4.2 Air Quality

This section analyzes the air quality impacts that could result from implementation of the project. This analysis relies on the Irvine General Plan Update Air Quality and Greenhouse Gas Emissions Summary prepared by Urban Crossroads, Inc. (Appendix B).

4.2.1 Existing Conditions

4.2.1.1 South Coast Air Basin

The city of Irvine (City) is located within the South Coast Air Basin (Basin), which is under the jurisdiction of the South Coast Air Quality Management District (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 ($PM_{2.5}$) standards. The Basin is designated as in nonattainment for state air quality standards for 8-hour ozone and $PM_{2.5}$, and additionally is in nonattainment of state 10-micron particulate matter (PM_{10}) standards.

Air quality is commonly expressed as the number of days in which air pollution levels exceed state standards set by California Air Resources Board (CARB) or federal standards set by the U.S. Environmental Protection Agency (U.S. EPA). The SCAQMD maintains 41 active air quality monitoring sites located throughout the Basin. 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 Mission Viejo monitoring station, located approximately three miles east of the City at 26081 Via Pera, and the Anaheim – Pampas Lane monitoring station, located approximately nine miles northwest of the City at 1630 West Pampas Lane. The Mission Viejo monitoring station measures ozone, PM_{10}, and $PM_{2.5}$, and the Anaheim monitoring station measures ozone, nitrogen dioxide (NO_2), PM_{10}, and $PM_{2.5.}$ Table 4.2-1 provides a summary of measurements collected at the Mission Viejo and Anaheim monitoring stations for the years 2018 through 2022.

Table 4.2-1 Summary of Air Quality Measurements Recorded at Mission Viejo and Anaheim Monitoring Stations					
Pollutant/Standard	2018	2019	2020	2021	2022
Mission Viejo Monitoring Station					
Ozone					
Federal Max 8-hr (ppm)	0.088	0.087	0.122	0.081	0.088
Days 2015 Federal 8-hour Standard Exceeded (0.07 ppm)	9	11	32	8	5
Days 2008 Federal 8-hour Standard Exceeded (0.075 ppm)	2	7	25	4	2
State Max 8-hr (ppm)	0.088	0.088	0.123	0.082	0.089
Days State 8-hour Standard Exceeded (0.07 ppm)	10	11	34	8	6
Max. 1-hr (ppm)	0.121	0.106	0.171	0.105	0.110
Days State 1-hour Standard Exceeded (0.09 ppm)	2	3	20	2	1
PM_{10}*					
Federal Max. Daily ($\mu g/m^3$)	55.6	45.1	56.2	35.2	31.0
Measured Days Federal 24-hour Standard Exceeded (150 $\mu g/m^3$)	0	0	0	0	0
Calculated Days Federal 24-hour Standard Exceeded (150 $\mu g/m^3$)	0.0	0.0	--	0.0	--
Federal Annual Average ($\mu g/m^3$)	19.5	17.1	18.3	16.2	12.7
State Max. Daily ($\mu g/m^3$)	55.6	44.2	55.1	34.6	30.4
Measured Days State 24-hour Standard Exceeded (50 $\mu g/m^3$)	1	0	2	0	0
Calculated Days State 24-hour Standard Exceeded (50 $\mu g/m^3$)	6.0	0.0	--	0.0	--
State Annual Average ($\mu g/m^3$)	19.1	16.7	--	15.8	--
$PM_{2.5}$*					
Federal Max. Daily ($\mu g/m^3$)	38.9	20.8	46.6	32.6	22.6
Measured Days Federal 24-hour Standard Exceeded (35 $\mu g/m^3$)	1	0	6	0	0
Calculated Days Federal 24-hour Standard Exceeded (35 $\mu g/m^3$)	--	0.0	6.9	0.0	--
Federal Annual Average ($\mu g/m^3$)	8.5	7.1	10.3	9.3	--
State Max. Daily ($\mu g/m^3$)	38.9	20.8	47.6	32.6	22.6
State Annual Average ($\mu g/m^3$)	--	--	9.3	8.3	--
Anaheim Monitoring Station					
Ozone					
Federal Max 8-hr (ppm)	0.071	0.082	0.097	0.068	0.076
Days 2015 Federal 8-hour Standard Exceeded (0.07 ppm)	1	1	15	0	1
Days 2008 Federal 8-hour Standard Exceeded (0.075 ppm)	0	1	4	0	1
State Max 8-hr (ppm)	0.071	0.082	0.098	0.068	0.077
Days State 8-hour Standard Exceeded (0.07 ppm)	1	1	16	0	1
Max. 1-hr (ppm)	0.112	0.096	0.142	0.089	0.102
Days State 1-hour Standard Exceeded (0.09 ppm)	1	1	6	0	1
NO_2					
Max 1-hr (ppm)	0.0660	0.0594	0.0709	0.0671	0.0530
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)	0.013	0.012	0.013	0.012	0.011
PM_{10}*					
Federal Max. Daily ($\mu g/m^3$)	94.6	127.6	74.8	63.6	67.0
Measured Days Federal 24-hour Standard Exceeded (150 $\mu g/m^3$)	0	0	0	0	0
Calculated Days Federal 24-hour Standard Exceeded (150 $\mu g/m^3$)	0.0	0.0	--	0.0	--
Federal Annual Average ($\mu g/m^3$)	27.9	24.6	30.8	23.4	20.9
State Max. Daily ($\mu g/m^3$)	94.6	127.1	74.5	63.3	66.7
Measured Days State 24-hour Standard Exceeded (50 $\mu g/m^3$)	2	4	5	1	1
Calculated Days State 24-hour Standard Exceeded (50 $\mu g/m^3$)	12.0	24.4	--	5.7	--
State Annual Average ($\mu g/m^3$)	27.7	24.4	--	23.2	--

