

## 4.3 Air Quality

This section analyzes the air quality impacts that could result from implementation of the project, which consists of the 2021 General Plan Update (GPU), Housing Element Update, and Climate Action Plan (CAP). The analysis area covers the city of Moreno Valley (city) and sphere of influence, which are collectively referred to as the Planning Area. The analysis in this section is based on the methodology recommended by the South Coast Air Quality Management District (SCAQMD) and is based on the existing and future land uses under both the 2021 GPU and the existing 2006 General Plan, as modeled using the California Emissions Estimator Model (CalEEMod), the California Air Resources Board (CARB) Emissions Factor model (EMFAC2021), the energy use projections included in the CAP, and vehicle miles traveled (VMT) documented in the Moreno Valley General Plan Circulation Element Vehicle Miles Traveled Impact Assessment Memorandum (Fehr & Peers 2021).

### 4.3.1 Existing Conditions

#### 4.3.1.1 South Coast Air Basin

The Planning Area is located within the South Coast Air Basin (Basin), which is under the jurisdiction of the SCAQMD. The 6,745-square-mile Basin encompasses Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties, and is bound by the Pacific Ocean to the west, the San Gabriel, San Bernardino, and Jacinto mountains to the north and east, respectively, and San Diego County to the south. The Basin is designated as in attainment or unclassifiable attainment (expected to be meeting the standard despite a lack of monitoring data) for all federal air quality standards except 8-hour ozone and 2.5-micron particulate matter (PM<sub>2.5</sub>) standards. The Basin is designated as in nonattainment for state air quality standards for 8-hour ozone and PM<sub>2.5</sub>, and additionally is in nonattainment of state 10-micron particulate matter (PM<sub>10</sub>) standards.

Air quality is commonly expressed as the number of days in which air pollution levels exceed state standards set by CARB or federal standards set by the U.S. Environmental Protection Agency (USEPA). The SCAQMD maintains 41 active air quality monitoring sites located throughout the Basin including eight active sites in Riverside County. Air pollutant concentrations and meteorological information are continuously recorded at these stations. Measurements are then used by scientists to help forecast daily air pollution levels.

The nearest monitoring stations include the Perris monitoring station, located approximately five miles south of the planning area at 237½ North D Street, and the Riverside – Rubidoux monitoring station, located approximately seven miles northwest of the city at 5888 Mission Boulevard. The Perris monitoring station measures ozone and PM<sub>10</sub>, and the Rubidoux monitoring station measures ozone, nitrogen dioxide (NO<sub>2</sub>), PM<sub>10</sub>, and PM<sub>2.5</sub>. Table 4.3-1 provides a summary of measurements collected at the Perris and Rubidoux monitoring stations for the years 2015 through 2019.

**Table 4.3-1  
Summary of Air Quality Measurements Recorded at  
Perris and Riverside – Rubidoux Monitoring Stations**

Pollutant/Standard	2015	2016	2017	2018	2019
<b>Perris Monitoring Station</b>					
Ozone					
Federal Max 8-hr (ppm)	0.102	0.098	0.105	0.103	0.095
Days 2015 Federal 8-hour Standard Exceeded (0.07 ppm)	49	55	80	67	64
Days 2008 Federal 8-hour Standard Exceeded (0.075 ppm)	31	30	52	47	38
State Max 8-hr (ppm)	0.103	0.099	0.106	0.103	0.096
Days State 8-hour Standard Exceeded (0.07 ppm)	50	56	86	68	66
Max. 1-hr (ppm)	0.124	0.131	0.120	0.117	0.118
Days State 1-hour Standard Exceeded (0.09 ppm)	25	23	33	31	28
PM <sub>10</sub> *					
Federal Max. Daily (µg/m <sup>3</sup> )	188.0	76.0	75.4	64.4	97.0
Measured Days Federal 24-hour Standard Exceeded (150 µg/m <sup>3</sup> )	1	0	0	0	0
Calculated Days Federal 24-hour Standard Exceeded (150 µg/m <sup>3</sup> )	6.6	0.0	0.0	0.0	0.0
Federal Annual Average (µg/m <sup>3</sup> )	33.1	32.2	32.6	30.2	25.8
State Max. Daily (µg/m <sup>3</sup> )	178.0	76.0	75.4	64.4	92.1
Measured Days State 24-hour Standard Exceeded (50 µg/m <sup>3</sup> )	4	5	11	2	4
Calculated Days State 24-hour Standard Exceeded (50 µg/m <sup>3</sup> )	25.7	--	68.7	12.1	24.5
State Annual Average (µg/m <sup>3</sup> )	31.4	--	32.6	28.9	24.4
<b>Riverside – Rubidoux Monitoring Station</b>					
Ozone					
Federal Max 8-hr (ppm)	0.105	0.104	0.118	0.101	0.096
Days 2015 Federal 8-hour Standard Exceeded (0.07 ppm)	55	69	81	53	59
Days 2008 Federal 8-hour Standard Exceeded (0.075 ppm)	39	47	58	34	37
State Max 8-hr (ppm)	0.106	0.105	0.119	0.101	0.096
Days State 8-hour Standard Exceeded (0.07 ppm)	59	71	82	57	63
Max. 1-hr (ppm)	0.132	0.142	0.145	0.123	0.123
Days State 1-hour Standard Exceeded (0.09 ppm)	31	33	47	22	24
NO <sub>2</sub>					
Max 1-hr (ppm)	0.0574	0.0731	0.0630	0.0554	0.0560
Days State 1-hour Standard Exceeded (0.18 ppm)	0	0	0	0	0
Days Federal 1-hour Standard Exceeded (0.100 ppm)	0	0	0	0	0
Annual Average (ppm)	0.014	0.014	0.014	0.014	0.014
PM <sub>10</sub> *					
Federal Max. Daily (µg/m <sup>3</sup> )	69.0	84.0	92.0	86.5	132.5
Measured Days Federal 24-hour Standard Exceeded (150 µg/m <sup>3</sup> )	0	0	0	0	0
Calculated Days Federal 24-hour Standard Exceeded (150 µg/m <sup>3</sup> )	0.0	0.0	0.0	0.0	0.0
Federal Annual Average (µg/m <sup>3</sup> )	32.2	38.1	39.0	35.4	35.4
State Max. Daily (µg/m <sup>3</sup> )	107.4	170.5	137.6	126.0	182.4
Measured Days State 24-hour Standard Exceeded (50 µg/m <sup>3</sup> )	87	60	98	127	110
Calculated Days State 24-hour Standard Exceeded (50 µg/m <sup>3</sup> )	92.2	--	102.5	133.6	116.4
State Annual Average (µg/m <sup>3</sup> )	40.0	--	41.3	43.9	40.9
PM <sub>2.5</sub> *					
Federal Max. Daily (µg/m <sup>3</sup> )	54.7	51.5	50.3	66.3	55.7
Measured Days Federal 24-hour Standard Exceeded (35 µg/m <sup>3</sup> )	9	5	7	3	5
Calculated Days Federal 24-hour Standard Exceeded (35 µg/m <sup>3</sup> )	10.3	5.1	7.2	3.1	5.2
Federal Annual Average (µg/m <sup>3</sup> )	11.8	12.5	12.2	12.5	11.2
State Max. Daily (µg/m <sup>3</sup> )	61.1	60.8	50.3	68.3	57.6
State Annual Average (µg/m <sup>3</sup> )	15.3	12.6	14.5	12.6	11.2
SOURCE: CARB 2021.					
ppm = parts per million; µg/m <sup>3</sup> = micrograms per cubic meter; Na = Not available.					
* Calculated days value. Calculated days are the estimated number of days that a measurement would have been greater than the level of the standard had measurements been collected every day. The number of days above the standard is not necessarily the number of violations of the standard for the year.					

