.91	95.27	7.66	0.36	3.85	3.78	1.59	2.76
724	Medium Duty Trucks (T3)	16.03	14.93	121.63	11.92	0.36	3.00	2.95	1.25	3.33
732	Light Heavy Duty Gas Trucks 1 (T4)	5.11	4.76	32.58	10.93	0.09	0.69	0.68	0.27	0.66
733	Light Heavy Duty Gas Trucks 2 (T5)	0.41	0.39	2.24	1.00	0.01	0.07	0.07	0.03	0.07
734	Medium Heavy Duty Gas Trucks (T6)	0.59	0.54	6.16	1.08	0.01	0.05	0.05	0.02	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.12	0.09	6.91	0.86	0.00	0.01	0.01	0.00	0.01
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.46	0.39	3.36	9.74	0.02	0.48	0.48	0.23	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.17	0.14	1.44	3.19	0.01	0.18	0.18	0.09	0.00
744	Medium Heavy Duty Diesel Truck (T6)	0.48	0.40	2.00	4.99	0.05	0.95	0.93	0.49	0.14
746	Heavy Heavy Duty Diesel Trucks (HHD)	3.66	3.06	17.58	31.39	0.20	2.31	2.30	1.49	0.31
750	Motorcycles (MCY)	8.04	6.58	48.63	2.03	0.00	0.09	0.08	0.03	0.02
760	Diesel Urban Buses (UB)	0.52	0.43	2.09	10.43	0.02	0.97	0.96	0.50	0.02
762	Gas Urban Buses (UB)	0.39	0.30	3.02	0.61	0.00	0.01	0.01	0.00	0.01
771	Gas School Buses (SB)	0.05	0.04	0.57	0.07	0.00	0.00	0.00	0.00	0.00
772	Diesel School Buses (SB)	0.04	0.04	0.13	1.73	0.00	0.15	0.15	0.07	0.00
777	Gas Other Buses (OB)	0.30	0.28	2.68	0.50	0.00	0.01	0.01	0.01	0.01
779	Diesel Other Buses (OB)	0.12	0.10	0.50	0.94	0.01	0.12	0.11	0.07	0.02
780	Motor Homes (MH)	0.08	0.07	0.90	0.97	0.01	0.08	0.08	0.04	0.04
Total On-Road Motor Vehicles		**76.33**	**69.51**	**590.55**	**116.72**	**1.95**	**24.94**	**24.53**	**11.14**	**13.37**
Other Mobile Sources										
810	Aircraft	4.61	4.52	42.34	15.62	1.77	0.98	0.93	0.51	0.00
820	Trains	1.54	1.29	8.60	22.23	0.02	0.51	0.51	0.47	0.00
833	Ocean Going Vessels	3.64	3.26	5.76	32.05	3.85	1.23	1.23	1.18	0.05
835	Commercial Habor Crafts	1.25	1.05	7.39	9.21	0.01	0.35	0.35	0.32	0.00
840	Recreational Boats	35.74	33.95	161.28	8.23	0.01	2.15	2.06	1.97	0.00
850	Off-Road Recreational Vehicles	9.31	9.12	8.68	0.17	0.00	0.03	0.03	0.02	0.00
860	Off-Road Equipment	50.90	46.80	674.37	42.78	0.11	3.21	3.12	2.95	0.08
870	Farm Equipment	0.60	0.53	8.07	2.57	0.01	0.12	0.12	0.11	0.01
890	Fuel Storage and Handling	7.17	7.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**114.77**	**107.65**	**916.49**	**132.86**	**5.79**	**8.57**	**8.35**	**7.53**	**0.13**
Total Stationary and Area Sources		1189.18	260.66	125.03	69.64	10.32	258.47	142.77	50.21	82.61
Total On-Road Vehicles		76.33	69.51	590.55	116.72	1.95	24.94	24.53	11.14	13.37
Total Other Mobile		114.77	107.65	916.49	132.86	5.79	8.57	8.35	7.53	0.13
Total		**1380.28**	**437.82**	**1632.07**	**319.22**	**18.07**	**291.97**	**175.66**	**68.88**	**96.11**

Table B-6

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

CODE	Source Category	TOG	VOC	CO	NOx	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	4.80	0.88	8.55	0.23	0.27	1.02	1.02	1.02	1.15
20	Cogeneration	0.36	0.05	0.42	0.01	0.01	0.06	0.05	0.05	0.27
30	Oil and Gas Production (combustion)	1.08	0.12	0.66	0.84	0.02	0.12	0.12	0.12	0.28
40	Petroleum Refining (Combustion)	4.42	1.28	5.06	0.00	0.00	1.62	1.56	1.54	0.97
50	Manufacturing and Industrial	25.47	7.35	22.80	14.68	0.74	1.56	1.54	1.53	2.20
52	Food and Agricultural Processing	0.27	0.07	1.40	0.08	0.01	0.08	0.08	0.08	0.13
60	Service and Commercial	15.54	4.62	18.26	9.69	1.29	1.48	1.48	1.47	3.12
99	Other (Fuel Combustion)	1.63	0.32	2.98	3.13	0.24	0.36	0.28	0.21	0.01
Total Fuel Combustion		**53.57**	**14.70**	**60.14**	**28.67**	**2.57**	**6.30**	**6.13**	**6.01**	**8.14**
Waste Disposal										
110	Sewage Treatment	0.11	0.06	0.02	0.01	0.00	0.01	0.01	0.01	0.17
120	Landfills	761.10	10.81	0.65	0.69	0.45	0.19	0.19	0.19	4.81
130	Incineration	0.62	0.10	0.51	1.12	0.09	0.22	0.11	0.09	0.19
140	Soil Remediation	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00
199	Other (Waste Disposal)	5.60	4.38	0.02	0.00	0.03	1.00	0.49	0.05	26.52
Total Waste Disposal		**767.43**	**15.36**	**1.20**	**1.83**	**0.57**	**1.43**	**0.80**	**0.35**	**31.69**
Cleaning and Surface Coatings										
210	Laundering	3.84	0.18	0.00	0.00	0.00	0.01	0.01	0.00	0.00
220	Degreasing	87.99	16.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	36.73	35.20	0.02	0.01	0.00	3.00	2.88	2.77	0.19
240	Printing	2.34	2.34	0.00	0.00	0.00	0.00	0.00	0.00	0.05
250	Adhesives and Sealants	6.97	6.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.85	0.85	0.05	0.03	0.00	0.01	0.01	0.01	0.01
Total Cleaning and Surface Coatings		**138.71**	**61.62**	**0.07**	**0.03**	**0.00**	**3.02**	**2.89**	**2.79**	**0.25**
Petroleum Production and Marketing										
310	Oil and Gas Production	2.87	1.63	0.08	0.10	0.00	0.01	0.01	0.01	0.00
320	Petroleum Refining	6.15	4.11	4.98	0.19	0.56	2.84	1.82	1.59	0.20
330	Petroleum Marketing	108.59	32.35	0.00	0.01	0.02	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.03	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Total Petroleum Production and Marketing		**117.64**	**38.11**	**5.07**	**0.30**	**0.58**	**2.85**	**1.83**	**1.59**	**0.20**
Industrial Processes										
410	Chemical	13.62	11.13	0.23	0.00	0.00	1.06	0.83	0.70	0.07
420	Food and Agriculture	1.80	1.76	0.00	0.00	0.00	0.75	0.33	0.12	0.00
430	Mineral Processes	0.55	0.48	1.09	0.03	0.02	11.09	7.16	3.72	0.10
440	Metal Processes	0.25	0.20	0.28	0.05	0.02	0.89	0.60	0.40	0.00
450	Wood and Paper	0.21	0.21	0.00	0.00	0.00	8.52	5.94	3.58	0.00
460	Glass and Related Products	0.03	0.02	0.00	0.00	0.00	0.13	0.11	0.10	0.00
470	Electronics	0.00	0.00	0.00	0.00	0.00	0.05	0.03	0.02	0.00
499	Other (Industrial Processes)	6.12	5.32	0.33	0.04	0.00	1.58	1.08	0.67	9.36
Total Industrial Processes		**22.57**	**19.13**	**1.93**	**0.13**	**0.04**	**24.06**	**16.09**	**9.30**	**9.54**
Solvent Evaporation										
510	Consumer Products	115.29	94.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	21.93	20.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	0.95	0.95	0.00	0.00	0.00	0.00	0.00	0.00	0.46
540	Asphalt Paving/Roofing	1.85	1.72	0.00	0.00	0.00	0.04	0.03	0.03	0.00
Total Solvent Evaporation		**140.02**	**118.17**	**0.00**	**0.00**	**0.00**	**0.04**	**0.03**	**0.03**	**0.46**

Table B-6 (continued)

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

CODE	Source Category	TOG	VOC	CO	NOx	SOx	TSP	PM10	PM2.5	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	5.26	2.28	14.89	10.73	0.33	2.56	2.49	2.45	0.02
620	Farming Operations	26.74	2.14	0.00	0.00	0.00	1.49	0.80	0.25	8.68
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	90.53	44.27	4.44	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	107.98	49.34	7.45	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	10.13	6.02	0.60	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	3.42	1.73	0.25	0.00
660	Fires	0.34	0.24	3.02	0.08	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	4.65	2.65	41.44	1.25	0.38	4.39	4.23	3.76	0.04
690	Cooking	3.02	2.11	0.00	0.00	0.00	12.65	12.65	12.65	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.03
	RECLAIM				27.23	6.10				
Total Miscellaneous Processes		**40.01**	**9.42**	**59.36**	**39.28**	**6.81**	**233.60**	**121.98**	**32.27**	**33.77**
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	11.93	10.96	128.79	7.56	0.68	11.16	10.96	4.67	5.22
722	Light Duty Trucks 1 (T1)	5.96	5.62	34.26	2.41	0.11	1.39	1.37	0.59	0.69
723	Light Duty Trucks 2 (T2)	9.87	9.24	74.39	4.87	0.37	4.19	4.11	1.74	2.83
724	Medium Duty Trucks (T3)	14.18	13.33	90.46	7.75	0.34	3.25	3.20	1.36	3.28
732	Light Heavy Duty Gas Trucks 1 (T4)	4.21	3.98	24.09	8.40	0.08	0.74	0.72	0.29	0.64
733	Light Heavy Duty Gas Trucks 2 (T5)	0.34	0.32	1.73	0.81	0.01	0.08	0.08	0.03	0.06
734	Medium Heavy Duty Gas Trucks (T6)	0.51	0.48	4.36	0.75	0.01	0.06	0.06	0.02	0.06
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.12	0.09	7.30	0.92	0.00	0.01	0.01	0.00	0.01
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.36	0.30	3.88	5.50	0.02	0.50	0.49	0.22	0.02
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.15	0.12	1.88	1.81	0.01	0.19	0.19	0.08	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0.54	0.45	2.20	5.39	0.06	1.03	1.01	0.53	0.15
746	Heavy Heavy Duty Diesel Trucks (HHD)	4.25	3.56	19.86	34.53	0.24	2.63	2.61	1.66	0.37
750	Motorcycles (MCY)	8.54	6.99	47.02	2.08	0.00	0.09	0.09	0.03	0.02
760	Diesel Urban Buses (UB)	0.43	0.36	1.69	8.01	0.02	0.99	0.97	0.49	0.03
762	Gas Urban Buses (UB)	0.17	0.14	1.92	0.52	0.00	0.01	0.01	0.00	0.01
771	Gas School Buses (SB)	0.04	0.03	0.33	0.05	0.00	0.00	0.00	0.00	0.00
772	Diesel School Buses (SB)	0.06	0.05	0.17	1.22	0.00	0.15	0.15	0.07	0.00
777	Gas Other Buses (OB)	0.28	0.26	2.09	0.37	0.00	0.01	0.01	0.01	0.01
779	Diesel Other Buses (OB)	0.14	0.12	0.57	1.11	0.01	0.13	0.13	0.08	0.02
780	Motor Homes (MH)	0.06	0.05	0.36	0.85	0.01	0.09	0.09	0.04	0.05
Total On-Road Motor Vehicles		**62.13**	**56.45**	**447.35**	**94.93**	**1.99**	**26.68**	**26.24**	**11.92**	**13.47**
Other Mobile Sources										
810	Aircraft	5.40	5.31	46.47	16.94	1.98	1.06	1.01	0.58	0.00
820	Trains	1.27	1.07	10.39	19.03	0.03	0.41	0.41	0.37	0.00
833	Ocean Going Vessels	5.30	4.74	8.24	28.56	5.23	1.73	1.73	1.66	0.07
835	Commercial Habor Crafts	1.26	1.06	7.49	9.00	0.01	0.34	0.34	0.32	0.00
840	Recreational Boats	28.81	27.39	173.39	8.37	0.01	1.71	1.65	1.57	0.00
850	Off-Road Recreational Vehicles	9.90	9.72	9.39	0.20	0.00	0.03	0.03	0.02	0.00
860	Off-Road Equipment	52.65	48.52	719.90	35.04	0.13	2.83	2.75	2.61	0.09
870	Farm Equipment	0.44	0.39	8.17	1.51	0.01	0.05	0.05	0.05	0.01
890	Fuel Storage and Handling	6.19	6.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**111.22**	**104.36**	**983.44**	**118.65**	**7.40**	**8.17**	**7.97**	**7.18**	**0.17**
Total Stationary and Area Sources		1279.96	276.51	127.77	70.24	10.58	271.29	149.76	52.34	84.05
Total On-Road Vehicles		62.13	56.45	447.35	94.93	1.99	26.68	26.24	11.92	13.47
Total Other Mobile		111.22	104.36	983.44	118.65	7.40	8.17	7.97	7.18	0.17
Total		**1453.32**	**437.31**	**1558.56**	**283.82**	**19.95**	**306.14**	**183.96**	**71.44**	**97.69**