Table 4.2-1
Summary of Air Quality Measurements Recorded at
Mission Viejo and Anaheim Monitoring Stations

Pollutant/Standard	2018	2019	2020	2021	2022
$PM_{2.5}$*					
Federal Max. Daily (μg/m^3)	63.1	36.1	60.2	54.4	33.1
Measured Days Federal 24-hour Standard Exceeded (35 μg/m^3)	7	4	12	10	0
Calculated Days Federal 24-hour Standard Exceeded (35 μg/m^3)	7.0	4.0	12.0	10.0	0.0
Federal Annual Average (μg/m^3)	11.4	9.3	12.2	11.5	9.8
State Max. Daily (μg/m^3)	68.0	37.1	64.8	54.4	33.1
State Annual Average (μg/m^3)	12.3	9.4	12.4	11.6	9.9

SOURCE: CARB 2024.
ppm = parts per million; μg/m^3 = 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 4.2-1, there are exceedances of ozone, PM_{10}, and $PM_{2.5}$ standards. These exceedances occur throughout the Basin. Due to these exceedances, the Basin is designated as nonattainment for federal 8-hour ozone and $PM_{2.5}$ standards, and nonattainment for state 8-hour ozone, PM_{10}, and $PM_{2.5}$ 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.

4.2.1.2 Regional Climate and Meteorology

The City is located within southern Orange County bordered by Unincorporated Orange County and a number of cities including Tustin, Santa Ana, Lake Forest, Costa Mesa, Newport Beach, Laguna Hills and Laguna Woods. The Santa Ana Mountains are located to the northeast. Air quality in the Basin is influenced by both topographical and meteorological conditions.

The City, like other inland valley areas in southern California, has a Mediterranean climate characterized by warm, dry summers and mild, wet winters. The average annual precipitation is 13 inches, falling primarily from November to April (National Oceanic and Atmospheric Administration 2024). Overall annual temperatures in the project area average about 67 degrees Fahrenheit (°F), winter low temperatures average about 48°F, and summer high temperatures average about 90°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.