As shown in Table 4.3-1, there are exceedances of ozone, PM<sub>10</sub>, and PM<sub>2.5</sub> standards. These exceedances occur throughout the Basin. Due to these exceedances, the Basin is designated as nonattainment for federal 8-hour ozone and PM<sub>2.5</sub> standards, and nonattainment for state 8-hour ozone, PM<sub>10</sub>, and PM<sub>2.5</sub> standards. The 2016 Air Quality Management Plan (discussed later under Local Air Quality Regulations) addresses how the Basin plans to improve air quality and meet the attainment standards.

### 4.3.1.2 Regional Climate and Meteorology

The Planning Area is located approximately 40 miles northeast of the Pacific Ocean, within Riverside County between the Santa Ana Mountains and the San Jacinto Mountains. Air quality in the county is influenced by both topographical and meteorological conditions.

The Planning Area, like other inland valley areas in southern California, has a Mediterranean climate characterized by warm, dry summers and mild, wet winters. The March Field climate monitoring station (ID 045326) is located immediately southwest of the Planning Area and the Perris climate monitoring station (ID 046816) is located approximately five miles south of the Planning Area. Based on measurements taken at these climate monitoring stations, the average annual precipitation is 8 to 10 inches, falling primarily from November to April (Western Regional Climate Center 2020). Overall annual temperatures in the project area average about 62 degrees Fahrenheit (°F), winter low temperatures average about 36°F, and summer high temperatures average about 93°F.

The dominant meteorological feature affecting the region is the Pacific High Pressure Zone, which produces the prevailing westerly to northwesterly winds. These winds tend to blow pollutants away from the coast toward the inland areas. Consequently, air quality near the coast is generally better than that which occurs at the base of the coastal mountain range.

The prevailing westerly wind pattern is sometimes interrupted by regional “Santa Ana” conditions. A Santa Ana occurs when a strong high pressure develops over the Nevada–Utah area and overcomes the prevailing westerly coastal winds, sending strong, steady, hot, dry northeasterly winds over the mountains and out to sea.

## 4.3.2 Applicable Regulatory Requirements

### 4.3.2.1 Federal Air Quality Regulations

Ambient Air Quality Standards (AAQS) represent the maximum levels of background pollution considered safe, with an adequate margin of safety, to protect the public health and welfare. The federal Clean Air Act (CAA) was enacted in 1970 and amended in 1977 and 1990 [42 United States Code (USC) 7401] for the purposes of protecting and enhancing the quality of the nation’s air resources to benefit public health, welfare, and productivity. In 1971, in order to achieve the purposes of Section 109 of the CAA [42 USC 7409], the USEPA developed primary and secondary National Ambient Air Quality Standards (NAAQS).

Six criteria pollutants of primary concern have been designated: ozone, carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), NO<sub>2</sub>, lead (Pb), and PM<sub>10</sub> and PM<sub>2.5</sub>. The primary NAAQS “. . . in

the judgment of the Administrator, based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health . . . ” and the secondary standards “. . . protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air” [42 USC 7409(b)(2)]. The primary NAAQS were established, with a margin of safety, considering long-term exposure for the most sensitive groups in the general population (i.e., children, senior citizens, and people with breathing difficulties). The NAAQS are presented in Table 4.3-2 (CARB 2016).

### **4.3.2.2 State Air Quality Regulations**

#### **a. California Ambient Air Quality Standards**

The USEPA allows states the option to develop different (stricter) standards. The state of California has developed the California Ambient Air Quality Standards (CAAQS) and generally has set more stringent limits on the criteria pollutants (see Table 4.3-2). In addition to the federal criteria pollutants, the CAAQS also specify standards for visibility-reducing particles, sulfates, hydrogen sulfide, and vinyl chloride (see Table 4.3-2). Similar to the federal CAA, the state classifies specific geographic areas as either “attainment” or “nonattainment” areas for each pollutant based on the comparison of measured data with the CAAQS.

The state of California is divided geographically into 15 air basins for managing the air resources of the state on a regional basis. Areas within each air basin are considered to share the same air masses, and therefore are expected to have similar ambient air quality. If an air basin is not in either federal or state attainment for a particular pollutant, the basin is classified as a moderate, serious, severe, or extreme nonattainment area for that pollutant (there is also a marginal classification for federal nonattainment areas). Once a nonattainment area has achieved the air quality standards for a particular pollutant, it may be redesignated to an attainment area for that pollutant. To be redesignated, the area must meet air quality standards and have a 10-year plan for continuing to meet and maintain air quality standards, as well as satisfy other requirements of the federal CAA. Areas that have been redesignated to attainment are called maintenance areas.

#### **b. Toxic Air Contaminants**

A toxic air contaminant (TAC) is any air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a present or potential hazard to human health. The public’s exposure to TACs is a significant public health issue in California. Diesel-exhaust particulate matter emissions have been established as TACs. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health (Assembly Bill [AB] 1807: Health and Safety Code Sections 39650–39674). The California Legislature established a two-step process to address the potential health effects from TACs. The first step is the risk assessment (or identification) phase. The second step is the risk management (or control) phase of the process.

Table 4.3-2 Ambient Air Quality Standards						
Pollutant	Averaging Time	California Standards <sup>1</sup>		National Standards <sup>2</sup>		
		Concentration <sup>3</sup>	Method <sup>4</sup>	Primary <sup>3,5</sup>	Secondary <sup>3,6</sup>	Method <sup>7</sup>
Ozone <sup>8</sup>	1 Hour	0.09 ppm (180 µg/m <sup>3</sup> )	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.07 ppm (137 µg/m <sup>3</sup> )		0.070 ppm (137 µg/m <sup>3</sup> )		
Respirable Particulate Matter (PM <sub>10</sub> ) <sup>9</sup>	24 Hour	50 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	150 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m <sup>3</sup>		–		
Fine Particulate Matter (PM <sub>2.5</sub> ) <sup>9</sup>	24 Hour	No Separate State Standard		35 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	12 µg/m <sup>3</sup>	15 µg/m <sup>3</sup>	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m <sup>3</sup> )	Non-dispersive Infrared Photometry	35 ppm (40 mg/m <sup>3</sup> )	–	Non-dispersive Infrared Photometry
	8 Hour	9.0 ppm (10 mg/m <sup>3</sup> )		9 ppm (10 mg/m <sup>3</sup> )	–	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m <sup>3</sup> )		–	–	
Nitrogen Dioxide (NO <sub>2</sub> ) <sup>10</sup>	1 Hour	0.18 ppm (339 µg/m <sup>3</sup> )	Gas Phase Chemi- luminescence	100 ppb (188 µg/m <sup>3</sup> )	–	Gas Phase Chemi- luminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m <sup>3</sup> )		0.053 ppm (100 µg/m <sup>3</sup> )	Same as Primary Standard	
Sulfur Dioxide (SO <sub>2</sub> ) <sup>11</sup>	1 Hour	0.25 ppm (655 µg/m <sup>3</sup> )	Ultraviolet Fluorescence	75 ppb (196 µg/m <sup>3</sup> )	–	Ultraviolet Fluorescence; Spectro- photometry (Pararosaniline Method)
	3 Hour	–		–	0.5 ppm (1,300 µg/m <sup>3</sup> )	
	24 Hour	0.04 ppm (105 µg/m <sup>3</sup> )		0.14 ppm (for certain areas) <sup>11</sup>	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas) <sup>11</sup>	–	
Lead <sup>12,13</sup>	30 Day Average	1.5 µg/m <sup>3</sup>	Atomic Absorption	–	–	High Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m <sup>3</sup> (for certain areas) <sup>12</sup>	Same as Primary Standard	
	Rolling 3-Month Average	–		0.15 µg/m <sup>3</sup>		
Visibility Reducing Particles <sup>14</sup>	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m <sup>3</sup>	Ion Chroma- tography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m <sup>3</sup> )	Ultraviolet Fluorescence			
Vinyl Chloride <sup>12</sup>	24 Hour	0.01 ppm (26 µg/m <sup>3</sup> )	Gas Chroma- tography			

See footnotes on next page.