ATTACHMENT C

FINAL 2012 AQMP APPENDIX III

TOP VOC AND NOX

POINT SOURCES PRODUCERS IN 2008

VOC and NOx Stationary Sources in 2008 Emitting 10 Tons/Year and Higher

SCAB VOC EMISSION PRODUCERS

	FACID	FNAME	FCITY	ROG
1	800089	EXXONMOBIL OIL CORPORATION	TORRANCE	630
2	800030	CHEVRON PRODUCTS CO.	EL SEGUNDO	567
3	131003	BP WEST COAST PROD.LLC BP CARSON REF.	CARSON	515
4	800363	CONOCOPHILLIPS COMPANY	WILMINGTON	267
5	800436	TESORO REFINING AND MARKETING CO	WILMINGTON	252
6	3721	DART CONTAINER CORP OF CALIFORNIA	CORONA	194
7	16642	ANHEUSER-BUSCH INC., (LA BREWERY)	VAN NUYS	191
8	800372	EQUILON ENTER. LLC, SHELL OIL PROD. US	CARSON	147
9	52517	REXAM BEVERAGE CAN COMPANY	CHATSWORTH	129
10	155877	MILLERCOORS, LLC	IRWINDALE	123
11	800183	PARAMOUNT PETR CORP (EIS USE)	PARAMOUNT	121
12	800026	ULTRAMAR INC (NSR USE ONLY)	WILMINGTON	116
13	800362	CONOCOPHILLIPS COMPANY	CARSON	112
14	117785	BALL METAL BEVERAGE CONTAINER CORP.	TORRANCE	110
15	70021	XERXES CORP (A DELAWARE CORP)	ANAHEIM	106
16	151843	INSULFOAM LLC	CHINO	88
17	2825	MCP FOODS INC	ANAHEIM	88
18	94872	METAL CONTAINER CORP	MIRA LOMA	87
19	119907	BERRY PETROLEUM COMPANY	SANTA CLARITA	84
20	800057	KINDER MORGAN LIQUIDS TERMINALS, LLC	CARSON	83
21	800129	SFPP, L.P.	BLOOMINGTON	81
22	800128	SO CAL GAS CO (EIS USE)	NORTHRIDGE	71
23	37881	VERTIS, INC.	POMONA	63
24	121737	MOUNTAINVIEW GENERATING STATION	REDLANDS	60
25	5973	SO CAL GAS CO	VALENCIA	56
26	800074	LA CITY, DWP HAYNES GENERATING STATION	LONG BEACH	56
27	800171	EXXONMOBIL OIL CORPORATION	VERNON	55
28	29110	ORANGE COUNTY SANITATION DISTRICT	HUNTINGTON BEACH	51
29	2044	G B MFG INC/CALIF ACRYLIC, DBA CAL SPAS	POMONA	50
30	152330	KIK AEROSOL SOCAL LLC	CITY OF INDUSTRY	49
31	82657	QUEST DIAGNOSTICS INC	SAN JUAN CAPISTRANO	48
32	800278	SFPP, L.P. (NSR USE)	CARSON	48
33	800240	TIN, INC. TEMPLE-INLAND, DBA	ONTARIO	47
34	800330	THUMS LONG BEACH	LONG BEACH	47
35	7949	CUSTOM FIBERGLASS MFG CO/CUSTOM HARDTOP	LONG BEACH	46
36	4477	SO CAL EDISON CO	AVALON	46
37	115130	VERTIS, INC	RIVERSIDE	43
38	800075	LA CITY, DWP SCATTERGOOD GENERATING STN	PLAYA DEL REY	42
39	153095	SA RECYCLING LLC, ADAMS STEEL DBA	ANAHEIM	41
40	11640	ARLON ADHESIVE SYSTEM/DECORATIVE FILMS	SANTA ANA	40
41	4571	NATVAR, A TEKNI PLEX COMPANY INC	CITY OF INDUSTRY	38
42	119940	BUILDING MATERIALS MANUFACTURING CORP	FONTANA	38
43	800264	EDGINGTON OIL COMPANY	LONG BEACH	36
44	144455	LIFOAM INDUSTRIES, LLC	VERNON	35
45	800198	ULTRAMAR INC (NSR USE ONLY)	WILMINGTON	35
46	152952	SA RECYCLING LLC DBA SA RECYCLING OF LA	TERMINAL ISLAND	34

SCAB NOX EMISSION PRODUCERS

	FACID	FNAME	FCITY	NOX
1	800030	CHEVRON PRODUCTS CO.	EL SEGUNDO	850
2	800436	TESORO REFINING AND MARKETING CO	WILMINGTON	844
3	800089	EXXONMOBIL OIL CORPORATION	TORRANCE	760
4	131003	BP WEST COAST PROD.LLC BP CARSON REF.	CARSON	711
5	800363	CONOCOPHILLIPS COMPANY	WILMINGTON	702
6	800181	CALIFORNIA PORTLAND CEMENT CO (NSR USE)	COLTON	607
7	800362	CONOCOPHILLIPS COMPANY	CARSON	330
8	44577	LONG BEACH CITY, SERRF PROJECT	LONG BEACH	262
9	800026	ULTRAMAR INC (NSR USE ONLY)	WILMINGTON	246
10	800128	SO CAL GAS CO (EIS USE)	NORTHRIDGE	226
11	100154	COLMAC ENERGY INC	MECCA	195
12	151178	PACIFIC ENERGY RESOURCES, LTD.	HUNTINGTON BEACH	190
13	131249	BP WEST COAST PRODUCTS LLC,BP WILMINGTON	WILMINGTON	185
14	46268	CALIFORNIA STEEL INDUSTRIES INC	FONTANA	141
15	800263	U.S. GOVT, DEPT OF NAVY	SAN CLEMENTE	124
16	121737	MOUNTAINVIEW GENERATING STATION	REDLANDS	116
17	800074	LA CITY, DWP HAYNES GENERATING STATION	LONG BEACH	104
18	37336	COMMERCE REFUSE TO ENERGY FACILITY	COMMERCE	102
19	800240	TIN, INC. TEMPLE-INLAND, DBA	ONTARIO	99
20	25070	LA CNTY SANITATION DISTRICT-PUENTE HILLS	CITY OF INDUSTRY	97
21	4477	SO CAL EDISON CO	AVALON	89
22	800236	LA CO. SANITATION DIST	CARSON	79
23	151798	TESORO REFINING AND MARKETING CO	CARSON	76
24	115394	AES ALAMITOS, LLC	LONG BEACH	73
25	800193	LA CITY, DWP VALLEY GENERATING STATION	SUN VALLEY	73
26	18931	TAMCO	RANCHO CUCAMONG	72
27	800183	PARAMOUNT PETR CORP (EIS USE)	PARAMOUNT	71
28	7427	OWENS-BROCKWAY GLASS CONTAINER INC	VERNON	69
29	119907	BERRY PETROLEUM COMPANY	SANTA CLARITA	65
30	20604	RALPHS GROCERY CO	COMPTON	64
31	124838	EXIDE TECHNOLOGIES	VERNON	49
32	800335	LA CITY, DEPT OF AIRPORTS	LOS ANGELES	48
33	107652	RALPHS GROCERY CO	RIVERSIDE	46
34	11435	THE PQ CORP	SOUTH GATE	43
35	5973	SO CAL GAS CO	VALENCIA	42
36	115389	AES HUNTINGTON BEACH, LLC	HUNTINGTON BEACH	41
37	800170	LA CITY, DWP HARBOR GENERATING STATION	WILMINGTON	39
38	800234	LOMA LINDA UNIV	LOMA LINDA	39
39	50310	WASTE MGMT DISP &RECY SERVS INC (BRADLEY	SUN VALLEY	38
40	69646	OC WASTE & RECYCLING, FRB	IRVINE	38
41	800075	LA CITY, DWP SCATTERGOOD GENERATING STN	PLAYA DEL REY	37
42	800327	GLENDALE CITY, GLENDALE WATER & POWER	GLENDALE	37
43	51620	WHEELABRATOR NORWALK ENERGY CO INC	NORWALK	36
44	29110	ORANGE COUNTY SANITATION DISTRICT	HUNTINGTON BEACH	36
45	115315	RRI ENERGY WEST, INC.	ETIWANDA	33
46	117297	MM PRIMA DESHECHA ENERGY, LLC	SAN JUAN CAPISTRAN	33

VOC and NOx Stationary Sources in 2008 Emitting 10 Tons/Year and Higher

47	115394	AES ALAMITOS, LLC	LONG BEACH	34
48	53729	TREND OFFSET PRINTING SERVICES, INC	LOS ALAMITOS	34
49	139808	INLAND EMPIRE REGIONAL COMPOSTING AUTHOR	RANCHO CUCAMONGA	32
	SCAB VOC EMISSION PRODUCERS			
50	149814	SIERRACIN/SYLMAR CORP	SYLMAR	31
51	18294	NORTHROP GRUMMAN CORP, AIRCRAFT DIV	EL SEGUNDO	31
52	800080	LUNDAY-THAGARD COMPANY	SOUTH GATE	30
53	151798	TESORO REFINING AND MARKETING CO	CARSON	30
54	8547	QUEMETCO INC	CITY OF INDUSTRY	30
55	800367	IPS CORPORATION	GARDENA	29
56	84273	TEVA PARENTERAL MEDICINES, INC	IRVINE	28
57	139799	LITHOGRAPHIX INC	HAWTHORNE	27
58	17301	ORANGE COUNTY SANITATION DISTRICT	FOUNTAIN VALLEY	27
59	101656	AIR PRODUCTS AND CHEMICALS, INC.	WILMINGTON	26
60	126964	EDWARDS LIFESCIENCES LLC	IRVINE	26
61	800236	LA CO. SANITATION DIST	CARSON	26
62	145215	RAMONA FARMS	SAN JACINTO	25
63	144345	ENTENMANN'S, INC	PLACENTIA	25
64	124723	GREKA OIL & GAS, INC	PLACENTIA	24
65	124619	IMPRESS USA INC	TERMINAL ISLAND	23
66	25501	FABRI-COTE,DIV A & S GLASS FABRICS CO IN	LOS ANGELES	23
67	21887	KIMBERLY-CLARK WORLDWIDE INC.-FULT. MILL	FULLERTON	22
68	800038	THE BOEING COMPANY - C17 PROGRAM	LONG BEACH	22
69	7713	DELUXE PACKAGES	SANTA FE SPRINGS	22
70	800052	ARCO TERMINAL SERVICES CORP., TERMINAL 2	LONG BEACH	22
71	43605	FREE FLOW PACKAGING INTERNATIONAL, INC.	COMMERCE	21
72	800214	LA CITY, SANITATION BUREAU (HTP)	PLAYA DEL REY	21
73	14492	JOHNSON LAMINATING & COATING INC	CARSON	21
74	157259	GRAPHIC PACKAGING INTERNATIONAL, INC	IRVINE	21
75	800393	VALERO WILMINGTON ASPHALT PLANT	WILMINGTON	21
76	104017	AERA ENERGY LLC	HUNTINGTON BEACH	21
77	103609	ST. JUDE MEDICAL CRMD	SYLMAR	20
78	3417	AIR PROD & CHEM INC	CARSON	20
79	800365	CONOCOPHILLIPS CO. L A TERMINAL	LOS ANGELES	20
80	115962	BEST CONTRACTING SERVICES INC	GARDENA	20
81	800397	BP WEST COAST PROD.,ARCO COLTON	BLOOMINGTON	20
82	76915	ST. JAMES OIL CORP.	LOS ANGELES	20
83	101977	SIGNAL HILL PETROLEUM INC	SIGNAL HILL	19
84	8309	CAMBRO MANUFACTURING CO	HUNTINGTON BEACH	19
85	58563	MERCURY PLASTICS INC	CITY OF INDUSTRY	18
86	123141	J TALLEY CORP, TALLEY & OCHOA METAL FAB.	SAN JACINTO	17
87	800022	CALNEV PIPE LINE, LLC	BLOOMINGTON	17
88	88228	VORTEX WHIRLPOOL SYSTEMS, INC	PERRIS	17
89	800113	ROHR, INC.	RIVERSIDE	17
90	142686	L. A. SPAS, INC	ANAHEIM	17
91	124725	FORTUNE FASHIONS IND	VERNON	17
92	3525	P.B. FASTENERS	GARDENA	17
93	61536	SPECIALTY FINISHES CO	FONTANA	17