4.2.2 Applicable Regulatory Requirements

4.2.2.1 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 U.S. EPA 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_2), NO_2, lead (Pb), and PM_{10} and $PM_{2.5}$. The primary NAAQS 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 4.2-2 (CARB 2016).

4.2.2.2 State Air Quality Regulations

a. California Ambient Air Quality Standards

The U.S. EPA 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 4.2-2). In addition to the federal criteria pollutants, the CAAQS also specify standards for visibility-reducing particles, sulfates, hydrogen sulfide, and vinyl chloride (see Table 4.2-2). 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.

Table 4.2-2
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone[8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.07 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM_{10})[9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		–		
Fine Particulate Matter ($PM_{2.5}$)[9]	24 Hour	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-dispersive Infrared Photometry	35 ppm (40 mg/m^3)	–	Non-dispersive Infrared Photometry
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	–	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		–	–	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemi-luminescence	100 ppb (188 µg/m^3)	–	Gas Phase Chemi-luminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	–	Ultraviolet Fluorescence; Spectro-photometry (Pararosaniline Method)
	3 Hour	–		–	0.5 ppm (1,300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas)[11]	–	
Lead[12,13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	–	–	High Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	–		0.15 µg/m^3		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chroma-tography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chroma-tography			

See footnotes on next page.

Table 4.2-2
Ambient Air Quality Standards

SOURCE: CARB 2016.

ppm = parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter; – = not applicable.

[1] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, particulate matter (PM_{10}, $PM_{2.5}$, 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.

[2] 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 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 µg/m^3 is equal to or less than one. For $PM_{2.5}$, 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 U.S. EPA for further clarification and current national policies.

[3] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°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.

[4] 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.

[5] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[6] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[7] Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

[8] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[9] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standards of 15 µg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[10] 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.

[11] On June 2, 2010, a new 1-hour 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 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.

[12] 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.

[13] The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/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.

[14] 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.

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.

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.

Locally, toxic air pollutants are regulated through the SCAQMD's Regulation XIV. Of particular concern statewide are diesel-exhaust particulate matter emissions. Diesel-exhaust particulate matter was established as a TAC in 1998 and is estimated to represent a majority of the cancer risk from TACs statewide (based on the statewide average). Diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB and are listed as carcinogens either under the state's Proposition 65 or under the federal Hazardous Air Pollutants program.

Following the identification of diesel particulate matter (DPM) as a TAC in 1998, CARB has worked on developing strategies and regulations aimed at reducing the risk from DPM. The overall strategy for achieving these reductions is found in the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles (CARB 2000). To monitor the effectiveness of the efforts to reduce DPM, CARB has supported field campaigns that measure real-world emissions from heavy-duty vehicles, and results indicate that regulations aimed at reducing emissions of DPM have been successful.

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 2021, in the vicinity of the City, Interstate 5 (I-5), Interstate 405 (I-405), State Route 55 (SR-55), and State Route 73 (SR-73) currently carry more than 100,000 vehicles per day (Caltrans 2021). The Level of Service Traffic Study determined that there are no roadway segments within the City with traffic volumes that exceed 100,000 vehicle trips per day (Iteris 2024).

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 U.S. EPA 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.

d. California Code of Regulations Title 13: Motor Vehicles

California Code of Regulations, Title 13: Division 3, Chapter 10, Article 1, Section 2485: Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. This measure seeks to reduce public exposure to DPM and other air contaminants by establishing idling restrictions, emission standards, and other requirements for heavy-duty diesel engines and alternative idle reduction technologies to limit the idling of diesel-fueled commercial motor vehicles. Any person that owns, operates, or causes to operate any diesel-fueled commercial motor vehicle must not allow a vehicle to idle for more than 5 consecutive minutes at any location or operate a diesel-fueled auxiliary power system for greater than 5 minutes at any location when within 100 feet of a restricted area.