**Table 4.3-2**  
**Ambient Air Quality Standards**

SOURCE: CARB 2016.

ppm = parts per million; ppb = parts per billion;  $\mu\text{g}/\text{m}^3$  = micrograms per cubic meter; – = not applicable.

- <sup>1</sup> California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, particulate matter ( $\text{PM}_{10}$ ,  $\text{PM}_{2.5}$ , and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
- <sup>2</sup> National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For  $\text{PM}_{10}$ , the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above  $150 \mu\text{g}/\text{m}^3$  is equal to or less than one. For  $\text{PM}_{2.5}$ , the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the USEPA for further clarification and current national policies.
- <sup>3</sup> Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of  $25^\circ\text{C}$  and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of  $25^\circ\text{C}$  and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- <sup>4</sup> Any equivalent measurement method which can be shown to the satisfaction of the Air Resources Board to give equivalent results at or near the level of the air quality standard may be used.
- <sup>5</sup> National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
- <sup>6</sup> National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- <sup>7</sup> Reference method as described by the USEPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the USEPA.
- <sup>8</sup> On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
- <sup>9</sup> On December 14, 2012, the national annual  $\text{PM}_{2.5}$  primary standard was lowered from  $15 \mu\text{g}/\text{m}^3$  to  $12.0 \mu\text{g}/\text{m}^3$ . The existing national 24-hour  $\text{PM}_{2.5}$  standards (primary and secondary) were retained at  $35 \mu\text{g}/\text{m}^3$ , as was the annual secondary standards of  $15 \mu\text{g}/\text{m}^3$ . The existing 24-hour  $\text{PM}_{10}$  standards (primary and secondary) of  $150 \mu\text{g}/\text{m}^3$  also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
- <sup>10</sup> To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national standards are in units of ppb. California standards are in units of ppm. To directly compare the national standards to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
- <sup>11</sup> On June 2, 2010, a new 1-hour  $\text{SO}_2$  standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971  $\text{SO}_2$  national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated non-attainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. Note that the 1-hour national standard is in units of ppb. California standards are in units of ppm. To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
- <sup>12</sup> The Air Resources Board has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
- <sup>13</sup> The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard ( $1.5 \mu\text{g}/\text{m}^3$  as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated non-attainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
- <sup>14</sup> In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

The California Air Toxics Program establishes the process for the identification and control of TACs and includes provisions to make the public aware of significant toxic exposures and for reducing risk. Additionally, the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, 1987, Connelly Bill) was enacted in 1987 and requires stationary sources to report

the types and quantities of certain substances routinely released into the air. The goals of the Air Toxics "Hot Spots" Act are to collect emission data, to identify facilities having localized impacts, to ascertain health risks, to notify nearby residents of significant risks, and to reduce those significant risks to acceptable levels. The Children's Environmental Health Protection Act, California Senate Bill 25 (Chapter 731, Escutia, Statutes of 1999), focuses on children's exposure to air pollutants. The act requires CARB to review its air quality standards from a children's health perspective, evaluate the statewide air quality monitoring network, and develop any additional air toxic control measures needed to protect children's health.

In April 2005, CARB published the *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB 2005). The handbook makes recommendations directed at protecting sensitive land uses from air pollutant emissions while balancing a myriad of other land use issues (e.g., housing, transportation needs, economics, etc.). It notes that the handbook is not regulatory or binding on local agencies and recognizes that application takes a qualitative approach. As reflected in the CARB handbook, there is currently no adopted standard for the significance of health effects from mobile sources. Therefore, the CARB has provided guidelines for the siting of land uses near heavily traveled roadways. Of pertinence to this impact analysis, the CARB guidelines indicate that siting new sensitive land uses within 500 feet of a freeway or an urban road with 100,000 or more vehicles per day should be avoided when possible. Based on vehicle counts conducted by the California Department of Transportation (Caltrans) in 2017, in the vicinity of the city, Interstate 215 (I-215) and State Route 60 (SR-60) currently carry more than 100,000 vehicles per day (Caltrans 2017a).

As an ongoing process, CARB continues to establish new programs and regulations for the control of diesel-particulate and other air-toxics emissions as appropriate. The continued development and implementation of these programs and policies will ensure that the public's exposure to diesel particulate matter will continue to decline.

### **c. State Implementation Plan**

The State Implementation Plan (SIP) is a collection of documents that set forth the state's strategies for achieving the NAAQS. In California, the SIP is a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls. The CARB is the lead agency for all purposes related to the SIP under state law. Local air districts and other agencies, such as the Department of Pesticide Regulation and the Bureau of Automotive Repair, prepare SIP elements and submit them to CARB for review and approval. The CARB then forwards SIP revisions to the USEPA for approval and publication in the *Federal Register*. All of the items included in the California SIP are listed in the Code of Federal Regulations (CFR) at 40 CFR 52.220.

As the regional air quality management district, the SCAQMD is responsible for preparing and implementing the portion of the SIP applicable to the Basin. The air pollution control district for each county adopts rules, regulations, and programs to attain federal and state

air quality standards, and appropriates money (including permit fees) to achieve these objectives.

### 4.3.2.3 Regional Air Quality Regulations

#### a. South Coast Air Quality Management District

The SCAQMD is the air pollution control agency in the Basin. The role of the local SCAQMD is to protect the people and the environment of the Basin from the effects of air pollution. SCAQMD shares responsibility with CARB for ensuring that NAAQS and CAAQS are achieved and maintained within the Basin. As the SCAQMD is designated as a nonattainment area for state air quality standards for 8-hour ozone, PM<sub>10</sub>, and PM<sub>2.5</sub>, SCAQMD periodically prepares air quality management plans (AQMPs) outlining measures to reduce these pollutants. The most recent AQMP is the *2016 Air Quality Management Plan* (2016 AQMP).

#### b. SCAQMD Amicus Brief

A recent Supreme Court of California decision, *Sierra Club v. County of Fresno* (2019) 6 Cal. 5th 502 (“Friant Ranch”; California Supreme Court 2019), found that the EIR prepared for the Friant Ranch Specific Plan was inadequate because it did not relate the expected adverse air quality impacts to likely health consequences, or explain why it was not feasible to provide such an analysis. In response, the SCAQMD has provided amicus briefs explaining the difficulties in providing correlation between regional pollutant emissions and human health. Since the project would result in emissions of criteria pollutants, the California Supreme Court decision and the SCAQMD’s amicus briefs are relevant to the project.

The California Supreme Court conceded that an explanation of the connection between an individual project’s pollutant emissions in excess of thresholds and human health effects may not be possible given the current state of environmental science modeling. However, the California Supreme Court concluded that the Friant Ranch Project EIR itself must explain, in a manner reasonably calculated to inform the public, the scope of what is, and is not yet known, about the effect of the project’s significant and unavoidable air quality impacts on human health. The specific language provided by the Court is provided below.

The EIR fails to provide an adequate discussion of health and safety problems that will be caused by the rise in various pollutants resulting from the Project’s development. At this point, we cannot know whether the required additional analysis will disclose that the Project’s effects on air quality are less than significant or unavoidable, or whether that analysis will require reassessment of proposed mitigation measures. Absent an analysis that reasonably informs the public how anticipated air quality effects will adversely affect human health, an EIR may still be sufficient if it adequately explains why it is not scientifically feasible at the time of drafting to provide such an analysis.

With regard to the analysis of air quality-related health impacts, the SCAQMD has stated that “EIRs must generally quantify a project’s pollutant emissions, but in some cases it is not feasible to correlate these emissions to specific, quantifiable health impacts (e.g., premature mortality; hospital admissions).” In such cases, a general description of the adverse health impacts resulting from the pollutants at issue may be sufficient.