47	800386	LA CO., SHERIFF DEPT	SAUGUS	33
48	50418	O C WASTE & RECYCLING, OLINDA ALPHA	BREA	31
49	128243	BURBANK CITY,BURBANK WATER & POWER,SCPPA	BURBANK	31
	SCAB NOX EMISSION PRODUCERS			
50	142408	PENROSE LANDFILL GAS CONVERSION, LLC	SUN VALLEY	30
51	129497	THUMS LONG BEACH CO	LONG BEACH	30
52	104806	MM LOPEZ ENERGY LLC	SYLMAR	30
53	8547	QUEMETCO INC	CITY OF INDUSTRY	30
54	113873	MM WEST COVINA LLC	WEST COVINA	29
55	114801	RHODIA INC.	CARSON	28
56	550	LA CO., INTERNAL SERVICE DEPT	LOS ANGELES	28
57	101656	AIR PRODUCTS AND CHEMICALS, INC.	WILMINGTON	27
58	17301	ORANGE COUNTY SANITATION DISTRICT	FOUNTAIN VALLEY	27
59	49111	SUNSHINE CANYON LANDFILL	SYLMAR	27
60	129816	INLAND EMPIRE ENERGY CENTER, LLC	ROMOLAND	27
61	8582	SO CAL GAS CO/PLAYA DEL REY STORAGE FACI	PLAYA DEL REY	26
62	119133	EOP - 10960 WILSHIRE LLC	LOS ANGELES	26
63	13854	EAST LOS ANGELES COLLEGE	MONTEREY PARK	26
64	14502	VERNON CITY, LIGHT & POWER DEPT	VERNON	26
65	18452	UNIVERSITY OF CALIFORNIA, LOS ANGELES	LOS ANGELES	26
66	16978	CLOUGHERTY PACKING LLC/HORMEL FOODS CORP	VERNON	26
67	126498	STEELSCAPE, INC	RANCHO CUCAMONG.	26
68	800080	LUNDAY-THAGARD COMPANY	SOUTH GATE	24
69	15504	SCHLOSSER FORGE COMPANY	RANCHO CUCAMONG.	22
70	68466	CR TRANSFER, INC.	STANTON	22
71	4242	SAN DIEGO GAS & ELECTRIC	MORENO VALLEY	22
72	115663	EL SEGUNDO POWER, LLC	EL SEGUNDO	21
73	14966	U S GOV'T, V A MEDICAL CENTER, WEST L A	LOS ANGELES	21
74	22911	CARLTON FORGE WORKS	PARAMOUNT	20
75	23194	CITY OF HOPE MEDICAL CENTER	DUARTE	20
76	142517	CRIMSON RESOURCE MANAGEMENT	CASTAIC	20
77	800189	DISNEYLAND RESORT	ANAHEIM	19
78	94872	METAL CONTAINER CORP	MIRA LOMA	19
79	42514	LA COUNTY SANITATION DIST (CALABASAS)	AGOURA	19
80	105903	PRIME WHEEL	CARSON	19
81	16642	ANHEUSER-BUSCH INC., (LA BREWERY)	VAN NUYS	17
82	800265	UNIV OF SO CAL (EIS & NSR USE ONLY)	LOS ANGELES	17
83	43436	TST, INC.	FONTANA	17
84	71380	VEOLIA ES INDUSTRIAL SERVICES, INC	GARDENA	17
85	141555	CASTAIC CLAY PRODUCTS, LLC	CASTAIC	17
86	113518	RIDGEWOOD POWER MANAGEMENT,LLC	BREA	17
87	16389	CEDARS-SINAI MEDICAL CTR	LOS ANGELES	16
88	9755	UNITED AIRLINES INC	LOS ANGELES	16
89	68042	CORONA ENERGY PARTNERS, LTD	CORONA	16
90	800264	EDGINGTON OIL COMPANY	LONG BEACH	16
91	9163	INLAND EMPIRE UTL AGEN, A MUN WATER DIS	ONTARIO	16
92	2083	SUPERIOR INDUSTRIES INTERNATIONAL INC	VAN NUYS	16
93	113674	U S A WASTE OF CAL(EL SOBRANTE LANDFILL)	CORONA	15

VOC and NOx Stationary Sources in 2008 Emitting 10 Tons/Year and Higher

94	14146	MAC GREGOR YACHT CORP	COSTA MESA	17
95	45086	SIGNAL HILL PETROLEUM INC	LONG BEACH	17
96	16389	CEDARS-SINAI MEDICAL CTR	LOS ANGELES	17
97	18931	TAMCO	RANCHO CUCAMONGA	16
98	145100	P & D DAIRY	CHINO	16
99	132368	WORLD COLOR PRINTING	RIVERSIDE	16
	SCAB VOC EMISSION PRODUCERS			
100	145211	R & J HARINGA DAIRY	SAN JACINTO	16
101	118733	MEDTRONIC INC., HEART VALVES DIV.	SANTA ANA	16
102	151984	TESORO REF & MKTG. CO., WILMINGTON	WILMINGTON	16
103	800051	ARCO TERMINAL SERVICES CORPORATION	LONG BEACH	16
104	133987	PLAINS EXPLORATION & PRODUCTION CO, LP	LOS ANGELES	16
105	800279	SFPP, L.P. (NSR USE ONLY)	ORANGE	16
106	115563	METAL COATERS OF CALIFORNIA	RANCHO CUCAMONGA	16
107	23401	HOOD MFG INC	SANTA ANA	16
108	116931	EQUILON ENT LLC, SHELL OIL PROD. U S	SIGNAL HILL	15
109	123970	SUNDANCE SPAS INC	CHINO	15
110	8582	SO CAL GAS CO/PLAYA DEL REY STORAGE FACI	PLAYA DEL REY	15
111	115663	EL SEGUNDO POWER, LLC	EL SEGUNDO	15
112	111814	CONOCOPHILLIPS/TORRANCE TANK FARM CO	TORRANCE	15
113	144826	PASTIME LAKES DAIRY	LAKEVIEW	15
114	800286	ARCO TERMINAL SERVICES CORP	SIGNAL HILL	15
115	52742	STOROPACK INC	DOWNEY	15
116	110924	WESTWAY TERMINAL COMPANY, LLC	SAN PEDRO	15
117	128243	BURBANK CITY,BURBANK WATER & POWER,SCPPA	BURBANK	15
118	800056	KINDER MORGAN LIQUIDS TERMINALS, LLC	WILMINGTON	14
119	18452	UNIVERSITY OF CALIFORNIA, LOS ANGELES	LOS ANGELES	14
120	800272	CHEMOIL TERMINALS CORPORATION	CARSON	14
121	144948	NORCO RANCH INC	FONTANA	14
122	73513	BJ SERVICES CO U S A	SANTA FE SPRINGS	14
123	149235	AMF ANAHEIM LLC	ANAHEIM	14
124	800263	U.S. GOVT, DEPT OF NAVY	SAN CLEMENTE	14
125	113674	U S A WASTE OF CAL(EL SOBRANTE LANDFILL)	CORONA	14
126	13011	M.C. GILL CORP	EL MONTE	14
127	145258	SYANN DAIRY, MARK VANDER DUSSEN DBA	CORONA	14
128	115389	AES HUNTINGTON BEACH, LLC	HUNTINGTON BEACH	14
129	110986	CALIFORNIA SPEEDWAY	FONTANA	14
130	800091	EXXONMOBIL OIL CORP	ANAHEIM	13
131	800092	EXXONMOBIL OIL CORP	TERMINAL ISLAND	13
132	119741	JENSEN PRECAST	FONTANA	13
133	126498	STEELSCAPE, INC	RANCHO CUCAMONGA	13
134	118314	ANTHONY, INC.	SAN FERNANDO	13
135	40806	NEW BASIS	RIVERSIDE	13
136	143523	ROBINSON CALF RANCH	ONTARIO	13
137	50310	WASTE MGMT DISP &RECY SERVS INC (BRADLEY	SUN VALLEY	13
138	72351	CAJOLEBEN, INC., GALASSO'S BAKERY, DBA	MIRA LOMA	13
139	47708	HELLMAN PROPERTIES LLC	SEAL BEACH	13
140	9163	INLAND EMPIRE UTL AGEN, A MUN WATER DIS	ONTARIO	13

94	123087	INDALEX WEST INC	CITY OF INDUSTRY	15
95	139010	RIPON COGENERATION LLC	POMONA	15
96	109914	THERMAL REMEDIATION SOLUTIONS, LLC	AZUSA	15
97	800168	PASADENA CITY, DWP (EIS USE)	PASADENA	15
98	12185	US GYPSUM CO	SOUTH GATE	14
99	35302	OWENS CORNING ROOFING AND ASPHALT, LLC	COMPTON	14
	SCAB NOX EMISSION PRODUCERS			
100	117785	BALL METAL BEVERAGE CONTAINER CORP.	TORRANCE	14
101	3417	AIR PROD & CHEM INC	CARSON	14
102	17953	PACIFIC CLAY PRODUCTS INC	LAKE ELSINORE	13
103	116403	CR TRANSFER INC	STANTON	13
104	52517	REXAM BEVERAGE CAN COMPANY	CHATSWORTH	12
105	142417	TOYON LANDFILL GAS CONVERSION LLC	LOS ANGELES	12
106	800288	UNIV CAL IRVINE (NSR USE ONLY)	IRVINE	12
107	155877	MILLERCOORS, LLC	IRWINDALE	12
108	136	PRESS FORGE CO	PARAMOUNT	12
109	148236	AIR LIQUIDE LARGE INDUSTRIES U.S., LP	EL SEGUNDO	12
110	14495	VISTA METALS CORPORATION	FONTANA	12
111	47781	OLS ENERGY-CHINO	CHINO	12
112	145829	HOLLYWOOD PARK LAND COMPANY LLC	INGLEWOOD	12
113	95567	DOTY BROS EQUIPMENT CO	NORWALK	12
114	118406	CARSON COGENERATION COMPANY	CARSON	11
115	150351	SAMUEL P LEWIS DBA CHINO WELDING & ASSEM	MIRA LOMA	11
116	129660	NM MID VALLEY GENCO LLC	RIALTO	11
117	113303	CAITAC GARMENT PROCESSING INC	GARDENA	11
118	800129	SFPP, L.P.	BLOOMINGTON	11
119	800182	RIVERSIDE CEMENT CO (EIS USE)	RIVERSIDE	11
120	12428	NEW NGC, INC.	LONG BEACH	11
121	11245	HOAG MEM HOSP PRESBYTERIAN	NEWPORT BEACH	11
122	150783	FAIRPLEX	POMONA	11
123	346	FRITO-LAY, INC.	RANCHO CUCAMONG	11
124	18960	PASADENA CITY COLLEGE	PASADENA	11
125	115536	AES REDONDO BEACH, LLC	REDONDO BEACH	11
126	42633	LA COUNTY SANITATION DISTRICTS (SPADRA)	POMONA	11
127	10966	WEBER METALS INC	PARAMOUNT	11
128	115241	BOEING SATELLITE SYSTEMS INC	EL SEGUNDO	11
129	148468	DRI COMMERCIAL	IRVINE	11
130	16338	KAISER ALUMINUM FABRICATED PRODUCTS, LLC	LOS ANGELES	10
131	49805	LA CITY, BUREAU OF SANIT(LOPEZ CANYON)	LAKE VIEW TERRACE	10

VOC and NOx Stationary Sources in 2008 Emitting 10 Tons/Year and Higher

141	100154	COLMAC ENERGY INC	MECCA	13
142	800202	UNIVERSAL CITY STUDIOS, LLC.	UNIVERSAL CITY	13
143	800409	NORTHROP GRUMMAN SYSTEMS CORPORATION	REDONDO BEACH	13
144	148236	AIR LIQUIDE LARGE INDUSTRIES U.S., LP	EL SEGUNDO	13
145	152033	TESORO REF & MKTG CO., LONG BEACH	LONG BEACH	13
146	800327	GLENDALE CITY, GLENDALE WATER & POWER	GLENDALE	13
147	57094	GS ROOFING PRODUCTS CO, INC/CERTAINTEED	WILMINGTON	13
148	800398	MASK-OFF COMPANY, INC	MONROVIA	13
149	800267	TRIUMPH PROCESSING, INC.	LYNWOOD	13
	SCAB VOC EMISSION PRODUCERS			
150	3585	R. R. DONNELLEY & SONS CO, LA MFG DIV	TORRANCE	12
151	10656	NEWPORT LAMINATES	SANTA ANA	12
152	800193	LA CITY, DWP VALLEY GENERATING STATION	SUN VALLEY	12
153	124808	INEOS POLYPROPYLENE LLC	CARSON	12
154	111415	VAN CAN COMPANY	FONTANA	12
155	11362	HR TEXTRON INC	VALENCIA	12
156	145351	LEGEND DAIRY FARMS	ONTARIO	12
157	800417	PLAINS WEST COAST TERMINALS LLC	COMPTON	12
158	108742	REMO INC	VALENCIA	12
159	75770	ROSS-DOYLE INC	RIALTO	12
160	117882	NELSON NAMEPLATE COMPANY	LOS ANGELES	12
161	25070	LA CNTY SANITATION DISTRICT-PUENTE HILLS	CITY OF INDUSTRY	12
162	62851	PENN INDUSTRIES, INC.	CERRITOS	12
163	145095	CBJ DAIRY	SAN JACINTO	12
164	134590	FLEISCHMANN'S VINEGAR CO, INC	MONTEBELLO	12
165	151178	PACIFIC ENERGY RESOURCES, LTD.	HUNTINGTON BEACH	12
166	143973	MARVO HOLSTEINS	LAKEVIEW	11
167	6886	MARVIN ENGINEERING CO INC	INGLEWOOD	11
168	800369	EQUILON ENTER.LLC , SHELL OIL PROD. U S	VAN NUYS	11
169	12155	ARMSTRONG WORLD INDUSTRIES INC	SOUTH GATE	11
170	772	DEFT INC	IRVINE	11
171	800289	ALLERGAN INC	IRVINE	11
172	800003	HONEYWELL INTERNATIONAL INC	TORRANCE	11
173	100145	HARBOR FUMIGATION INC	SAN PEDRO	11
174	8936	FLEETWOOD MOTOR HOMES OF CAL INC	RIVERSIDE	11
175	1744	KIRKHILL - TA COMPANY	BREA	11
176	106897	AG-FUME SERVICES INC	SAN PEDRO	11
177	122858	SEKISUI TA INDUSTRIES, LLC	BREA	11
178	117290	B BRAUN MEDICAL, INC	IRVINE	11
179	10245	LA CITY, TERMINAL ISLAND TREATMENT PLANT	SAN PEDRO	11
180	117225	EQUILON ENTER. LLC, SHELL OIL PROD. U S	BLOOMINGTON	11
181	100806	ROBINSON HELICOPTER CO INC	TORRANCE	11
182	89248	OLD COUNTRY MILLWORK INC	LOS ANGELES	11
183	12876	FOAM FABRICATORS	COMPTON	11
184	39855	MIZKAN AMERICAS, INC	RANCHO CUCAMONGA	11
185	111238	RIBOST TERMINAL, LLC.	LONG BEACH	11
186	1703	EASTERN MUNICIPAL WATER DISTRICT	TEMECULA	11
187	132124	BP WEST COAST PRODUCTS, LLC/CARSON TERMI	CARSON	11