California Code of Regulations, Title 13: Division 3, Chapter 9, Article 4.8, Section 2449: General Requirements for In-Use Off-Road Diesel-Fueled Fleets. This measure regulates NOX, DPM, and other criteria pollutant emissions from in-use, off-road diesel-fueled vehicles. This measure also requires each fleet to meet fleet average requirements or demonstrate that it has met "best available control technology" requirements. Additionally, this measure requires medium and large fleets to have a written idling policy that is made available to operators of the vehicles informing them that idling is limited to 5 consecutive minutes or less.

4.2.2.3 Regional Air Quality Regulations 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_{10}, and $PM_{2.5}$, SCAQMD periodically prepares air quality management plans (AQMPs) outlining measures to reduce these pollutants. The most recent AQMP is the 2022 Air Quality Management Plan (2022 AQMP). Additionally, SCAQMD provides the following rules and regulations:

- SCAQMD Rule 402 prohibits a person from discharging 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.

- SCAQMD Rule 403 governs emissions of fugitive dust during construction and operation activities. Compliance with this rule is achieved through the application of standard BMPs, such as the application of water or chemical stabilizers to disturbed soils, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 miles per hour (mph), sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph, and establishing a permanent ground cover on finished sites.

  Rule 403 requires that fugitive dust be controlled with the Best Available Control Measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 403 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site. Applicable dust suppression techniques from Rule 403 are summarized below. Implementation of these dust suppression techniques can reduce the fugitive dust generation (and thus the PM10 component). Compliance with these rules would reduce impacts on nearby sensitive receptors. Rule 403 measures may include, but are not limited to, the following:

  - Apply non-toxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).

- Water active sites at least three times daily. (Locations where grading is to occur will be thoroughly watered prior to earthmoving.)
- Cover all trucks hauling dirt, sand, soil, or other loose materials or maintain at least 0.6 meters (2 feet) of freeboard (vertical space between the top of the load and top of the trailer) in accordance with the requirements of California Vehicle Code Section 23114.
- Reduce traffic speeds on all unpaved roads to 15 mph or less.
- Suspension of all grading activities when wind speeds (including instantaneous wind gusts) exceed 25 mph.
- Provide bumper strips or similar BMPs where vehicles enter and exit the construction site onto paved roads or wash off trucks and any equipment leaving the site each trip.
- Replant disturbed areas as soon as practical.
- During all construction activities, sweep on-site and off-site streets if silt is carried to adjacent public thoroughfares to reduce the amount of particulate matter on public streets. All sweepers shall be compliant with SCAQMD Rule 1186.1, Less Polluting Sweepers.

- SCAQMD Rule 1113 governs the sale, use, and manufacturing of architectural coating and limits the VOC content in paints and paint solvents. This rule regulates the VOC content of paints available during construction. Therefore, all paints and solvents used during construction and operation of the project must comply with SCAQMD Rule 1113.

- 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

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 (NOx) 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 NOx 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 V study, which is a follow up to previous air toxics studies in the Basin 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 V fixed site monitoring is to characterize long-term regional air toxics levels in residential and commercial areas. MATES V predicts that the excess cancer risk for the City ranges from 250 to 450 in a million (SCAQMD 2021). The MATES IV study represents the baseline health risk for a cumulative analysis. The MATES VI update is currently being conducted.

4.2.2.4 Local Regulations

a. Municipal Code

Title 4 (Public Safety), Division 21 (Reduction of Air Pollution from Motor Vehicles)

This division is intended to support the SCAQMD's imposition of the vehicle registration fee and to bring the City into compliance with the requirements set forth in Health and Safety Code Section 44243 in order to receive fee revenues for the purpose of implementing programs to reduce air pollution from motor vehicles.