The SCAQMD has further stated that from a scientific standpoint, it takes a large amount of additional precursor emissions to cause a modeled increase in ambient ozone levels over an entire region. SCAQMD further acknowledges that it may be feasible to analyze air quality related health impacts for projects on a regional scale with very high emissions of oxides of nitrogen (NO<sub>x</sub>) and volatile organic compounds (VOCs), where impacts are regional. The example SCAQMD provided was for proposed Rule 1315, which authorized various newly permitted sources to use offsets from the SCAQMD’s “internal bank” of emission reductions. The California Environmental Quality Act (CEQA) analysis accounted for essentially all of the increases in emissions due to new or modified sources in the District between 2010 and 2030, or approximately 6,620 pounds per day of NO<sub>x</sub> and 89,947 pounds per day of VOC, to expected health outcomes from ozone and particulate matter (e.g., 20 premature deaths per year and 89,947 school absences in the year 2030 due to ozone).

### **c. Multiple Air Toxics Exposure Study**

The Multiple Air Toxics Exposure Study (MATES) is a monitoring and evaluation study conducted in the Basin. The MATES IV study, which is an update of previous studies, includes a fixed site monitoring program with 10 stations, an inventory of TACs, and a modeling effort to characterize risk across the Basin. The purpose of the MATES IV fixed site monitoring is to characterize long-term regional air toxics levels in residential and commercial areas. MATES IV predicts that the excess cancer risk for the Planning Area ranges from 500 to 800 in a million (SCAQMD 2015). The MATES IV study represents the baseline health risk for a cumulative analysis. The MATES V update is currently being conducted (SCAQMD 2017).

## **4.3.3 Methodologies for Determining Impacts**

### **4.3.3.1 Construction Emissions**

Construction-related activities are temporary, short-term sources of air emissions. Sources of construction-related air emissions include the following:

- Fugitive dust from grading activities;
- Construction equipment exhaust;
- Construction-related trips by workers, delivery trucks, and material-hauling trucks; and
- Construction-related power consumption.

Air pollutants generated by future development within the Planning Area would vary depending upon the number of projects occurring simultaneously and the size of each

individual project. The exact number and timing of all development projects that could occur under project buildout are unknown. As such, construction-related emissions cannot be accurately determined at the program level of analysis. However, typical construction emissions associated with a typical project that could be developed were calculated to illustrate the potential construction-related air quality impacts that could occur. The project would primarily focus development and redevelopment within Concept Areas that would create mixed-use activity centers. The hypothetical project analyzed is a five-acre mixed-use development consisting of the demolition of a 20,000-square-foot structure and the construction of 300 multi-family residential units and 10,000 square feet of retail uses.

Construction emissions were calculated using CalEEMod 2016.3.2 (CAPCOA 2017). The CalEEMod program is a tool used to estimate air emissions resulting from land development projects based on California-specific emission factors. The model estimates mass emissions from two basic sources: construction sources and operational sources (i.e., area and mobile sources). CalEEMod can estimate the required construction equipment when project-specific information is unavailable. The estimates are based on surveys performed by the SCAQMD and the Sacramento Metropolitan Air Quality Management District (SMAQMD) of typical construction projects, which provide a basis for scaling equipment needs and schedule with a project's size. Air emission estimates in CalEEMod are based on the duration of construction phases; construction equipment type, quantity, and usage; grading area; season; and ambient temperature, among other parameters.

As the project does not specifically identify any specific development project, CalEEMod default estimates were used to develop the construction scenarios. Where applicable, inputs were modified to reflect local ordinances and regulations. Construction operations are subject to the requirements established by the SCAQMD including Rule 403, Fugitive Dust. Rule 403 requires the use of best available control measures for fugitive dust. CalEEMod modeling output files for construction activities are included in Appendix B.

### 4.3.3.2 Operational Emissions

Operation emissions are long-term and include mobile, energy, and area sources. Sources of operational emissions associated with future development under the project include the following:

- Vehicle traffic;
- Natural gas consumption; and
- Area sources including architectural coatings, consumer products, fireplaces, and landscaping equipment.

Air pollutants generated by all land uses within the Planning Area were calculated for the existing condition and for buildout of the 2021 GPU and existing 2006 General Plan in year 2040. Actual emissions would vary depending on future projects and regulations within the GPU.

Vehicle traffic is the main source of emissions in the Planning Area. Regional mobile-source emissions were estimated based on CARB's Emission Factor model (EMFAC2021; CARB

2021) and the VMT for the Planning Area (Fehr & Peers 2021). The Planning Area generates 3,144,986 VMT in the existing condition, and buildout of the existing 2006 General Plan would generate 4,566,084 VMT. In comparison, buildout of the project would generate 4,524,038 VMT, which would be less than buildout of the existing 2006 General Plan. The project would achieve this reduction in VMT by primarily focusing future development and redevelopment within the proposed Concept Areas, which would reduce reliance on vehicular travel compared to the existing 2006 General Plan. Therefore, the project would generate less VMT compared to buildout of the existing 2006 General Plan.

An area source associated with development includes natural gas used in space and water heating. Existing and future residential and non-residential natural gas use was calculated as a part of the GHG inventory and projections prepared in conjunction with the CAP. Existing energy consumption data for residential, commercial, and industrial sectors were obtained from the Southern California Gas Company. Residential, commercial, and industrial natural gas consumption was projected to year 2040 based on the existing 2006 General Plan and proposed 2021 GPU land uses and population projections, and applied energy savings associated with implementation of Title 24 standards in newly constructed buildings. Criteria pollutant emissions resulting from natural gas combustion were then calculated using USEPA AP-42 emission factors.

Other area sources of emissions associated with development include architectural coatings, consumer products, and landscape equipment. Emissions due to these area sources were calculated using CalEEMod 2016.3.2. All CalEEMod defaults associated with these area sources were used.

### **4.3.4 Basis for Determining Significance**

Thresholds used to evaluate impacts to air quality are based on applicable criteria in the CEQA Guidelines (California Code of Regulations Sections 15000-15387), Appendix G. A significant impact would occur if the project would:

- 1) Conflict with or obstruct implementation of the applicable air quality plan;
- 2) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standards;
- 3) Expose sensitive receptors to substantial pollutant concentrations; or
- 4) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

#### **4.3.4.1 SCAQMD Significance Thresholds**

As discussed previously, the SCAQMD is the air pollution control agency responsible for protecting the people and the environment of the Basin from the effects of air pollution. Accordingly, the City evaluates project air quality emissions based on the quantitative

emission thresholds originally established in the SCAQMD's CEQA Air Quality Handbook (SCAQMD 1993, 2019).

### a. Regional Significance Thresholds

SCAQMD has adopted regional construction and operational emissions thresholds to determine a project's cumulative impact on air quality in the Basin. SCAQMD's significance thresholds for impacts to regional air quality are shown in Table 4.3-3.

Pollutant	Emissions (pounds)	
	Construction	Operational
Oxides of Nitrogen (NO <sub>x</sub> )	100	55
Volatile Organic Compounds (VOC)	75	55
Coarse Particulate Matter (PM <sub>10</sub> )	150	150
Fine Particulate Matter (PM <sub>2.5</sub> )	55	55
Oxides of Sulfur (SO <sub>x</sub> )	150	150
Carbon Monoxide (CO)	550	550
Lead (Pb)*	3	3
SOURCE: SCAQMD Air Quality Significance Thresholds (SCAQMD 2019).		

Projects that exceed the regional significance threshold contribute to the nonattainment designations of the Basin. The attainment designations are based on the AAQS, which are set at levels of exposure that are determined to not result in adverse health effects. Projects that do not exceed the regional significance thresholds in Table 4.3-3 would not violate any air quality standards or contribute substantially to an existing or projected air quality violation.

### b. Localized Significance Thresholds

The SCAQMD's Final Localized Significance Threshold (LST) Methodology was developed as a tool to assist lead agencies to analyze localized air quality impacts to sensitive receptors in the vicinity of the project (SCAQMD 2008). Emissions of NO<sub>2</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub> generated at a project site could expose sensitive receptors to substantial concentrations of criteria air pollutants. Off-site mobile-source emissions are not included in the LST analysis. A project would generate a significant impact if it generates emissions that would violate the NAAQS or CAAQS (see Table 4.3-2) when added to the local background concentrations.