VOC and NOx Stationary Sources in 2008 Emitting 10 Tons/Year and Higher

188	144951	NORCO RANCH INC	MENIFEE	11
189	144144	JIM BOOTSMA, JR., DAIRY	LAKEVIEW	10
190	13397	JOHN BOYD DESIGNS	LOS ANGELES	10
191	146947	EAGLE LIVESTOCK INC	ONTARIO	10
192	75024	AAA FLAG & BANNER MFG CO INC	LOS ANGELES	10
193	69081	BAXTER HEALTHCARE CORP., HYLAND DIV	LOS ANGELES	10
194	44916	HEAD WEST INC	COMPTON	10
195	143870	ABACHERLI DAIRY, RONALD ABACHERLI	MENIFEE	10
196	7417	EASTERN MUNICIPAL WATER DIST	PERRIS	10

ATTACHMENT D

FINAL 2012 AQMP APPENDIX III

ON-ROAD EMISSIONS
BY VEHICLE CATEGORY

Table D-1

2008 Annual Average Emissions (tons per day) in the South Coast Air Basin

	Light and Medium		Light Heavy		Medium Heavy		Heavy Heavy		Other Buses		Urban Buses		School Buses		Motor Homes		All Vehicles		Grand
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	9925979	23158	268847	101395	20991	69513	1443	61760	7127	4701	1718	6819	1426	4831	55663	9182	10283194	281359	10564553
VMT/1000	344813	514	12703	4904	915	4259	107	8571	346	394	182	729	50	184	599	109	359715	19664	379379
Reactive Organic Gas Emissions																			
Run Exh	53.99	0.11	2.92	0.88	0.56	1.73	0.25	8.54	0.07	0.29	0.38	0.54	0.12	0.18	0.42	0.02	58.71	12.29	71.00
Idle Exh	0.00	0.00	0.17	0.01	0.03	0.03	0.00	0.86	0.02	0.03	0.00	0.00	0.00	0.02	0.00	0.00	0.22	0.96	1.18
Start Ex	39.83	0.00	3.68	0.00	1.32	0.00	0.28	0.00	0.37	0.00	0.03	0.00	0.03	0.00	0.01	0.00	45.53	0.00	45.53
Total Ex	93.82	0.11	6.78	0.89	1.90	1.76	0.53	9.40	0.46	0.32	0.41	0.54	0.15	0.20	0.43	0.02	104.46	13.25	117.70
Diurnal	9.79	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	9.81	0.01	9.82
Hot Soak	15.90	0.00	0.46	0.00	0.15	0.00	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.55	0.00	16.55
Running	53.00	0.00	2.52	0.00	0.64	0.00	0.15	0.00	0.12	0.00	0.02	0.00	0.03	0.00	0.02	0.00	56.49	0.00	56.49
Resting	6.34	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	6.36	0.00	6.36
Total	178.85	0.11	9.77	0.90	2.69	1.77	0.70	9.40	0.59	0.32	0.44	0.54	0.18	0.20	0.46	0.02	193.67	13.26	206.93
Carbon Monoxide Emissions																			
Run Exh	1321.12	0.48	54.10	4.24	12.68	6.07	8.25	35.16	1.60	1.14	4.13	2.52	2.32	0.54	13.41	0.07	1417.61	50.23	1467.84
Idle Exh	0.00	0.00	1.04	0.10	0.31	0.26	0.00	2.81	0.10	0.14	0.00	0.00	0.00	0.13	0.00	0.00	1.44	3.44	4.88
Start Ex	421.55	0.00	44.51	0.00	16.02	0.00	4.53	0.00	5.28	0.00	0.45	0.00	0.33	0.00	0.13	0.00	492.80	0.00	492.80
Total Ex	1742.67	0.48	99.64	4.34	29.01	6.33	12.78	37.97	6.98	1.28	4.58	2.52	2.64	0.67	13.55	0.07	1911.85	53.67	1965.52
Oxides of Nitrogen Emissions																			
Run Exh	139.59	0.80	12.18	32.41	3.00	40.93	1.11	155.22	0.62	5.84	0.73	14.05	0.16	2.48	1.24	0.95	158.64	252.68	411.32
Idle Exh	0.00	0.00	0.01	0.29	0.00	0.83	0.00	5.39	0.00	0.29	0.00	0.00	0.00	0.31	0.00	0.00	0.01	7.10	7.12
Start Ex	32.87	0.00	8.51	0.00	1.36	0.00	0.16	0.00	0.64	0.00	0.04	0.00	0.02	0.00	0.01	0.00	43.61	0.00	43.61
Total Ex	172.46	0.80	20.70	32.70	4.35	41.76	1.27	160.61	1.26	6.13	0.78	14.05	0.18	2.78	1.25	0.95	202.27	259.79	462.05
PM2.5 Emissions																			
Run Exh	1.75	0.08	0.03	0.21	0.00	1.40	0.00	5.85	0.00	0.19	0.00	0.21	0.00	0.11	0.00	0.02	1.79	8.07	9.86
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.14	0.14
Start Ex	0.35	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.00	0.36
Total Ex	2.10	0.08	0.05	0.21	0.01	1.40	0.00	5.98	0.00	0.20	0.00	0.21	0.00	0.11	0.00	0.02	2.16	8.21	10.37
TireWear	0.76	0.00	0.03	0.02	0.00	0.01	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.12	0.90
BrakeWear	5.98	0.01	0.22	0.18	0.02	0.26	0.00	0.25	0.01	0.02	0.00	0.29	0.00	0.07	0.01	0.01	6.24	1.09	7.33
Total	8.84	0.09	0.29	0.41	0.02	1.67	0.00	6.31	0.01	0.22	0.00	0.50	0.00	0.18	0.02	0.03	9.19	9.42	18.61
Fuel Consumption (1000 gallons) and SO2																			
Fuel	18356.18	18.80	961.98	257.80	75.16	481.75	10.53	1549.98	28.02	58.29	17.17	189.73	5.06	25.59	44.44	12.28	19498.55	2594.23	22092.78
SOx	1.72	0.00	0.09	0.03	0.01	0.05	0.00	0.16	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	1.83	0.27	2.10

*Emissions reflect SCAG's 2012 RTP activities and EMFAC2011 emission factors. Emission adjustments beyond the EMFAC2011 are not included.

Table D-2

2008 Summer Planning Emissions (tons per day) in the South Coast Air Basin

	Light and Medium		Light Heavy		Medium Heavy		Heavy Heavy		Other Buses		Urban Buses		School Buses		Motor Homes		All Vehicles		Grand
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	9925979	23158	268847	101395	20991	69513	1443	61760	7127	4701	1718	6819	1426	4831	55663	9182	10283194	281359	10564553
VMT/1000	344813	514	12703	4904	915	4259	107	8571	346	394	182	729	50	184	599	109	359715	19664	379379
Reactive Organic Gas Emissions																			
Run Exh	54.54	0.11	2.99	0.88	0.56	1.73	0.25	8.54	0.07	0.29	0.38	0.54	0.12	0.18	0.40	0.02	59.32	12.29	71.61
Idle Exh	0.00	0.00	0.17	0.01	0.03	0.03	0.00	0.83	0.02	0.03	0.00	0.00	0.00	0.02	0.00	0.00	0.21	0.92	1.14
Start Ex	33.93	0.00	3.23	0.00	1.12	0.00	0.23	0.00	0.32	0.00	0.03	0.00	0.02	0.00	0.01	0.00	38.89	0.00	38.89
Total Ex	88.47	0.11	6.39	0.89	1.71	1.76	0.48	9.37	0.41	0.32	0.41	0.54	0.14	0.20	0.41	0.02	98.43	13.21	111.64
Diurnal	16.15	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	16.18	0.01	16.19
Hot Soak	17.55	0.00	0.50	0.00	0.16	0.00	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.26	0.00	18.26
Running	50.13	0.00	2.47	0.00	0.63	0.00	0.14	0.00	0.11	0.00	0.02	0.00	0.02	0.00	0.02	0.00	53.55	0.00	53.55
Resting	10.87	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	10.90	0.00	10.90
Total	183.17	0.11	9.39	0.90	2.50	1.77	0.65	9.37	0.54	0.32	0.44	0.54	0.17	0.20	0.46	0.02	197.31	13.22	210.53
Carbon Monoxide Emissions																			
Run Exh	1406.08	0.48	54.76	4.24	12.57	6.07	8.02	35.16	1.62	1.14	4.14	2.52	2.26	0.54	13.19	0.07	1502.64	50.23	1552.86
Idle Exh	0.00	0.00	1.04	0.10	0.22	0.19	0.00	2.16	0.10	0.10	0.00	0.00	0.00	0.09	0.00	0.00	1.36	2.64	4.00
Start Ex	337.07	0.00	36.18	0.00	13.67	0.00	4.32	0.00	4.38	0.00	0.38	0.00	0.28	0.00	0.11	0.00	396.40	0.00	396.40
Total Ex	1743.15	0.48	91.97	4.34	26.47	6.26	12.34	37.32	6.10	1.24	4.52	2.52	2.55	0.63	13.30	0.07	1900.40	52.87	1953.27
Oxides of Nitrogen Emissions																			
Run Exh	122.59	0.75	10.68	30.72	2.63	38.64	0.96	146.86	0.55	5.53	0.64	13.28	0.14	2.34	1.07	0.90	139.27	239.02	378.29
Idle Exh	0.00	0.00	0.01	0.29	0.00	0.85	0.00	5.53	0.00	0.30	0.00	0.00	0.00	0.31	0.00	0.00	0.01	7.29	7.31
Start Ex	30.56	0.00	8.19	0.00	1.30	0.00	0.16	0.00	0.61	0.00	0.04	0.00	0.02	0.00	0.01	0.00	40.88	0.00	40.88
Total Ex	153.15	0.75	18.88	31.01	3.93	39.49	1.12	152.39	1.16	5.83	0.69	13.28	0.16	2.65	1.08	0.90	180.17	246.31	426.48
PM2.5 Emissions																			
Run Exh	1.75	0.08	0.03	0.21	0.00	1.40	0.00	5.85	0.00	0.19	0.00	0.21	0.00	0.11	0.00	0.02	1.79	8.07	9.86
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.13	0.13
Start Ex	0.35	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.00	0.36
Total Ex	2.10	0.08	0.05	0.21	0.01	1.40	0.00	5.97	0.00	0.20	0.00	0.21	0.00	0.11	0.00	0.02	2.16	8.20	10.36
TireWear	0.76	0.00	0.03	0.02	0.00	0.01	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.12	0.90
BrakeWear	5.98	0.01	0.22	0.18	0.02	0.26	0.00	0.25	0.01	0.02	0.00	0.29	0.00	0.07	0.01	0.01	6.24	1.09	7.33
Total	8.84	0.09	0.29	0.41	0.02	1.67	0.00	6.30	0.01	0.22	0.00	0.50	0.00	0.18	0.02	0.03	9.19	9.41	18.59
Fuel Consumption (1000 gallons) and SO2																			
Fuel	19242.75	18.80	960.58	257.80	74.73	482.03	10.44	1551.77	27.86	58.40	17.16	189.73	5.05	25.69	44.40	12.28	20382.97	2596.51	22979.47
SOx	1.80	0.00	0.09	0.03	0.01	0.05	0.00	0.16	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	1.91	0.27	2.18

*Emissions reflect SCAG's 2012 RTP activities and EMFAC2011 emission factors. Emission adjustments beyond the EMFAC2011 are not included.