Title 5 (Planning), Division 10 (Grading Code and Encroachment Regulations), Chapter 1 (Grading Code)

The City's Grading Code establishes rules and regulations to control excavation, grading, and earthwork construction (including fills and embankments), and establishes administrative requirements for issuance of permits, approval of plans, and inspection of grading construction in accordance with the requirements for grading and excavation contained in the Uniform Building Code as adopted and modified by City ordinance. The Grading Code also outlines dust control requirements. For example, as outlined in Section 5-10-127 (Import and export of earth material), where an excess of 5,000 cubic yards of earth material per project site is moved on public roadways from or to the site of an earth grading operation, the following requirements shall apply:

A. Either water or dust palliative or both must be applied for the alleviation or prevention of excessive dust resulting from the loading or transportation of earth from, to or within the project site on public roadways. The permittee shall be responsible for maintaining public rights-of-way used for hauling purposes in a condition free of dust, earth or debris attributed to the grading operation.

b. Existing Plans, Programs, and Policies

Compliance measures are regulations imposed uniformly by the approving agency based on the proposed action taken and are required of the proposed project to reduce its potential environmental effects. Because these features are standard requirements, they do not constitute mitigation measures. The following measures are existing plans, programs, or policies (PPP) that apply to the proposed project and will help to reduce and avoid potential impacts related to air quality:

- PPP AQ-1 Construction activities will be conducted in compliance with California Code of Regulations, Title 13, Section 2449, which requires that nonessential idling of construction equipment be restricted to five minutes or less.
- PPP AQ-2 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.
- PPP AQ-3: Compliance with the City of Irvine's Grading Code.
- PPP AQ-4: Compliance with the City of Irvine's Municipal Code guidance to reduce air pollution from motor vehicles.

Proposed General Plan Strategies and Policies

In addition to the above-listed PPPs, the following proposed goals, objectives, policies, and implementation actions are applicable to the analysis of air quality and would replace existing goals, strategies, and policies outlined in the City's existing General Plan following project approval:

Environmental Protection and Climate Action Element

Goal 4: Improve air quality and protect public health in Irvine by reducing air pollution and minimizing harmful emissions from various sources.

Objective EPCA-4. Achieve and maintain compliance with air quality standards set by regulatory agencies, such as the Environmental Protection Agency (EPA) and the California Air Resources Board (CARB), to ensure a healthy and sustainable environment for residents.

- **Policy (a):** Support the adoption of low-emission and alternative fuel vehicles through incentives, rebates, and infrastructure development.
- **Policy (b):** Encourage industries and commercial establishments to implement emission control technologies and practices to minimize air pollution from manufacturing processes, construction activities, and other operations.
- **Policy (c):** Encourage the use of clean and renewable energy sources, such as solar, wind, and geothermal, to reduce emissions from energy generation and promote a transition away from fossil fuels.

Goal 11: Foster a sustainable transportation system in Irvine that promotes air quality and enhances community resilience to climate change impacts.

Objective EPCA-11. Implement policies and initiatives that promote active transportation, public transit, and low-emission vehicles to reduce reliance on single-occupancy vehicles, minimize traffic congestion, and enhance mobility options for residents of all ages and abilities.

- **Policy (a):** Develop and maintain a comprehensive network of pedestrian-friendly sidewalks, bicycle lanes, and multi-use trails that connect residential neighborhoods, commercial districts, employment centers, and public amenities.
- **Policy (b):** Implement complete streets policies and design standards that prioritize safe and accessible walking, biking, and rolling infrastructure, including ADA-compliant facilities, pedestrian crossings, and bicycle parking facilities, in all transportation projects and street improvements.
- **Policy (c):** Encourage transit-oriented development (TOD) and mixed-use zoning around transit stations and major transit corridors to promote compact, walkable neighborhoods, reduce automobile dependency, and support sustainable land use patterns that integrate housing, jobs, and amenities.
- **Policy (d):** Expand the availability of EV charging stations, particularly in public parking facilities, multi-family residential complexes, commercial areas, and workplaces, to facilitate EV adoption and reduce range anxiety for drivers of electric vehicles.