## 4.3.5 Impact Analysis

### 4.3.5.1 Topic 1: Air Quality Plans

*Would the project conflict with or obstruct implementation of the applicable air quality plan?*

The California CAA requires air basins that are designated nonattainment of state AAQS for criteria pollutants prepare and implement plans to attain the standards by the earliest practicable date. The Basin is designated as in attainment or unclassifiable attainment

(expected to be meeting the standard despite a lack of monitoring data) for all federal air quality standards except for the 8-hour ozone and PM<sub>2.5</sub> standards. The Basin is also designated as in nonattainment for state air quality standards for 8-hour ozone and PM<sub>2.5</sub>, and additionally is in nonattainment of state PM<sub>10</sub> standards. The regional air quality plan, the 2016 AQMP, outlines measures to reduce emissions of ozone and PM<sub>2.5</sub>. Reducing PM concentrations is achieved by reducing emissions of PM<sub>2.5</sub> to the atmosphere, reducing ozone concentrations is achieved by reducing the precursors of photochemical formation of ozone, VOC, and NO<sub>x</sub>.

The growth forecasting for the AQMP is based in part on the land uses established by local general plans. These emissions budgets are used in statewide air quality attainment planning efforts. As such, projects that propose development at an intensity equal to or less than population growth projections and land use intensity are inherently consistent with the AQMP. Amending the adopted land uses to change development potential would not necessarily result in an inconsistency between the current air quality plans (that are based on the existing 2006 General Plan) and the proposed 2021 GPU. Projects that propose a different land use than is identified in the local general plan may also be considered consistent with the AQMP if the proposed land use is less intensive than buildout under the current designation. For projects that propose a land use that is more intensive than the current designation, analysis that is more detailed is required to assess conformance with the AQMP. Consistency with the AQMP is further evaluated by comparing emissions that would occur under buildout of the existing 2006 General Plan to the emissions that would occur under buildout of the proposed 2021 GPU.

The two principal criteria for conformance with an AQMP are:

1. Whether the project would exceed the assumptions in the AQMP.
2. Whether the project would result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timeline attainment of air quality standards.

When compared to the existing 2006 General Plan, the project would increase the number multi-family residential units and decrease the number of single-family units, while maintaining the same total number of residential units within the Planning Area. The project would also decrease the amount of commercial and industrial space compared to the existing 2006 General Plan. Overall, buildout of the project would result in a decrease in service population within the Planning Area compared to buildout of the existing 2006 General Plan. The county-wide population would be the same under buildout of both the project and existing 2006 General Plan. Additionally, buildout of the existing 2006 General Plan would generate 4,566,084 VMT, while buildout of the project would generate 4,524,038 VMT, a decrease of 42,046 miles. The project would focus development primarily into Concept Areas, creating mixed-use activity centers that are pedestrian-friendly, centers of community, and linked to the regional transit system. Implementation of this land use pattern decreases VMT and reduces mobile emissions.

Operational emissions were calculated using the methodology discussed in Section 4.3.3. Existing and future emissions are summarized in Table 4.3-4. Calculations are provided in Appendix B.

<b>Table 4.3-4 Total Operational Emissions for the Planning Area</b>						
Source	Pollutant (pounds per day)					
	ROG	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>EXISTING BASELINE (2018)</b>						
Area	2,521	53	4,599	<1	25	25
Energy	82	739	559	4	57	57
Mobile	289	3,161	9,856	29	223	107
<b>TOTAL</b>	<b>2,892</b>	<b>3,953</b>	<b>15,014</b>	<b>34</b>	<b>305</b>	<b>189</b>
<b>EXISTING 2006 GENERAL PLAN (2040)</b>						
Area	4,969	73	6,365	<1	35	35
Energy	121	1,082	796	7	84	84
Mobile	67	887	5,096	31	254	91
<b>TOTAL</b>	<b>5,157</b>	<b>2,032</b>	<b>12,257</b>	<b>38</b>	<b>373</b>	<b>210</b>
<b>PROPOSED 2021 GPU (2040)</b>						
Area	4,276	73	6,363	<1	35	35
Energy	117	1,050	784	6	81	81
Mobile	67	869	5,049	31	252	90
<b>TOTAL</b>	<b>4,460</b>	<b>1,993</b>	<b>12,196</b>	<b>38</b>	<b>368</b>	<b>207</b>
<i>Change (Proposed GPU – Adopted General Plan)</i>	<i>-697</i>	<i>-39</i>	<i>-61</i>	<i>0</i>	<i>-5</i>	<i>-3</i>

As shown in Table 4.3-4, buildout of the 2021 GPU would result in a decrease in emissions when compared to buildout of the existing 2006 General Plan. Therefore, buildout of the project would not exceed the assumptions used to develop the AQMP, and the project would not result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timeline attainment of air quality standards. Therefore, the project would not conflict with implementation of the AQMP, and impacts would be less than significant.

#### 4.3.5.2 Topic 2: Criteria Pollutants

*Would the result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standards?*

Air quality impacts can result from the construction and operation of a project. Construction impacts are short-term and result from fugitive dust, equipment exhaust, and indirect effects associated with construction workers and deliveries. Operational impacts can occur on two levels: regional impacts resulting from development or local effects stemming from sensitive receivers being placed close to roadways or stationary sources. In the case of the project, operational impacts would primarily be due to emissions from mobile sources associated with vehicular travel along the roadways.

### a. Construction

As discussed in Section 4.3.3.1 above, a five-acre mixed-use development project consisting of the demolition of a 20,000-square-foot structure and the construction of 300 multi-family residential units and 10,000 square feet of retail uses was modeled to illustrate potential construction-related air quality impacts associated with future development under the project. The results are summarized in Table 4.3-5. CalEEMod output is contained in Appendix B.

Construction Phase	Pollutant (pounds per day)					
	ROG	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition	3	27	21	<1	2	1
Site Preparation	3	33	20	<1	20	11
Grading	2	21	16	<1	8	4
Building Construction/ Architectural Coatings	20	21	26	<1	4	2
Paving	1	10	15	<1	1	1
<b>Maximum Daily Emissions</b>	<b>20</b>	<b>33</b>	<b>26</b>	<b>&lt;1</b>	<b>20</b>	<b>11</b>
<i>SCAQMD Significance Threshold</i>	<i>75</i>	<i>100</i>	<i>550</i>	<i>150</i>	<i>150</i>	<i>55</i>

Note that the emissions summarized in Table 4.3-5 are the maximum emissions for each pollutant and that they may occur during different phases of construction. They would not necessarily occur simultaneously. For assessing the significance of the air quality emissions resulting during construction of the hypothetical 5-acre mixed-use project, the construction emissions were compared to the SCAQMD Significance Thresholds. As shown in Table 4.3-5, the 5-acre mixed-use project would not result in air emissions that would exceed the applicable thresholds. However, if several of these projects were to occur simultaneously, there is the potential to exceed significance thresholds.

The Open Space and Resource Conservation Element of the 2021 GPU addresses the implementation of Construction Best Management Practices at all construction sites consistent with SCAQMD rules and regulations. The following regulatory requirements would be required for all construction activities:

- Construction activities will be conducted in compliance with California Code of Regulations, Title 13, Section 2449, which requires that nonessential idling of construction equipment is restricted to five minutes or less.
- Construction activities will be conducted in compliance with any applicable SCAQMD rules and regulations, including but not limited to:
  - Rule 403, Fugitive Dust, for controlling fugitive dust and avoiding nuisance.
  - Rule 402, Nuisance, which states that a project shall not “discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose,

- health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.”
- Rule 1113, which limits the volatile organic compound content of architectural coatings.
  - Rule 1466, Soil Disturbance. Projects that involve earth-moving activities of more than 50 cubic yards of soil with applicable toxic air contaminants are subject to this rule.