Table D-3

2014 Annual Average Emissions (tons per day) in the South Coast Air Basin

	Light and Medium		Light Heavy		Medium Heavy		Heavy Heavy		Other Buses		Urban Buses		School Buses		Motor Homes		All Vehicles		Grand
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	10346834	23777	303628	115774	20592	71326	1286	59736	7022	5497	1784	7111	1507	4641	59982	10459	10742635	298321	11040956
VMT/1000	350324	752	13250	4911	960	4101	186	8216	288	432	190	761	53	171	664	114	365915	19458	385373
Reactive Organic Gas Emissions																			
Run Exh	27.84	0.04	1.74	0.83	0.27	0.98	0.12	2.79	0.05	0.12	0.35	0.53	0.07	0.04	0.15	0.02	30.58	5.35	35.93
Idle Exh	0.00	0.00	0.18	0.02	0.03	0.02	0.00	0.66	0.01	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.22	0.72	0.94
Start Ex	21.65	0.00	3.20	0.00	0.74	0.00	0.08	0.00	0.26	0.00	0.03	0.00	0.02	0.00	0.01	0.00	25.98	0.00	25.98
Total Ex	49.49	0.04	5.11	0.84	1.03	0.99	0.20	3.45	0.32	0.14	0.38	0.53	0.09	0.05	0.15	0.02	56.78	6.07	62.85
Diurnal	6.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	6.58	0.01	6.59
Hot Soak	12.82	0.00	0.49	0.00	0.08	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.41	0.00	13.41
Running	35.91	0.00	2.83	0.00	0.31	0.00	0.02	0.00	0.10	0.00	0.03	0.00	0.02	0.00	0.02	0.00	39.24	0.00	39.24
Resting	5.13	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	5.14	0.00	5.14
Total	109.91	0.04	8.44	0.84	1.42	1.00	0.23	3.45	0.44	0.14	0.41	0.53	0.10	0.05	0.19	0.02	121.15	6.07	127.22
Carbon Monoxide Emissions																			
Run Exh	773.14	0.24	32.34	4.39	6.03	3.64	6.47	14.45	0.97	0.50	3.55	2.41	1.26	0.12	5.20	0.07	828.96	25.82	854.77
Idle Exh	0.00	0.00	1.11	0.12	0.29	0.18	0.00	3.40	0.09	0.09	0.00	0.00	0.00	0.03	0.00	0.00	1.49	3.82	5.31
Start Ex	254.44	0.00	35.11	0.00	10.55	0.00	1.98	0.00	4.14	0.00	0.43	0.00	0.24	0.00	0.08	0.00	306.97	0.00	306.97
Total Ex	1027.58	0.24	68.56	4.50	16.86	3.82	8.45	17.84	5.20	0.59	3.98	2.41	1.50	0.16	5.28	0.07	1137.42	29.64	1167.05
Oxides of Nitrogen Emissions																			
Run Exh	78.42	0.48	8.73	24.77	1.68	23.89	1.04	75.58	0.39	4.14	0.73	13.40	0.12	1.99	0.73	0.88	91.83	145.13	236.96
Idle Exh	0.00	0.00	0.01	0.33	0.00	0.66	0.00	4.81	0.00	0.28	0.00	0.00	0.00	0.27	0.00	0.00	0.01	6.35	6.36
Start Ex	20.16	0.00	9.38	0.00	1.05	0.00	0.12	0.00	0.56	0.00	0.05	0.00	0.02	0.00	0.01	0.00	31.34	0.00	31.34
Total Ex	98.58	0.48	18.11	25.10	2.74	24.55	1.16	80.39	0.95	4.42	0.78	13.40	0.13	2.25	0.74	0.88	123.18	151.48	274.66
PM2.5 Emissions																			
Run Exh	0.91	0.03	0.02	0.18	0.00	0.68	0.00	1.47	0.00	0.07	0.00	0.20	0.00	0.02	0.00	0.02	0.93	2.67	3.60
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03
Start Ex	0.20	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.21
Total Ex	1.11	0.03	0.03	0.18	0.00	0.68	0.00	1.50	0.00	0.07	0.00	0.20	0.00	0.02	0.00	0.02	1.14	2.70	3.85
TireWear	0.77	0.00	0.03	0.02	0.00	0.01	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.80	0.11	0.92
BrakeWear	6.08	0.01	0.23	0.19	0.02	0.25	0.00	0.24	0.00	0.03	0.00	0.30	0.00	0.06	0.01	0.01	6.35	1.09	7.44
Total	7.97	0.04	0.29	0.38	0.02	0.94	0.00	1.82	0.00	0.10	0.00	0.51	0.00	0.08	0.01	0.03	8.30	3.90	12.20
Fuel Consumption (1000 gallons) and SO2																			
Fuel	18419.87	25.07	996.83	256.75	74.89	462.53	14.96	1503.88	23.37	64.46	17.68	194.62	5.11	24.03	47.48	12.83	19600.18	2544.17	22144.35
SOx	1.73	0.00	0.09	0.03	0.01	0.05	0.00	0.16	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	1.84	0.27	2.11

*Emissions reflect SCAG's 2012 RTP activities and EMFAC2011 emission factors. Emission adjustments beyond the EMFAC2011 are not included.

Table D-4

2014 Summer Planning Emissions (tons per day) in the South Coast Air Basin

	Light and Medium		Light Heavy		Medium Heavy		Heavy Heavy		Other Buses		Urban Buses		School Buses		Motor Homes		All Vehicles		Grand
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	10346834	23777	303628	115774	20592	71326	1286	59736	7022	5497	1784	7111	1507	4641	59982	10459	10742635	298321	11040956
VMT/1000	350324	752	13250	4911	960	4101	186	8216	288	432	190	761	53	171	664	114	365915	19458	385373
Reactive Organic Gas Emissions																			
Run Exh	28.36	0.04	1.78	0.83	0.27	0.98	0.12	2.79	0.05	0.12	0.36	0.53	0.07	0.04	0.15	0.02	31.16	5.35	36.51
Idle Exh	0.00	0.00	0.18	0.02	0.02	0.02	0.00	0.63	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.68	0.90
Start Ex	18.43	0.00	2.82	0.00	0.64	0.00	0.07	0.00	0.23	0.00	0.03	0.00	0.02	0.00	0.01	0.00	22.23	0.00	22.23
Total Ex	46.78	0.04	4.78	0.84	0.93	0.99	0.19	3.42	0.29	0.14	0.39	0.53	0.09	0.05	0.15	0.02	53.61	6.03	59.64
Diurnal	10.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	10.73	0.01	10.74
Hot Soak	13.77	0.00	0.53	0.00	0.08	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.40	0.00	14.40
Running	34.00	0.00	2.77	0.00	0.31	0.00	0.02	0.00	0.10	0.00	0.03	0.00	0.01	0.00	0.02	0.00	37.25	0.00	37.25
Resting	8.16	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	8.18	0.00	8.18
Total	113.43	0.04	8.10	0.84	1.32	1.00	0.22	3.42	0.40	0.14	0.42	0.53	0.10	0.05	0.19	0.02	124.18	6.04	130.22
Carbon Monoxide Emissions																			
Run Exh	829.78	0.24	32.88	4.39	6.05	3.64	6.54	14.45	0.98	0.50	3.57	2.41	1.25	0.12	5.23	0.07	886.29	25.82	912.10
Idle Exh	0.00	0.00	1.11	0.12	0.21	0.13	0.00	2.49	0.09	0.07	0.00	0.00	0.00	0.02	0.00	0.00	1.41	2.83	4.24
Start Ex	202.09	0.00	28.47	0.00	8.74	0.00	1.69	0.00	3.38	0.00	0.36	0.00	0.20	0.00	0.06	0.00	245.01	0.00	245.01
Total Ex	1031.88	0.24	62.46	4.50	15.01	3.77	8.23	16.93	4.45	0.56	3.94	2.41	1.45	0.15	5.29	0.07	1132.71	28.64	1161.35
Oxides of Nitrogen Emissions																			
Run Exh	68.91	0.45	7.64	23.47	1.46	22.62	0.93	71.48	0.34	3.91	0.64	12.68	0.10	1.88	0.64	0.84	80.66	137.32	217.98
Idle Exh	0.00	0.00	0.01	0.33	0.00	0.68	0.00	4.95	0.00	0.30	0.00	0.00	0.00	0.28	0.00	0.00	0.01	6.54	6.55
Start Ex	18.74	0.00	9.02	0.00	1.01	0.00	0.11	0.00	0.54	0.00	0.05	0.00	0.02	0.00	0.01	0.00	29.49	0.00	29.49
Total Ex	87.65	0.45	16.67	23.80	2.48	23.30	1.04	76.43	0.88	4.21	0.69	12.68	0.12	2.15	0.64	0.84	110.16	143.86	254.02
PM2.5 Emissions																			
Run Exh	0.91	0.03	0.02	0.18	0.00	0.68	0.00	1.47	0.00	0.07	0.00	0.20	0.00	0.02	0.00	0.02	0.93	2.67	3.60
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03
Start Ex	0.20	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.21
Total Ex	1.11	0.03	0.03	0.18	0.00	0.68	0.00	1.50	0.00	0.07	0.00	0.20	0.00	0.02	0.00	0.02	1.14	2.70	3.84
TireWear	0.77	0.00	0.03	0.02	0.00	0.01	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.80	0.11	0.92
BrakeWear	6.08	0.01	0.23	0.19	0.02	0.25	0.00	0.24	0.00	0.03	0.00	0.30	0.00	0.06	0.01	0.01	6.35	1.09	7.44
Total	7.97	0.04	0.29	0.38	0.02	0.94	0.00	1.82	0.00	0.10	0.00	0.51	0.00	0.08	0.01	0.03	8.30	3.90	12.20
Fuel Consumption (1000 gallons) and SO2																			
Fuel	19330.50	25.07	995.70	256.75	74.58	462.83	14.92	1507.17	23.23	64.58	17.68	194.62	5.10	24.13	47.49	12.83	20509.18	2547.99	23057.18
SOx	1.81	0.00	0.09	0.03	0.01	0.05	0.00	0.16	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	1.92	0.27	2.19

*Emissions reflect SCAG's 2012 RTP activities and EMFAC2011 emission factors. Emission adjustments beyond the EMFAC2011 are not included.

Table D-5

2019 Annual Average Emissions (tons per day) in the South Coast Air Basin

	Light and Medium		Light Heavy		Medium Heavy		Heavy Heavy		Other Buses		Urban Buses		School Buses		Motor Homes		All Vehicles		Grand
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	10417656	23816	327623	126383	21360	75969	1310	67365	7206	6196	1870	7344	1595	4763	64061	11228	10842681	323064	11165745
VMT/1000	352644	768	14113	5237	1023	4503	181	9794	273	491	199	785	55	172	719	119	369207	21869	391076
Reactive Organic Gas Emissions																			
Run Exh	15.60	0.02	0.98	0.68	0.12	0.54	0.08	2.42	0.03	0.08	0.34	0.47	0.05	0.03	0.05	0.02	17.25	4.26	21.51
Idle Exh	0.00	0.00	0.19	0.02	0.03	0.02	0.00	0.93	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.98	1.21
Start Ex	12.79	0.00	2.62	0.00	0.44	0.00	0.04	0.00	0.21	0.00	0.03	0.00	0.01	0.00	0.00	0.00	16.15	0.00	16.15
Total Ex	28.40	0.02	3.79	0.70	0.59	0.55	0.13	3.35	0.25	0.10	0.37	0.47	0.06	0.03	0.05	0.02	33.63	5.25	38.88
Diurnal	4.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	4.94	0.00	4.95
Hot Soak	9.97	0.00	0.49	0.00	0.04	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.52	0.00	10.52
Running	27.34	0.00	2.84	0.00	0.21	0.00	0.01	0.00	0.12	0.00	0.03	0.00	0.02	0.00	0.02	0.00	30.58	0.00	30.58
Resting	4.30	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.31	0.00	4.31
Total	74.94	0.02	7.12	0.70	0.84	0.56	0.14	3.35	0.38	0.10	0.40	0.47	0.08	0.03	0.08	0.02	83.98	5.25	89.23
Carbon Monoxide Emissions																			
Run Exh	489.87	0.13	19.19	4.15	2.63	2.33	5.96	14.02	0.53	0.37	3.02	2.13	0.70	0.09	1.79	0.07	523.70	23.30	547.00
Idle Exh	0.00	0.00	1.17	0.13	0.29	0.18	0.00	5.17	0.09	0.11	0.00	0.00	0.00	0.04	0.00	0.00	1.55	5.63	7.18
Start Ex	161.46	0.00	28.67	0.00	7.32	0.00	1.58	0.00	3.37	0.00	0.41	0.00	0.20	0.00	0.05	0.00	203.06	0.00	203.06
Total Ex	651.33	0.13	49.03	4.28	10.24	2.51	7.55	19.19	3.98	0.48	3.43	2.13	0.90	0.13	1.84	0.07	728.31	28.93	757.23
Oxides of Nitrogen Emissions																			
Run Exh	49.57	0.32	6.18	18.91	0.89	12.03	0.95	53.26	0.23	2.24	0.68	11.59	0.10	1.73	0.43	0.80	59.02	100.89	159.91
Idle Exh	0.00	0.00	0.01	0.36	0.00	0.51	0.00	5.93	0.00	0.23	0.00	0.00	0.00	0.25	0.00	0.00	0.01	7.29	7.31
Start Ex	12.08	0.00	9.11	0.00	0.81	0.00	0.10	0.00	0.47	0.00	0.05	0.00	0.02	0.00	0.01	0.00	22.65	0.00	22.65
Total Ex	61.66	0.32	15.30	19.27	1.70	12.55	1.05	59.19	0.70	2.47	0.73	11.59	0.11	1.99	0.43	0.80	81.68	108.18	189.86
PM2.5 Emissions																			
Run Exh	0.77	0.01	0.01	0.14	0.00	0.32	0.00	1.02	0.00	0.03	0.00	0.18	0.00	0.01	0.00	0.02	0.79	1.75	2.54
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02
Start Ex	0.22	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.22
Total Ex	0.99	0.01	0.02	0.14	0.00	0.32	0.00	1.04	0.00	0.03	0.00	0.18	0.00	0.01	0.00	0.02	1.01	1.77	2.77
TireWear	0.78	0.00	0.03	0.02	0.00	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.81	0.13	0.95
BrakeWear	6.12	0.01	0.24	0.20	0.02	0.28	0.00	0.29	0.00	0.03	0.00	0.31	0.00	0.06	0.01	0.01	6.41	1.19	7.59
Total	7.89	0.03	0.30	0.36	0.02	0.62	0.00	1.42	0.00	0.06	0.00	0.50	0.00	0.07	0.01	0.03	8.23	3.09	11.31
Fuel Consumption (1000 gallons) and SO2																			
Fuel	18486.09	25.20	1053.94	272.78	77.53	502.63	14.26	1785.52	21.95	72.07	18.38	195.12	5.27	24.02	50.40	13.54	19727.82	2890.87	22618.69
SOx	1.73	0.00	0.10	0.03	0.01	0.05	0.00	0.19	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	1.85	0.31	2.15

*Emissions reflect SCAG's 2012 RTP activities and EMFAC2011 emission factors. Emission adjustments beyond the EMFAC2011 are not included.