4.2.3 Significance Determination Thresholds

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.

4.2.3.1 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, 2023).

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 4.2-3.

Table 4.2-3
SCAQMD Air Quality Significance Thresholds – Mass Daily Thresholds

Pollutant	Emissions (pounds)	
	Construction	Operational
Oxides of Nitrogen (NO_X)	100	55
Volatile Organic Compounds (VOC)	75	55
Coarse Particulate Matter (PM_{10})	150	150
Fine Particulate Matter ($PM_{2.5}$)	55	55
Oxides of Sulfur (SO_X)	150	150
Carbon Monoxide (CO)	550	550
Lead (Pb)*	3	3
SOURCE: SCAQMD Air Quality Significance Thresholds (SCAQMD 2023).		

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 4.2-3 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_2, CO, PM_{10}, and $PM_{2.5}$ 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 4.2-2) when added to the local background concentrations.

4.2.4 Methodology

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. 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. For the purposes of this analysis, emissions were calculated for buildout of the City's adopted General Plan (No Project Alternative) and buildout of the project.[1]

4.2.4.1 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 City would vary depending upon the number of projects occurring simultaneously and the size of each individual project. Construction-related emissions are likely to occur over time in locations dispersed throughout the City. As construction emissions create temporary, short-term sources of air emissions, evaluation of emissions of buildout of all future site-specific uses would not provide a reasonable estimation of construction emissions. Additionally, since all construction emissions will not occur at once, it would overestimate emissions at any one time. As such, construction-related emissions cannot be accurately determined at the program level of analysis. In order to consider the potential impact associated with construction emissions resulting from the project, a hypothetical project construction

[1] This scenario considers buildout of the project plus additional cumulative projects that are assumed to be built in the background conditions in both the City and in surrounding jurisdictions, including known future residential development in adjacent cities.

emission scenario was evaluated based on development of a large-scale project (1,500 units, with an average size of 670 square-feet [small apartments], on a 15-acre site). This analysis scenario would capture both emissions of a large individual construction project occurring at one time, in addition to several smaller construction projects occurring simultaneously in the same area. Since impacts of construction emissions are associated with emissions potentially exceeding thresholds in a localized area, affecting nearby sensitive receptors, this analysis approach would effectively characterize construction emissions associated with the project over time as housing is developed. CalEEMod modeling output files for construction activities are presented in Appendix B.

4.2.4.2 Operational Emissions

Operational 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 City were calculated for buildout of the City's adopted General Plan (No Project Alternative) and buildout of the project. The results of the emissions modeling are presented in Appendix B. Actual emissions would vary depending on future site-specific projects.

4.2.5 Topic 1: Air Quality Plans

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

4.2.5.1 Impact Analysis

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 8-hour ozone and 2.5-micron particulate matter ($PM_{2.5}$) standards. The Basin is designated as in nonattainment for state air quality standards for 8-hour ozone and $PM_{2.5}$, and additionally is in nonattainment of state 10-micron particulate matter (PM_{10}) standards. The regional air quality plan, the 2022 AQMP, outlines measures to reduce emissions of ozone and $PM_{2.5}$. Reducing PM concentrations is achieved by reducing emissions of $PM_{2.5}$ to the atmosphere, reducing ozone concentrations is achieved by reducing the precursors of photochemical formation of ozone, VOC, and NO_X.

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 City's adopted General Plan) and the project. 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 City's adopted General Plan to the emissions that would occur under buildout of the project.