The modeled project is illustrative only. Approval of the project would not specifically permit the construction of an individual project, and no specific development details are available at this program level of analysis. The thresholds presented above would be applied to future development within the Planning Area on a project-by-project basis and are not used for assessment of regional planning impacts. The information is presented to illustrate the potential scope of air impacts for a site-specific project that could be developed in the future. Additionally, the regulations at the federal, state, and local level provide a framework for developing project-level air quality protection measures for future projects. The City’s process for the evaluation of future development implemented under the project, which could include site-specific projects that are larger than the one evaluated in this analysis, would include environmental review and documentation pursuant to CEQA, as well as an analysis of those site-specific projects for consistency with the goals, policies and recommendations of the 2021 GPU. In addition to regulatory measures outlined above, mitigation imposed at the project-level may include extension of construction schedules and/or use of special equipment and emission control measures.

While individual site-specific projects may not exceed the SCAQMD regional significance thresholds, the scale and extent of construction activities associated with buildout of the Planning Area may result in some instances where future development would exceed the relevant SCAQMD thresholds. Therefore, construction-related regional air quality impacts would be potentially significant

## **b. Operation**

Pollutant emissions from buildout of all land uses within the Planning Area would far exceed project-level SCAQMD Significance Thresholds (see Table 4.3-3). However, project-level standards are not appropriate for a program-level analysis, as the thresholds are conservative and intended to ensure many individual projects would not obstruct the timely attainment of the national and state ambient air quality standards. Generally, discretionary, program-level planning activities, such as general plans, community plans, specific plans, etc., are evaluated for consistency with the local air quality plan. In contrast, project-level thresholds are applied to individual project-specific approvals, such as a proposed development project. Therefore, the analysis of the project is based on the future emissions estimates and related to attainment strategies derived from the existing 2006 General Plan. At the program level, the analysis compares emissions generated by project buildout to emissions generated under buildout of the existing 2006 General Plan to determine if the emissions would exceed the emissions estimates included in the AQMP, and to determine whether it would obstruct attainment, or result in an exceedance of AAQS, that would result

in the temporary or permanent exposure of persons to unhealthy concentrations of pollutants. As such, this analysis evaluates the potential for future development within the city to result in a cumulatively considerable net increase in emissions based on the change in pollutant emissions that would result from buildout of the existing 2006 General Plan in the year 2040 compared to the proposed 2021 GPU in the year 2040. Emissions are summarized in Table 4.3-4. As shown, buildout of the 2021 GPU would result in a decrease in emissions compared to buildout of the existing 2006 General Plan.

The regulations at the federal, state, and local levels provide a framework for developing project-level air quality protection measures for future site-specific projects that could be developed in the future. The City's process for evaluation of future development that could be implemented under the project would also include environmental review and documentation pursuant to CEQA, as well as an analysis of those site-specific projects for consistency with the goals, policies, and recommendations of the 2021 GPU. The 2021 GPU includes key goals to increase the use of public transit, improve traffic congestion, and enhance the range of transportation options in the City and reduce VMT, thereby reducing mobile emissions and improve air quality. Additionally, the CAP includes a number GHG reduction goals that would also reduce emission of criteria pollutants. These measures are discussed in detail in Section 4.8. In general, implementation of the policies in the 2021 GPU would reduce air quality impacts through implementation of 2021 GPU policies and actions as well as the proposed CAP reduction measures. The project would not conflict with implementation of the AQMP, and emissions associated with project buildout would be less than emissions associated with buildout of the existing 2006 General Plan. Therefore, the project would not result in a cumulatively considerable net increase in any criteria pollutant, and impacts would be less than significant.

### 4.3.5.3 Topic 3: Sensitive Receptors

*Would the project expose sensitive receptors to substantial pollutant concentrations?*

#### a. Localized Carbon Monoxide Hot Spots

A CO hot spot is an area of localized CO pollution that is caused by severe vehicle congestion on major roadways, typically near congested intersections where idling and queuing occurs. Due to increased requirements for cleaner vehicles, equipment, and fuels, CO levels in the state have dropped substantially. All air basins are attainment or maintenance areas for CO. In 2007, the Basin was designated in attainment for CO under both the CAAQS and NAAQS. The CO hotspot analysis conducted by the SCAQMD for the CO attainment did not predict a violation of CO standards at the busiest intersections in Los Angeles during the peak morning and afternoon periods. The SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for CO indicate that peak CO concentrations in the years before the attainment redesignation were a result of unusual meteorological and topographical conditions and not of congestion at a particular intersection (SCAQMD 1992, 2003). Under existing and future vehicle emission rates, the Bay Area Air Quality Management District found that a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order

to generate a significant CO impact (Bay Area Air Quality Management District 2017). The project would not result in an increase in traffic at any intersection that would exceed these volumes described above. Therefore, the project would not expose sensitive receptors to substantial pollutant concentrations associated with CO hot spots, and impacts would be less than significant.

## **b. Toxic Air Emissions**

### ***Construction***

Construction of future development and associated infrastructure implemented under the project would result in short-term diesel exhaust emissions from on-site heavy-duty equipment. Construction would result in the generation of diesel- exhaust diesel particulate matter (DPM) emissions from the use of off-road diesel equipment required for site grading and excavation, paving, and other construction activities and on-road diesel equipment used to bring materials to and from project sites.

Generation of DPM from construction projects typically occurs in a single area for a short period. According to the Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project (Office of Environmental Health Hazard Assessment 2015). Therefore, if the duration of proposed construction activities near any specific sensitive receptor were a year, the exposure would be three percent of the total exposure period used for health risk calculation.

Considering this information, the highly dispersive nature of DPM, and the fact that construction activities would occur intermittently and at various locations over the lifetime of project buildout, DPM generated by construction is not expected to create conditions where the probability is greater than 10 in 1 million of developing cancer for the Maximally Exposed Individual, or to generate ground-level concentrations of non-carcinogenic TACs that exceed a Hazard Index greater than 1 for the Maximally Exposed Individual. Additionally, with ongoing implementation of USEPA and CARB requirements for cleaner fuels; off-road diesel engine retrofits; and new, low-emission diesel engine types; the DPM emissions of individual equipment would be substantially reduced over the years as project buildout continues. Therefore, the project would not expose sensitive receptors to toxic air emissions during construction of future development within the Planning Area, and impacts would be less than significant.

### ***Stationary Sources***

The project includes land uses that may generate air pollutants affecting adjacent sensitive land uses. In air quality terms, individual land uses that emit air pollutants in sufficient quantities are known as stationary sources. The primary concern with stationary sources is local; however, they also contribute to air pollution in the Basin. Various industrial and commercial processes (e.g., manufacturing, dry cleaning) allowed under the proposed 2021 GPU land use plan would be expected to release TACs. Industrial land uses, such as chemical processing facilities, chrome-plating facilities, dry cleaners, and gasoline-dispensing

facilities, have the potential to be substantial stationary sources that would require a permit from the SCAQMD. These types of uses would largely be located within areas designated within the Industrial zoning designation in the western portion of the city, or the Industrial designation of the Moreno Valley Industrial Area Specific Plan in the southern portion of the city east of March Air Reserve Base (subject to airport land use compatibility requirements). With proximity to residential, the Business Flex use, which would be located on the north side of Alessandro Boulevard, would allow warehousing and some manufacturing but only with indoor operations so it is not anticipated that uses such as a chemical processing facility or chrome plating facility would be permitted. Emissions of TACs would be regulated by SCAQMD through permitting and would be subject to further study and health risk assessment prior to the issuance of any necessary air quality permits under SCAQMD Rule 1401.

The California Air Toxics Program establishes the process for the identification and control of TACs and includes provisions to make the public aware of significant toxic exposures and for reducing risk. In accordance with AB 2588, if adverse health impacts exceeding public notification levels are identified, the facility would provide public notice, and if the facility poses a potentially significant public health risk, the facility would be required to submit a risk reduction audit and plan to demonstrate how the facility would reduce health risks. Therefore, adherence with this regulatory framework would ensure that future development would not expose sensitive receptors to TACs associated with stationary sources within the Planning Area, and impacts would be less than significant.