Table D-6

2019 Summer Planning Emissions (tons per day) in the South Coast Air Basin

	Light and Medium		Light Heavy		Medium Heavy		Heavy Heavy		Other Buses		Urban Buses		School Buses		Motor Homes		All Vehicles		Grand
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	10417656	23816	327623	126383	21360	75969	1310	67365	7206	6196	1870	7344	1595	4763	64061	11228	10842681	323064	11165745
VMT/1000	352644	768	14113	5237	1023	4503	181	9794	273	491	199	785	55	172	719	119	369207	21869	391076
Reactive Organic Gas Emissions																			
Run Exh	16.10	0.02	1.00	0.68	0.12	0.54	0.09	2.42	0.03	0.08	0.35	0.47	0.05	0.03	0.05	0.02	17.78	4.26	22.05
Idle Exh	0.00	0.00	0.19	0.02	0.02	0.02	0.00	0.88	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.93	1.16
Start Ex	10.89	0.00	2.32	0.00	0.39	0.00	0.04	0.00	0.18	0.00	0.03	0.00	0.01	0.00	0.00	0.00	13.86	0.00	13.86
Total Ex	26.98	0.02	3.51	0.70	0.54	0.55	0.13	3.30	0.22	0.10	0.37	0.47	0.06	0.03	0.06	0.02	31.87	5.19	37.06
Diurnal	7.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	8.00	0.00	8.01
Hot Soak	10.56	0.00	0.52	0.00	0.04	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.15	0.00	11.15
Running	25.86	0.00	2.77	0.00	0.20	0.00	0.01	0.00	0.12	0.00	0.03	0.00	0.01	0.00	0.02	0.00	29.02	0.00	29.02
Resting	6.58	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	6.60	0.00	6.60
Total	77.97	0.02	6.83	0.70	0.79	0.55	0.14	3.30	0.35	0.10	0.41	0.47	0.07	0.03	0.09	0.02	86.64	5.20	91.83
Carbon Monoxide Emissions																			
Run Exh	531.12	0.13	19.57	4.15	2.68	2.33	6.10	14.02	0.54	0.37	3.07	2.13	0.72	0.09	1.83	0.07	565.61	23.30	588.91
Idle Exh	0.00	0.00	1.17	0.13	0.21	0.13	0.00	3.76	0.09	0.08	0.00	0.00	0.00	0.02	0.00	0.00	1.47	4.13	5.60
Start Ex	127.31	0.00	23.26	0.00	5.92	0.00	1.28	0.00	2.72	0.00	0.34	0.00	0.17	0.00	0.04	0.00	161.04	0.00	161.04
Total Ex	658.42	0.13	43.99	4.28	8.81	2.46	7.38	17.78	3.35	0.45	3.41	2.13	0.88	0.12	1.87	0.07	728.12	27.43	755.54
Oxides of Nitrogen Emissions																			
Run Exh	43.52	0.30	5.45	17.92	0.79	11.33	0.82	50.35	0.20	2.12	0.60	10.96	0.08	1.64	0.37	0.75	51.83	95.37	147.20
Idle Exh	0.00	0.00	0.01	0.36	0.00	0.53	0.00	6.12	0.00	0.24	0.00	0.00	0.00	0.26	0.00	0.00	0.01	7.52	7.53
Start Ex	11.23	0.00	8.77	0.00	0.78	0.00	0.10	0.00	0.46	0.00	0.05	0.00	0.01	0.00	0.01	0.00	21.40	0.00	21.40
Total Ex	54.75	0.30	14.23	18.28	1.57	11.87	0.92	56.47	0.65	2.36	0.64	10.96	0.10	1.90	0.38	0.75	73.24	102.89	176.13
PM2.5 Emissions																			
Run Exh	0.77	0.01	0.01	0.14	0.00	0.32	0.00	1.02	0.00	0.03	0.00	0.18	0.00	0.01	0.00	0.02	0.79	1.75	2.54
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Start Ex	0.22	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.22
Total Ex	0.99	0.01	0.02	0.14	0.00	0.32	0.00	1.03	0.00	0.03	0.00	0.18	0.00	0.01	0.00	0.02	1.01	1.76	2.77
TireWear	0.78	0.00	0.03	0.02	0.00	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.81	0.13	0.95
BrakeWear	6.12	0.01	0.24	0.20	0.02	0.28	0.00	0.29	0.00	0.03	0.00	0.31	0.00	0.06	0.01	0.01	6.41	1.19	7.59
Total	7.89	0.03	0.30	0.36	0.02	0.62	0.00	1.42	0.00	0.06	0.00	0.50	0.00	0.07	0.01	0.03	8.23	3.08	11.31
Fuel Consumption (1000 gallons) and SO2																			
Fuel	19417.93	25.20	1053.01	272.78	77.31	502.96	14.22	1790.49	21.84	72.21	18.38	195.12	5.27	24.13	50.40	13.54	20658.36	2896.42	23554.78
SOx	1.82	0.00	0.10	0.03	0.01	0.05	0.00	0.19	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	1.94	0.31	2.24

*Emissions reflect SCAG's 2012 RTP activities and EMFAC2011 emission factors. Emission adjustments beyond the EMFAC2011 are not included.

Table D-7

2023 Annual Average Emissions (tons per day) in the South Coast Air Basin

	Light and Medium		Light Heavy		Medium Heavy		Heavy Heavy		Other Buses		Urban Buses		School Buses		Motor Homes		All Vehicles		Grand
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	10526763	23898	344981	134099	22021	76214	1343	69530	7415	6442	1956	7611	1680	4769	71139	12504	10977298	335067	11312365
VMT/1000	355446	749	14808	5511	1046	4609	173	10412	275	527	209	814	59	168	809	135	372825	22925	395750
Reactive Organic Gas Emissions																			
Run Exh	12.49	0.01	0.56	0.58	0.06	0.40	0.07	2.17	0.02	0.08	0.32	0.45	0.03	0.03	0.03	0.02	13.57	3.74	17.32
Idle Exh	0.00	0.00	0.19	0.02	0.03	0.02	0.00	1.11	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.23	1.17	1.40
Start Ex	9.54	0.00	2.13	0.00	0.33	0.00	0.03	0.00	0.17	0.00	0.03	0.00	0.01	0.00	0.00	0.00	12.25	0.00	12.25
Total Ex	22.03	0.01	2.89	0.59	0.42	0.42	0.10	3.27	0.20	0.11	0.35	0.45	0.04	0.04	0.03	0.02	26.05	4.91	30.96
Diurnal	4.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	4.34	0.00	4.34
Hot Soak	8.60	0.00	0.48	0.00	0.04	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.14	0.00	9.14
Running	24.32	0.00	2.76	0.00	0.19	0.00	0.01	0.00	0.12	0.00	0.04	0.00	0.01	0.00	0.01	0.00	27.46	0.00	27.46
Resting	3.91	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.92	0.00	3.92
Total	63.19	0.01	6.14	0.59	0.64	0.42	0.11	3.27	0.33	0.11	0.39	0.45	0.05	0.04	0.05	0.02	70.91	4.92	75.82
Carbon Monoxide Emissions																			
Run Exh	390.69	0.09	12.02	3.95	1.35	1.85	5.57	13.05	0.30	0.38	2.62	2.09	0.43	0.10	0.77	0.08	413.74	21.59	435.33
Idle Exh	0.00	0.00	1.20	0.13	0.29	0.20	0.00	6.25	0.09	0.15	0.00	0.00	0.00	0.04	0.00	0.00	1.58	6.77	8.35
Start Ex	122.51	0.00	24.75	0.00	5.65	0.00	1.51	0.00	2.82	0.00	0.40	0.00	0.16	0.00	0.05	0.00	157.85	0.00	157.85
Total Ex	513.20	0.09	37.96	4.09	7.29	2.05	7.08	19.30	3.21	0.54	3.02	2.09	0.58	0.14	0.81	0.08	573.16	28.36	601.53
Oxides of Nitrogen Emissions																			
Run Exh	38.88	0.26	4.72	14.75	0.53	4.91	0.87	26.38	0.14	0.84	0.66	11.03	0.07	1.57	0.30	0.75	46.16	60.48	106.65
Idle Exh	0.00	0.00	0.01	0.38	0.00	0.33	0.00	6.25	0.00	0.15	0.00	0.00	0.00	0.24	0.00	0.00	0.01	7.36	7.37
Start Ex	8.76	0.00	8.63	0.00	0.66	0.00	0.10	0.00	0.40	0.00	0.05	0.00	0.01	0.00	0.01	0.00	18.61	0.00	18.61
Total Ex	47.64	0.26	13.37	15.13	1.19	5.24	0.97	32.63	0.54	0.99	0.71	11.03	0.08	1.81	0.30	0.75	64.79	67.84	132.63
PM2.5 Emissions																			
Run Exh	0.78	0.01	0.01	0.12	0.00	0.19	0.00	1.06	0.00	0.03	0.00	0.18	0.00	0.01	0.00	0.02	0.79	1.62	2.41
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02
Start Ex	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.27
Total Ex	1.04	0.01	0.01	0.12	0.00	0.19	0.00	1.08	0.00	0.03	0.00	0.18	0.00	0.01	0.00	0.02	1.06	1.63	2.69
TireWear	0.78	0.00	0.03	0.02	0.00	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82	0.14	0.96
BrakeWear	6.17	0.01	0.26	0.21	0.02	0.28	0.00	0.31	0.00	0.03	0.00	0.32	0.00	0.06	0.01	0.01	6.47	1.23	7.70
Total	8.00	0.02	0.30	0.35	0.02	0.49	0.00	1.49	0.00	0.06	0.00	0.50	0.00	0.07	0.01	0.03	8.34	3.01	11.35
Fuel Consumption (1000 gallons) and SO2																			
Fuel	18701.17	24.37	1106.75	286.49	78.85	511.62	13.69	1884.65	22.11	76.51	19.13	199.75	5.48	23.58	56.64	15.32	20003.82	3022.29	23026.10
SOx	1.75	0.00	0.10	0.03	0.01	0.05	0.00	0.20	0.00	0.01	0.00	0.02	0.00	0.00	0.01	0.00	1.88	0.32	2.19

*Emissions reflect SCAG's 2012 RTP activities and EMFAC2011 emission factors. Emission adjustments beyond the EMFAC2011 are not included.

Table D-8

2023 Summer Planning Emissions (tons per day) in the South Coast Air Basin

	Light and Medium		Light Heavy		Medium Heavy		Heavy Heavy		Other Buses		Urban Buses		School Buses		Motor Homes		All Vehicles		Grand
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	10526763	23898	344981	134099	22021	76214	1343	69530	7415	6442	1956	7611	1680	4769	71139	12504	10977298	335067	11312365
VMT/1000	355446	749	14808	5511	1046	4609	173	10412	275	527	209	814	59	168	809	135	372825	22925	395750
Reactive Organic Gas Emissions																			
Run Exh	12.88	0.01	0.58	0.58	0.06	0.40	0.07	2.17	0.02	0.08	0.33	0.45	0.03	0.03	0.03	0.02	13.99	3.74	17.73
Idle Exh	0.00	0.00	0.19	0.02	0.02	0.02	0.00	1.04	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.23	1.10	1.33
Start Ex	8.14	0.00	1.90	0.00	0.29	0.00	0.03	0.00	0.15	0.00	0.03	0.00	0.01	0.00	0.00	0.00	10.54	0.00	10.54
Total Ex	21.02	0.01	2.67	0.59	0.38	0.42	0.10	3.21	0.18	0.10	0.36	0.45	0.04	0.04	0.03	0.02	24.76	4.85	29.61
Diurnal	7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	7.01	0.00	7.02
Hot Soak	9.06	0.00	0.51	0.00	0.04	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.63	0.00	9.63
Running	22.97	0.00	2.70	0.00	0.18	0.00	0.01	0.00	0.12	0.00	0.03	0.00	0.01	0.00	0.01	0.00	26.03	0.00	26.03
Resting	5.91	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	5.94	0.00	5.94
Total	65.96	0.01	5.89	0.59	0.60	0.42	0.11	3.21	0.31	0.10	0.40	0.45	0.05	0.04	0.05	0.02	73.37	4.85	78.22
Carbon Monoxide Emissions																			
Run Exh	424.89	0.09	12.27	3.95	1.38	1.85	5.69	13.05	0.31	0.38	2.69	2.09	0.44	0.10	0.79	0.08	448.44	21.59	470.03
Idle Exh	0.00	0.00	1.20	0.13	0.21	0.15	0.00	4.54	0.09	0.11	0.00	0.00	0.00	0.03	0.00	0.00	1.50	4.96	6.46
Start Ex	96.64	0.00	20.10	0.00	4.56	0.00	1.22	0.00	2.28	0.00	0.33	0.00	0.13	0.00	0.04	0.00	125.31	0.00	125.31
Total Ex	521.53	0.09	33.57	4.09	6.16	2.00	6.91	17.59	2.68	0.50	3.02	2.09	0.57	0.13	0.82	0.08	575.25	26.55	601.80
Oxides of Nitrogen Emissions																			
Run Exh	34.29	0.25	4.16	14.01	0.47	4.65	0.78	24.94	0.12	0.79	0.58	10.43	0.06	1.48	0.26	0.71	40.72	57.26	97.98
Idle Exh	0.00	0.00	0.01	0.38	0.00	0.34	0.00	6.45	0.00	0.15	0.00	0.00	0.00	0.25	0.00	0.00	0.01	7.58	7.59
Start Ex	8.14	0.00	8.30	0.00	0.63	0.00	0.09	0.00	0.39	0.00	0.05	0.00	0.01	0.00	0.01	0.00	17.62	0.00	17.62
Total Ex	42.44	0.25	12.48	14.40	1.10	4.99	0.87	31.39	0.51	0.94	0.62	10.43	0.08	1.73	0.26	0.71	58.35	64.84	123.19
PM2.5 Emissions																			
Run Exh	0.78	0.01	0.01	0.12	0.00	0.19	0.00	1.06	0.00	0.03	0.00	0.18	0.00	0.01	0.00	0.02	0.79	1.62	2.41
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Start Ex	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.27
Total Ex	1.04	0.01	0.01	0.12	0.00	0.19	0.00	1.07	0.00	0.03	0.00	0.18	0.00	0.01	0.00	0.02	1.06	1.63	2.69
TireWear	0.78	0.00	0.03	0.02	0.00	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82	0.14	0.96
BrakeWear	6.17	0.01	0.26	0.21	0.02	0.28	0.00	0.31	0.00	0.03	0.00	0.32	0.00	0.06	0.01	0.01	6.47	1.23	7.70
Total	8.00	0.02	0.30	0.35	0.02	0.49	0.00	1.48	0.00	0.06	0.00	0.50	0.00	0.07	0.01	0.03	8.34	3.01	11.35
Fuel Consumption (1000 gallons) and SO2																			
Fuel	19652.69	24.37	1105.94	286.49	78.68	511.95	13.66	1890.43	22.01	76.66	19.13	199.75	5.48	23.69	56.65	15.32	20954.24	3028.65	23982.89
SOx	1.84	0.00	0.10	0.03	0.01	0.05	0.00	0.20	0.00	0.01	0.00	0.02	0.00	0.00	0.01	0.00	1.96	0.32	2.28

*Emissions reflect SCAG's 2012 RTP activities and EMFAC2011 emission factors. Emission adjustments beyond the EMFAC2011 are not included.

Table D-9

2030 Annual Average Emissions (tons per day) in the South Coast Air Basin

	Light and Medium		Light Heavy		Medium Heavy		Heavy Heavy		Other Buses		Urban Buses		School Buses		Motor Homes		All Vehicles		Grand
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	11173991	25023	375645	146558	24022	82513	1506	80008	7739	7111	2103	8074	1827	4781	86692	15275	11673525	369343	12042868
VMT/1000	376572	778	16084	6028	1128	4998	188	12278	288	595	224	864	64	164	988	168	395536	25873	421409
Reactive Organic Gas Emissions																			
Run Exh	11.07	0.01	0.23	0.46	0.02	0.46	0.06	2.47	0.01	0.09	0.11	0.38	0.01	0.04	0.01	0.02	11.52	3.92	15.45
Idle Exh	0.00	0.00	0.21	0.02	0.03	0.02	0.00	1.32	0.02	0.03	0.00	0.00	0.00	0.01	0.00	0.00	0.25	1.39	1.64
Start Ex	7.28	0.00	1.67	0.00	0.27	0.00	0.03	0.00	0.14	0.00	0.03	0.00	0.01	0.00	0.00	0.00	9.43	0.00	9.43
Total Ex	18.35	0.01	2.11	0.48	0.32	0.48	0.09	3.78	0.16	0.12	0.14	0.38	0.02	0.05	0.01	0.02	21.20	5.31	26.51
Diurnal	3.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	3.87	0.00	3.87
Hot Soak	7.49	0.00	0.46	0.00	0.04	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.99	0.00	7.99
Running	22.30	0.00	2.50	0.00	0.18	0.00	0.01	0.00	0.12	0.00	0.03	0.00	0.01	0.00	0.01	0.00	25.16	0.00	25.16
Resting	3.67	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.68	0.00	3.68
Total	55.67	0.01	5.07	0.49	0.54	0.48	0.10	3.78	0.29	0.12	0.17	0.38	0.04	0.05	0.03	0.02	61.90	5.32	67.22
Carbon Monoxide Emissions																			
Run Exh	343.43	0.06	5.39	3.93	0.54	2.03	5.85	14.46	0.13	0.44	1.60	1.68	0.22	0.13	0.24	0.08	357.40	22.84	380.24
Idle Exh	0.00	0.00	1.29	0.14	0.32	0.22	0.00	7.43	0.09	0.17	0.00	0.00	0.00	0.05	0.00	0.00	1.70	8.03	9.73
Start Ex	96.12	0.00	21.05	0.00	4.39	0.00	1.61	0.00	2.30	0.00	0.34	0.00	0.13	0.00	0.05	0.00	125.98	0.00	125.98
Total Ex	439.55	0.06	27.72	4.08	5.25	2.26	7.46	21.90	2.52	0.62	1.94	1.68	0.34	0.19	0.29	0.08	485.08	30.87	515.95
Oxides of Nitrogen Emissions																			
Run Exh	32.51	0.21	3.11	9.67	0.27	5.31	0.94	28.70	0.07	0.98	0.54	8.47	0.05	1.10	0.19	0.72	37.69	55.17	92.86
Idle Exh	0.00	0.00	0.01	0.42	0.00	0.35	0.00	7.13	0.00	0.17	0.00	0.00	0.00	0.18	0.00	0.00	0.02	8.24	8.26
Start Ex	6.48	0.00	8.13	0.00	0.53	0.00	0.11	0.00	0.33	0.00	0.05	0.00	0.01	0.00	0.01	0.00	15.64	0.00	15.64
Total Ex	39.00	0.21	11.26	10.09	0.80	5.65	1.05	35.83	0.40	1.15	0.59	8.47	0.06	1.28	0.19	0.72	53.35	63.41	116.76
PM2.5 Emissions																			
Run Exh	0.91	0.00	0.01	0.11	0.00	0.21	0.00	1.16	0.00	0.04	0.00	0.15	0.00	0.01	0.00	0.01	0.92	1.69	2.61
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02
Start Ex	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.00	0.34
Total Ex	1.26	0.00	0.01	0.11	0.00	0.21	0.00	1.18	0.00	0.04	0.00	0.15	0.00	0.01	0.00	0.01	1.26	1.71	2.97
TireWear	0.83	0.00	0.04	0.02	0.00	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.87	0.16	1.03
BrakeWear	6.54	0.01	0.28	0.23	0.02	0.31	0.00	0.36	0.01	0.04	0.01	0.34	0.00	0.06	0.02	0.01	6.87	1.36	8.23
Total	8.63	0.02	0.32	0.36	0.02	0.53	0.00	1.66	0.01	0.07	0.01	0.49	0.00	0.07	0.02	0.02	9.00	3.22	12.23
Fuel Consumption (1000 gallons) and SO2																			
Fuel	19965.07	25.14	1211.40	312.85	85.15	555.88	14.91	2221.78	23.08	86.53	20.26	203.27	5.89	23.11	69.59	19.14	21395.36	3447.68	24843.04
SOx	1.87	0.00	0.11	0.03	0.01	0.06	0.00	0.24	0.00	0.01	0.00	0.02	0.00	0.00	0.01	0.00	2.01	0.36	2.37

*Emissions reflect SCAG's 2012 RTP activities and EMFAC2011 emission factors. Emission adjustments beyond the EMFAC2011 are not included.

Table D-10

2030 Summer Planning Emissions (tons per day) in the South Coast Air Basin

	Light and Medium		Light Heavy		Medium Heavy		Heavy Heavy		Other Buses		Urban Buses		School Buses		Motor Homes		All Vehicles		Grand
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	11173991	25023	375645	146558	24022	82513	1506	80008	7739	7111	2103	8074	1827	4781	86692	15275	11673525	369343	12042868
VMT/1000	376572	778	16084	6028	1128	4998	188	12278	288	595	224	864	64	164	988	168	395536	25873	421409
Reactive Organic Gas Emissions																			
Run Exh	11.40	0.01	0.23	0.46	0.02	0.46	0.06	2.47	0.01	0.09	0.11	0.38	0.01	0.04	0.01	0.02	11.86	3.92	15.78
Idle Exh	0.00	0.00	0.21	0.02	0.03	0.02	0.00	1.24	0.02	0.03	0.00	0.00	0.00	0.01	0.00	0.00	0.25	1.31	1.56
Start Ex	6.22	0.00	1.49	0.00	0.24	0.00	0.03	0.00	0.13	0.00	0.02	0.00	0.01	0.00	0.00	0.00	8.14	0.00	8.14
Total Ex	17.62	0.01	1.93	0.48	0.29	0.47	0.09	3.71	0.15	0.12	0.14	0.38	0.02	0.05	0.01	0.02	20.24	5.23	25.48
Diurnal	6.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	6.27	0.00	6.28
Hot Soak	7.86	0.00	0.48	0.00	0.04	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.39	0.00	8.39
Running	21.03	0.00	2.43	0.00	0.18	0.00	0.01	0.00	0.12	0.00	0.03	0.00	0.01	0.00	0.01	0.00	23.81	0.00	23.81
Resting	5.52	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	5.54	0.00	5.54
Total	58.29	0.01	4.86	0.49	0.50	0.47	0.10	3.71	0.27	0.12	0.16	0.38	0.04	0.05	0.03	0.02	64.25	5.24	69.49
Carbon Monoxide Emissions																			
Run Exh	375.26	0.06	5.50	3.93	0.55	2.03	5.99	14.46	0.13	0.44	1.64	1.68	0.22	0.13	0.25	0.08	389.53	22.84	412.37
Idle Exh	0.00	0.00	1.29	0.14	0.23	0.16	0.00	5.40	0.09	0.13	0.00	0.00	0.00	0.04	0.00	0.00	1.61	5.87	7.49
Start Ex	75.87	0.00	17.16	0.00	3.57	0.00	1.31	0.00	1.87	0.00	0.29	0.00	0.11	0.00	0.04	0.00	100.20	0.00	100.20
Total Ex	451.13	0.06	23.94	4.08	4.36	2.20	7.30	19.86	2.09	0.57	1.92	1.68	0.33	0.17	0.28	0.08	491.34	28.71	520.05
Oxides of Nitrogen Emissions																			
Run Exh	28.65	0.20	2.74	9.16	0.24	5.03	0.82	27.18	0.06	0.93	0.48	8.01	0.04	1.03	0.17	0.68	33.19	52.22	85.41
Idle Exh	0.00	0.00	0.01	0.42	0.00	0.36	0.00	7.36	0.00	0.17	0.00	0.00	0.00	0.19	0.00	0.00	0.02	8.49	8.51
Start Ex	6.03	0.00	7.83	0.00	0.51	0.00	0.10	0.00	0.31	0.00	0.05	0.00	0.01	0.00	0.01	0.00	14.84	0.00	14.84
Total Ex	34.67	0.20	10.57	9.57	0.75	5.39	0.92	34.53	0.38	1.11	0.52	8.01	0.05	1.22	0.17	0.68	48.04	60.72	108.76
PM2.5 Emissions																			
Run Exh	0.91	0.00	0.01	0.11	0.00	0.21	0.00	1.16	0.00	0.04	0.00	0.15	0.00	0.01	0.00	0.01	0.92	1.69	2.61
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02
Start Ex	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.00	0.34
Total Ex	1.26	0.00	0.01	0.11	0.00	0.21	0.00	1.18	0.00	0.04	0.00	0.15	0.00	0.01	0.00	0.01	1.26	1.71	2.97
TireWear	0.83	0.00	0.04	0.02	0.00	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.87	0.16	1.03
BrakeWear	6.54	0.01	0.28	0.23	0.02	0.31	0.00	0.36	0.01	0.04	0.01	0.34	0.00	0.06	0.02	0.01	6.87	1.36	8.23
Total	8.63	0.02	0.32	0.36	0.02	0.53	0.00	1.66	0.01	0.07	0.01	0.49	0.00	0.07	0.02	0.02	9.00	3.22	12.22
Fuel Consumption (1000 gallons) and SO2																			
Fuel	20992.20	25.14	1210.70	312.85	85.03	556.24	14.88	2228.56	23.00	86.70	20.26	203.27	5.89	23.22	69.59	19.14	22421.56	3455.10	25876.66
SOx	1.97	0.00	0.11	0.03	0.01	0.06	0.00	0.24	0.00	0.01	0.00	0.02	0.00	0.00	0.01	0.00	2.10	0.37	2.47

*Emissions reflect SCAG's 2012 RTP activities and EMFAC2011 emission factors. Emission adjustments beyond the EMFAC2011 are not included.