### ***Mobile Sources***

In April 2005, CARB published the Air Quality and Land Use Handbook: A Community Health Perspective (CARB 2005). The handbook makes recommendations directed at protecting sensitive land uses from air pollutant emissions, while balancing a myriad of other land use issues (e.g., housing, transportation needs, economics, etc.). It notes that the handbook is not regulatory or binding on local agencies and recognizes that application takes a qualitative approach. As reflected in the CARB Handbook, there is currently no adopted standard for the significance of health effects from mobile sources. Therefore, the CARB has provided guidelines for the siting of land uses near heavily traveled roadways. Of pertinence to this impact analysis, the CARB guidelines indicate that siting new sensitive land uses within 500 feet of a freeway or urban roads with 100,000 or more vehicles/day should be avoided when possible.

I-215 extends north-south along the western city boundary and SR-60 extends east-west through the center of the Planning Area. There are currently two residential use areas within the city that are located within 500 feet of I-215 – the multi-family uses adjacent to Box Springs Road and Morton Road and the single family residential uses located adjacent to Old 215 Frontage Road between Eucalyptus Avenue and Dracaea Avenue. The project would not change the land use designations of these residential areas, and none of the proposed land uses changes would place new residential uses within 500 feet of I-215. There are existing residential uses located along the SR-60 corridor within 500 feet of SR-60, and the project

would introduce mixed-use and residential density changes along this corridor within 500 feet of SR-60.

However, CARB notes that these recommendations are advisory and should not be interpreted as defined “buffer zones,” and that local agencies must balance other considerations such as transportation needs, the benefits of urban infill, community economic development priorities, and other quality-of-life issues. With careful evaluation of exposure, health risks, and affirmative steps to reduce risk, where necessary, CARB’s position is that infill development, mixed use, higher density, transit-oriented development, and other concepts that benefit regional air quality can be compatible with protecting the health of individuals at the neighborhood level. Additionally, measures can be incorporated into future site-specific project design that would reduce the level of exposure for future residents. The CAPCOA published a guidance document, *Health Risk Assessments for Proposed Land Use Projects*, which provides recommended measures that reduce concentrations of DPM (CAPCOA 2009). These include planting vegetation between the receptor and the freeway, constructing barriers between the receptor and the freeway, and installing newer electrostatic filters in adjacent receptor buildings. One goal of the Environmental Justice Element of the proposed 2021 GPU is to reduce pollution exposure and improve community health. To achieve this goal, the 2021 GPU proposes the following:

- Strategies to address air and water quality, hazardous materials remediation;
- Encourage healthy development features in private development projects to assist private development with tools to promote health and quality of life; and
- Explore buffering of residential and mixed use development adjacent to freeways, major roadways, and industrial uses consistent with State regulations.

Additionally, a goal of the Open Space and Resource Conservation Element is to minimize air, soil, and water pollution as well as community exposure to hazardous conditions. To achieve this goal, the 2021 GPU proposes the following:

- Buffering and air filtration in residential buildings on high-traffic corridors, consistent with State standards.

Consistent with the goals of CARB’s handbook, the 2021 GPU proposes goals and policies that would ensure that site-specific planning and building design of future development would minimize exposure of sensitive receptors to mobile source emissions. Therefore, the project would not expose sensitive receptors to substantial pollutant concentrations associated with mobile source emissions and impacts would be less than significant.

#### **4.3.5.4 Topic 4: Odor**

*Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

A potential odor impact can occur from two different situations: (1) the project would introduce receptors (people) in a location where they would be affected by an existing or future planned odor source, or (2) future land uses would generate odors that could adversely affect a substantial number of persons.

Emissions from construction equipment, such as diesel exhaust, and VOCs from architectural coatings and paving activities may generate odors; however, these odors would be temporary, intermittent, and not expected to affect a substantial number of people. Additionally, noxious odors would be confined to the immediate vicinity of construction equipment. By the time such emissions reach any sensitive receptor sites, they would be diluted to well below any level of air quality concern. Furthermore, short-term construction-related odors are expected to cease upon the drying or hardening of the odor-producing materials. Therefore, construction would not result in emissions (such as those leading to odors) adversely affecting a substantial number of people, and impacts would be less than significant.

The type of facilities that are considered to generate objectionable odors during operation include wastewater treatments plants, landfills, and paint/coating operations (e.g., auto body shops), among others. The project would allow for development of a variety of land uses within the Planning Area. While specific developments within the Planning Area are not known at this program level of analysis, planned land uses would not encourage or support uses that would be associated with significant odor generation. The proposed land use plan was developed based on the existing nature of the Planning Area, which includes residential uses in close proximity to commercial areas. Odor generation is generally confined to the immediate vicinity of the source. A typical use in the Planning Area that would generate odors would be restaurants, which can create odors from cooking activities that would not generally be considered adverse. Odors associated with future development would be similar to existing uses throughout the Planning Area. Furthermore, objectionable odors associated with future development may be reported to the SCAQMD, which resolves complaints through investigation within one business day of the received complaint, and issuance of Notices to Comply/Notices of Violation, when necessary. Therefore, design of the project's proposed land use map and adherence to existing regulations would ensure that future development would not result in emissions (such as those leading to odors) adversely affecting a substantial number of people, and impacts would be less than significant.

## **4.3.6 Cumulative Analysis**

### **4.3.6.1 Topic 1: Air Quality Plans**

The cumulative study area would be considered the Basin. The project level analysis presented in Section 4.3.5.1 evaluated project consistency with the AQMP. This impact analysis was cumulative in nature because it considers project consistency with a regional air quality plan that relies on the land use plans of jurisdictions within the Basin. As discussed in Section 4.3.5.1 above, the project buildout would generate fewer emissions compared to the existing 2006 General Plan. The project would not exceed the assumptions used to develop the AQMP, and the project would not result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay

timeline attainment of air quality standards. Therefore, the project would not contribute to a cumulative impact related to conflicts with an applicable air quality plan.

### **4.3.6.2 Topic 2: Criteria Pollutants**

#### **a. Construction**

The cumulative study area related to criteria pollutants would be the Planning Area. As discussed in Section 4.5.3.2.a above, the City's process for the evaluated future development implemented under the project would include environmental review and documentation pursuant to CEQA, as well as an analysis of those site-specific projects for consistency with the goals, policies and recommendations of the 2021 GPU. While individual site-specific projects may not exceed the SCAQMD regional significance thresholds, the scale and extent of construction activities associated with buildout of the Planning Area may result in some instances where future development would exceed the relevant SCAQMD thresholds. Therefore, cumulative construction-related regional air quality impacts would be potentially significant.

#### **b. Operation**

Regarding operational emissions, for purposes of this program level analysis, consistency with the AQMP was considered the applicable threshold since the SCAQMD's project specific air quality impact screening levels shown in Table 4.3-3 would not be applicable to a community wide plan update. As discussed in Section 4.3.5.2.b above, project buildout would generate fewer emissions than what was used in the assumptions used to develop the AQMP. Therefore, the project would not contribute to a cumulative operational impact associated criteria pollutants.

### **4.3.6.3 Topic 3: Sensitive Receptors**

The cumulative study area for potential impacts associated with sensitive receptors would be the Planning Area.

#### **a. CO Hot Spots**

As discussed in Section 4.3.5.3 above, project buildout is not anticipated to result in a CO hot spot. Since CO hot spots are a localized phenomenon, the project would not contribute to a cumulative impact related to exposure of sensitive receptors to substantial pollutant concentrations associated with CO hot spots.

#### **b. Toxic Air Emissions**

##### ***Construction***

Considering the highly dispersive nature of DPM and the fact that construction activities would occur intermittently and at various locations over the lifetime of project buildout, construction of future development would not expose sensitive receptors to substantial DPM

concentrations. Therefore, the project would not contribute to a cumulative impact related to exposure of sensitive receptors to substantial pollutant concentrations associated with DPM concentrations.