ATTACHMENT E

FINAL 2012 AQMP APPENDIX III

EMISSIONS FROM
DIESEL COMBUSTION
BY MAJOR SOURCE CATEGORY

TABLE E-6
2030 Baseline Diesel Emissions (Tons/Day)
in South Coast Air Basin

MSC		Annual Average Inventory									Summer Planning	
Code	Major Source Category (MSC)	TOG	VOC	NOX	CO	SOX	TSP	PM10	PM2.5	NH3	VOC	NOX
010	Electric Utilities	0.129	0.108	0.001	0.294	0.020	0.096	0.096	0.093	0.008	0.108	0.001
030	Oil and Gas Production (Combustion)	0.015	0.013	0.009	0.036	0.000	0.018	0.018	0.018	0.000	0.013	0.009
050	Manufacturing and Industrial	0.088	0.074	0.341	0.203	0.006	0.066	0.066	0.064	0.002	0.079	0.396
052	Food and Agricultural Processing	0.003	0.002	0.017	0.010	0.000	0.002	0.002	0.002	0.006	0.003	0.020
060	Service and Commercial	0.188	0.157	1.658	0.443	0.033	0.142	0.142	0.137	0.011	0.164	1.707
099	Other (Fuel Combustion)	0.141	0.102	2.056	0.618	0.005	0.035	0.029	0.023	0.002	0.104	2.084
110	Sewage Treatment	0.004	0.001	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.002
130	Incinerators	0.080	0.013	0.072	0.032	0.005	0.002	0.002	0.002	0.000	0.013	0.072
310	Oil and Gas Production	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.000
320	Petroleum Refining	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000
330	Petroleum Marketing	0.016	0.015	0.001	0.000	0.012	0.000	0.000	0.000	0.000	0.016	0.001
610	Residential Fuel Combustion	0.000	0.000	0.096	0.013	0.001	0.010	0.010	0.010	0.000	0.000	0.096
710	Light Duty Passenger	0.004	0.004	0.095	0.037	0.002	0.003	0.003	0.002	0.002	0.004	0.090
722	Light Duty Trucks-1 (up to 3750 lb.)	0.000	0.000	0.009	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.008
723	Light Duty Trucks-2 (3751 to 5750 lb.)	0.000	0.000	0.008	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.008
724	Medium Duty Trucks (5751-8500 lb.)	0.000	0.000	0.014	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.013
742	Light Heavy Duty Diesel Trucks-1 (8501-10000 lb.)	0.364	0.304	5.803	3.879	0.024	0.045	0.045	0.042	0.016	0.304	5.502
743	Light Heavy Duty Diesel Trucks-2 (10001-14000 lb.)	0.148	0.124	1.898	1.884	0.013	0.018	0.018	0.016	0.005	0.124	1.807
744	Medium Heavy Duty Diesel Trucks (14001-33000 lb.)	0.540	0.452	5.653	2.258	0.059	0.229	0.229	0.211	0.149	0.451	5.389
746	Heavy Heavy Duty Diesel Trucks (>33001 lb.)	4.335	3.628	35.831	21.899	0.235	1.287	1.287	1.184	0.365	3.557	34.534
760	Heavy Duty Diesel Urban Buses	0.429	0.359	8.470	1.685	0.022	0.161	0.161	0.148	0.026	0.359	8.009
772	School Buses - Diesel	0.056	0.047	1.275	0.186	0.002	0.010	0.010	0.010	0.005	0.047	1.220
779	All Other Buses - Diesel	0.140	0.117	1.152	0.615	0.009	0.039	0.039	0.037	0.018	0.116	1.105
780	Motor Homes	0.022	0.018	0.724	0.081	0.002	0.013	0.013	0.012	0.001	0.018	0.683
820	Trains	1.275	1.067	19.031	10.391	0.027	0.405	0.405	0.373	0.000	1.067	19.031
833	Ocean Going Vessels	5.298	4.742	28.554	8.238	5.232	1.734	1.734	1.661	0.071	4.743	28.559
835	Commercial Harbor Craft	1.256	1.056	8.993	7.490	0.009	0.343	0.343	0.317	0.000	1.056	8.995
840	Recreational Boats	0.257	0.215	0.806	0.365	0.000	0.006	0.006	0.005	0.000	0.401	1.170
860	Commercial/Industrial Mobile Equipment	3.885	3.259	22.406	42.415	0.085	0.605	0.605	0.557	0.047	3.329	22.886
870	Farm Equipment	0.228	0.190	1.186	2.279	0.006	0.031	0.031	0.029	0.004	0.232	1.446
	RECLAIM			1.033		0.082						1.061
	Total Diesel	**18.909**	**16.075**	**147.193**	**105.362**	**5.891**	**5.300**	**5.293**	**4.952**	**0.738**	**16.316**	**145.903**

Note:
(1) Emission from line items (AQMP/Set-Aside) not included.
(2) Ships and Commercial Boats included Residual Oil.

ATTACHMENT F

FINAL 2012 AQMP APPENDIX III

2008 BASE YEAR

GREENHOUSE GAS EMISSION INVENTORY METHODOLOGY

AND

BY MAJOR SOURCE CATEGORY

Table F

2008 Baseline GHG Emissions for SCAB

		Emission (TPD)			Emission (TPY)			MMTONS
CODE	**Source Category**	**CO2**	**N2O**	**CH4**	**CO2**	**N2O**	**CH4**	**CO2e**
Fuel Combustion								
10	Electric Utilities	34,302.91	0.08	0.71	12,520,561.73	28.99	258.47	11.37
20	Cogeneration	872.16	0.00	0.02	318,340.22	0.60	6.00	0.29
30	Oil and Gas Production (combustion)	2,908.14	0.01	0.08	1,061,469.85	4.71	29.54	0.96
40	Petroleum Refining (Combustion)	44,654.15	0.06	0.57	16,298,765.74	20.71	207.09	14.80
50	Manufacturing and Industrial	22,181.91	0.06	0.48	8,096,396.32	20.91	174.29	7.35
52	Food and Agricultural Processing	927.44	0.00	0.02	338,516.28	0.84	7.16	0.31
60	Service and Commercial	21,888.81	0.08	0.59	7,989,416.32	30.76	214.96	7.26
99	Other (Fuel Combustion)	2,241.25	0.02	0.16	818,056.85	8.58	58.23	0.75
Total Fuel Combustion		**129,976.78**	**0.32**	**2.62**	**47,441,523.29**	**116.10**	**955.74**	**43.09**
Waste Disposal								
110	Sewage Treatment	26.45	0.00	0.00	9,653.42	0.12	1.50	0.01
120	Landfills	3,165.78	0.04	505.35	1,155,509.15	13.98	184,451.33	4.57
130	Incineration	580.02	0.00	0.02	211,707.66	0.81	5.48	0.19
199	Other (Waste Disposal)			2.25	0.00	0.00	820.00	0.02
Total Waste Disposal		**3,772.25**	**0.04**	**507.61**	**1,376,870.22**	**14.91**	**185,278.31**	**4.78**
Cleaning and Surface Coatings								
210	Laundering							
220	Degreasing							
230	Coatings and Related Processes	27.09	0.00	0.21	9,889.59	0.02	78.00	0.01
240	Printing			0.00	0.00	0.00	0.00	0.00
250	Adhesives and Sealants			0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	2,621.20	0.00	0.12	956,738.61	1.20	43.90	0.87
Total Cleaning and Surface Coatings		**2,648.30**	**0.00**	**0.33**	**966,628.19**	**1.22**	**121.90**	**0.88**
Petroleum Production and Marketing								
310	Oil and Gas Production	92.07	0.00	0.92	33,604.54	0.06	336.40	0.04
320	Petroleum Refining	769.68	0.00	1.65	280,931.54	0.36	602.70	0.27
330	Petroleum Marketing			83.83	0.00	0.00	30,598.00	0.58
399	Other (Petroleum Production and Marketing)			0.00	0.00	0.00	0.30	0.00
Total Petroleum Production and Marketing		**861.74**	**0.00**	**86.40**	**314,536.07**	**0.42**	**31,537.40**	**0.89**
Industrial Processes								
410	Chemical			0.92	0.00	0.00	336.50	0.01
420	Food and Agriculture			0.02	0.00	0.00	7.10	0.00
430	Mineral Processes	278.92	0.00	0.05	101,804.41	0.19	17.30	0.09
440	Metal Processes			0.02	0.00	0.00	9.10	0.00
450	Wood and Paper			0.00	0.00	0.00	0.00	0.00
460	Glass and Related Products			0.00	0.00	0.00	0.90	0.00
470	Electronics			0.00	0.00	0.00	0.00	0.00
499	Other (Industrial Processes)	0.08	0.00	0.47	27.70	0.00	171.60	0.00
Total Industrial Processes		**278.99**	**0.00**	**1.49**	**101,832.11**	**0.19**	**542.50**	**0.10**

Table F (Continued)

2008 Baseline GHG Emissions for SCAB

		Emission (TPD)			Emission (TPY)			MMTONS
CODE	**Source Category**	**CO2**	**N2O**	**CH4**	**CO2**	**N2O**	**CH4**	**CO2e**
Solvent Evaporation								
510	Consumer Products			0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent			0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers			0.00	0.00	0.00	0.00	0.00
540	Asphalt Paving/Roofing			0.07	0.00	0.00	24.20	0.00
Total Solvent Evaporation		**0.00**	**0.00**	**0.07**	**0.00**	**0.00**	**24.20**	**0.00**
Miscellaneous Processes								
610	Residential Fuel Combustion	38,850.21	0.12	0.95	14,180,326.28	45.28	347.02	12.88
620	Farming Operations			25.63	0.00	0.00	9,354.20	0.18
630	Construction and Demolition			0.00	0.00	0.00	0.00	0.00
640	Paved Road Dust			0.00	0.00	0.00	0.00	0.00
645	Unpaved Road Dust			0.00	0.00	0.00	0.00	0.00
650	Fugitive Windblown Dust			0.00	0.00	0.00	0.00	0.00
660	Fires			0.08	0.00	0.00	30.90	0.00
670	Waste Burning and Disposal			0.58	0.00	0.00	212.20	0.00
680	Utility Equipment				0.00	0.00		0.00
690	Cooking			0.64	0.00	0.00	234.80	0.00
699	Other (Miscellaneous Processes			0.00	0.00	0.00	0.00	0.00
Total Miscellaneous Processes		**38,850.21**	**0.12**	**27.89**	**14,180,326.28**	**45.28**	**10,179.12**	**13.07**
On-Road Motor Vehicles								
710	Light Duty Passenger Auto (LDA)	84,679.34	2.72	3.62	30,907,957.40	992.80	1,321.30	28.34
722	Light Duty Trucks 1 (T1 : up to 3750 lb.)	22,318.69	0.72	0.96	8,146,320.83	262.80	350.40	7.47
723	Light Duty Trucks 2 (T2 : 3751-5750 lb.)	33,494.85	1.08	1.43	12,225,619.17	392.38	523.05	11.21
724	Medium Duty Trucks (T3 : 5751-8500 lb.)	29,414.54	0.94	1.25	10,736,308.78	343.10	456.25	9.85
732	Light Heavy Duty Gas Trucks 1 (T4 : 8501-10000 lb.)	8,194.68	0.16	0.21	2,991,059.41	57.31	76.65	2.73
733	Light Heavy Duty Gas Trucks 2 (T5 : 10001-14000 lb.)	1,115.55	0.05	0.07	407,174.20	18.98	25.55	0.38
734	Medium Heavy Duty Gas Trucks (T6 : 14001-33000 lb.)	727.41	0.02	0.20	265,505.77	5.48	73.00	0.24
736	Heavy Heavy Duty Gas Trucks ((HHDGT > 33000 lb.)	101.91	0.01	0.01	37,197.65	2.19	2.56	0.03
742	Light Heavy Duty Diesel Trucks 1 (T4 : 8501-10000 lb.)	2,166.03	0.02	0.02	790,599.63	6.94	7.30	0.72
743	Light Heavy Duty Diesel Trucks 2 (T5 : 10001-14000 lb.)	735.38	0.01	0.01	268,413.46	2.56	2.92	0.24
744	Medium Heavy Duty Diesel Truck (T6 : 14001-33000 lb.)	5,421.85	0.02	0.02	1,978,974.22	8.40	8.76	1.80
746	Heavy Heavy Duty Diesel Trucks (HHDDT > 33000 lb.)	17,017.12	0.05	0.05	6,211,247.31	17.52	16.43	5.64
750	Motorcycles (MCY)	7,958.66	0.26	0.34	2,904,909.79	94.90	124.10	2.66
760	Diesel Urban Buses (UB)	2,135.31	0.00	0.00	779,389.27	1.46	1.46	0.71
762	Gas Urban Buses (UB)	166.17	0.02	0.02	60,653.73	8.40	6.94	0.06
770	School Buses (SB)	336.97	0.00	0.00	122,995.47	1.46	1.46	0.11
776	Other Buses (OB)	927.21	0.00	0.00	338,430.49	0.73	0.73	0.31
780	Motor Homes (MH)	568.30	0.03	0.04	207,430.96	10.95	14.60	0.19
Total On-Road Motor Vehicles		**217,479.97**	**6.11**	**8.26**	**79,380,187.52**	**155.49**	**187.25**	**72.70**

Table F (Concluded)

2008 Baseline GHG Emissions for SCAB

		Emission (TPD)			Emission (TPY)			MMTONS
CODE	**Source Category**	**CO2**	**N2O**	**CH4**	**CO2**	**N2O**	**CH4**	**CO2e**
Other Mobile Sources								
810	Aircraft	37,454.60	0.10	0.09	13,670,930.38	36.46	31.75	12.41
820	Trains	585.85	0.00	0.00	213,835.18	0.45	1.38	0.19
830	Ships and Commercial Boats	3,451.85	0.01	0.02	1,259,926.70	2.64	8.13	1.14
	Other Offroad Sources (construction equipment, airport equipment, oil and gas drilling equipment)	16,080	1.72	8.84	5,869,123.45	628.00	3,226.28	5.56
Total Other Mobile Sources		**57,572.10**	**1.83**	**8.95**	**21,013,815.71**	**667.55**	**3,267.55**	**19.31**
Total Stationary and Area Sources		**176,388.26**	**0.49**	**626.41**	**64,381,716.17**	**178.12**	**228,639.16**	**62.81**
Total On-Road Vehicles		**217,479.97**	**6.11**	**8.26**	**79,380,187.52**	**155.49**	**187.25**	**72.70**
Total Other Mobile*		**57,572.10**	**1.83**	**8.95**	**21,013,815.71**	**667.55**	**3,267.55**	**19.31**