### ***Stationary Sources***

As discussed in Section 4.3.5.3 above, emissions of TACs from permitted stationary sources would be controlled by SCAQMD through permitting and would be subject to further study and health risk assessment prior to the issuance of any necessary air quality permits under SCAQMD Rule 1401. These requirements would extend to land uses within the Planning Area in addition to land uses within the Basin as a whole. Therefore, existing laws are in place that require evaluation and reduction of risks for individual projects developed in accordance with applicable and use plans. Site-specific evaluation of health risks associated with stationary sources cannot be conducted at a program level of review, as the project does not include specific development proposals. Nevertheless, compliance with existing regulations would ensure that the project would not contribute to a cumulative impact related to exposure of sensitive receptors to TACs associated with stationary sources.

### ***Mobile Sources***

Development of cumulative projects within the Planning Area would not exacerbate health effects since the evaluation is location specific considering exposure to contaminants at a specific location. Therefore, the project would not contribute to a cumulative impact related to exposure of sensitive receptors to substantial pollutant concentrations associated with mobile source emissions.

## **4.3.6.4 Topic 4: Odor**

For purposes of odor impacts, the cumulative study area would be the Planning Area. The project level analysis presented in Section 4.3.5.4 above evaluated impacts associated with project buildout, and therefore was cumulative in nature. This analysis determined that implementation of the project would not result in a significant cumulative odor impact. Additionally, odors are typically confined to the immediate area surrounding their source, and therefore would not combine with other sources of odor to produce a cumulative impact. Therefore, the project would not contribute to a cumulative impact related to emissions (such as those leading to odors) adversely affecting a substantial number of people.

## **4.3.7 Significance of Impacts before Mitigation**

### **4.3.7.1 Topic 1: Air Quality Plans**

The project would not exceed the assumptions used to develop the AQMP, and the project would not result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timeline attainment of air quality standards. Therefore, the project would not conflict with implementation of the AQMP, and impacts would be less than significant.

### 4.3.7.2 Topic 2: Criteria Pollutants

#### a. Construction

The scale and extent of construction activities associated with buildout of the Planning Area could exceed the relevant SCAQMD thresholds for some projects. Construction impacts would be potentially significant.

#### b. Operation

The project would not conflict with implementation of the AQMP, and emissions associated with project buildout would be less than emissions associated with buildout of the existing 2006 General Plan. Therefore, the operation of the project would not result in a cumulatively considerable net increase in emissions, and impacts would be less than significant.

### 4.3.7.3 Topic 3: Sensitive Receptors

#### a. CO Hot Spots

The project would not result in an increase in traffic volumes at any intersection that would create or contribute to a CO hot spot. Therefore, the project would not expose sensitive receptors to substantial pollutant concentrations associated with CO hot spots, and impacts would be less than significant.

#### b. Toxic Air Emissions

##### *Construction*

Considering the highly dispersive nature of DPM, ongoing implementation of USEPA and CARB requirements, and the fact that construction activities would occur intermittently and at various locations over the lifetime of project buildout, construction of future development would not expose sensitive receptors to substantial DPM concentrations. Therefore, the project would not expose sensitive receptors to toxic air emissions, and impacts would be less than significant.

##### *Stationary Sources*

Emissions of TACs would be controlled by SCAQMD through permitting and would be subject to further study and health risk assessment prior to the issuance of any necessary air quality permits under SCAQMD Rule 1401. Therefore, adherence with this regulatory framework would ensure that future development would not expose sensitive receptors to TACs associated with stationary sources within the Planning Area, and impacts would be less than significant.

## **Mobile Sources**

Consistent with the goals of CARB's handbook, the 2021 GPU proposes goals and policies to ensure site-specific planning and building design of future development would minimize exposure of sensitive receptors to mobile source emissions. Therefore, the project would not expose sensitive receptors to substantial pollutant concentrations associated with mobile source emissions, and impacts would be less than significant.

### **4.3.7.4 Topic 4: Odor**

Construction odors would be temporary, intermittent, and not expected to affect a substantial number of people. The project's proposed land use map and adherence to existing regulations would ensure that future development would not result in emissions (such as those leading to odors) adversely affecting a substantial number of people, and impacts would be less than significant.

## **4.3.8 Mitigation**

### **4.3.8.1 Topic 1: Air Quality Plans**

Impacts would be less than significant. No mitigation is required.

### **4.3.8.2 Topic 2: Criteria Pollutants**

#### **a. Construction**

Impacts related to construction emissions would be significant and the following mitigation shall be applied to future development:

**AQ-1:** Applications for future development, wherein the Director of Community Development or his or her designee has determined a potential for air quality impacts associated with construction, shall prepare and submit a technical assessment evaluating potential project construction-related air quality impacts to the City for review and approval. The Director of Community Development or his or her designee shall make this determination based on the size of the project, whether the project would require a transportation impact analysis, or other criteria. The evaluation shall be prepared in conformance with South Coast Air Quality Management District (SCAQMD) methodology for assessing air quality impacts. If construction-related criteria air pollutants are determined to have the potential to exceed the SCAQMD's adopted thresholds of significance, the City shall require that applicants for new development projects incorporate mitigation measures to reduce air pollutant emissions during construction activities. These identified measures shall be incorporated into all appropriate construction documents (e.g., construction management plans) submitted to the City and shall be verified by the City. Mitigation measures to reduce construction-related emissions could include, but are not limited to:

- Require fugitive-dust control measures that exceed SCAQMD's Rule 403 requirements, such as:
  - Use of nontoxic soil stabilizers to reduce wind erosion.
  - Apply water every four hours to active soil-disturbing activities.
  - Tarp and/or maintain a minimum of 24 inches of freeboard on trucks hauling dirt, sand, soil, or other loose materials.
- Use construction equipment rated by the United States Environmental Protection Agency as having Tier 3 (model year 2006 or newer) or Tier 4 (model year 2008 or newer) emission limits, applicable for engines between 50 and 750 horsepower.
- Ensure that construction equipment is properly serviced and maintained to the manufacturer's standards.
- Limit nonessential idling of construction equipment to no more than five consecutive minutes.
- Limit on-site vehicle travel speeds on unpaved roads to 15 miles per hour.
- Install wheel washers for all exiting trucks or wash off all trucks and equipment leaving the project area.
- Use Super-Compliant VOC paints for coating of architectural surfaces whenever possible. A list of Super-Compliant architectural coating manufactures can be found on the SCAQMD's website.

## **b. Operation**

Impacts would be less than significant. No mitigation is required.

### **4.3.8.3 Topic 3: Sensitive Receptors**

Impacts would be less than significant. No mitigation is required.

### **4.3.8.4 Topic 4: Odor**

Impacts would be less than significant. No mitigation is required.

## **4.3.9 Significance of Impacts after Mitigation**

### **4.3.9.1 Topic 1: Air Quality Plans**

Impacts would be less than significant. No mitigation is required.

### **4.3.9.2 Topic 2: Criteria Pollutants**

#### **a. Construction**

Buildout of the project would occur over a period of approximately 20 years or longer. Construction activities associated with buildout of the project could generate short-term emissions that exceed the SCAQMD's significance thresholds during this time and

cumulatively contribute to the nonattainment designations of the Basin. Implementation of mitigation measure AQ-1 would reduce criteria air pollutant emissions from construction-related activities to the extent feasible. However, construction time frames and equipment for site-specific development projects are not available at this time, and there is a potential for multiple development projects to be constructed at one time, resulting in significant construction-related emissions. Therefore, despite adherence to mitigation measure AQ-1, impacts associated with criteria pollutants would remain significant and unavoidable.

### **b. Operation**

Impacts would be less than significant. No mitigation is required.

#### **4.3.9.3 Topic 3: Sensitive Receptors**

Impacts would be less than significant. No mitigation is required.

#### **4.3.9.4 Topic 4: Odor**

Impacts would be less than significant. No mitigation is required.