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.

a. Criterion No. 1

The county-wide population would be the same under buildout of both the City's adopted General Plan and the project. As described in Section 4.11.5.1 below, future development under the project would accommodate increases in population based on SCAG's demographic projections, and would therefore not induce unplanned growth. Furthermore, the project would reduce VMT compared to buildout of the adopted General Plan. This reduction is due to the fact the City currently is a major employment center with a high jobs-to-population ratio. The City has more jobs than can be sustained by the City's own population. Shifting towards a more balanced jobs/population ratio as would occur under the project due to the introduction of more housing units within the City (a major employment center) can be expected to improve VMT metrics. Most of the future residential growth would occur in the three focus areas which include areas of the City that are most suited for new growth and development as they are located near existing job centers, which would reduce VMT. This reduction in VMT would in turn lead to a reduction in operational air quality emissions. Table 4.2-4 presents a comparison of operations emissions under buildout of the City's adopted General Plan and buildout of the project. Calculations are provided in Appendix B.

Table 4.2-4 Total Operational Emissions for the City						
Source	Pollutant (pounds per day)					
	VOC	NO_X	CO	SO_x	PM_{10}	$PM_{2.5}$
Adopted General Plan (2045)						
Mobile Source	1,068.28	1,839.69	33,999.83	119.11	14,476.88	3,698.14
Area Source	8,723.10	2,194.52	14,295.12	14.68	191.12	187.78
Energy Source	84.10	1,489.51	994.74	9.17	116.20	116.20
TOTAL	**9,875.47**	**5,523.72**	**49,289.69**	**142.96**	**14,784.21**	**4,002.13**
Project (2045)						
Mobile Source	56.42	88.80	1,795.78	6.29	764.63	195.33
Area Source	2,127.01	1,204.91	4,561.45	7.63	96.28	95.82
Energy Source	21.44	367.06	160.16	2.34	29.63	29.63
TOTAL	**2,204.88**	**1,660.77**	**6,517.39**	**16.26**	**890.54**	**320.78**
Change (Project – Adopted General Plan)	**-7,670.59**	**-3,862.95**	**-42,772.30**	**-126.70**	**-13,893.67**	**-3,681.35**

As shown in Table 4.2-4, buildout of the project would result in a decrease in emissions when compared to buildout of the City's adopted General Plan. Therefore, buildout of the project would not exceed the assumptions used to develop the AQMP.

b. Criterion No. 2

As previously stated, 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 ($PM_{2.5}$) standards. The Basin is designated as in nonattainment for state air quality standards for 8-hour ozone and $PM_{2.5}$, and additionally is in nonattainment of state 10-micron particulate matter (PM_{10}) standards.

Because the proposed General Plan Update involves long-term growth associated with buildout of the City, cumulative emissions generated from operation of individual development projects would exceed the SCAQMD regional and localized thresholds (see discussion under Impact 2, below). Consequently, emissions generated during the construction of development projects in addition to existing sources in the City are considered to cumulatively contribute to the nonattainment designations of the Basin. Future development would be required to adhere to the requirements of California Code of Regulations, Title 13, Section 2449 to reduce nonessential idling (PPP AQ-1), the construction requirements of SCAQMD rules and regulations (PPP AQ-2), and the requirements of the City's grading code (PPP AQ-3).

The goals, objectives, and policies in the Environmental Protection and Climate Action (EPCA) Element would further support the City's goal of reducing air emissions by improving air quality and protect public health in Irvine by reducing air pollution and minimizing harmful emissions from various sources and achieving and maintaining compliance with air quality standards set by regulatory agencies (EPCA Policy). Refer to the above-listed EPCA goals and policies for a comprehensive list of applicable goals, objectives and policies related to air quality.

Despite adherence to these policies and compliance with Standard Conditions and PPPs, buildout of the project could contribute to an increase in frequency or severity of air quality violations and delay attainment of the AAQS or interim emission reductions in the AQMP, and emissions generated from buildout would result in a significant air quality impact. Therefore, the General Plan Update would not be consistent with the AQMP under the second criterion and mitigation requiring project-specific air quality analyses is required (mitigation measure AQ-1).

4.2.5.2 Significance of Impacts

Although the project would not exceed the assumptions used to develop the 2022 AQMP, construction activities associated with the project would result in an increase in the frequency or severity of existing air quality violations. Therefore, the project would conflict with implementation of the AQMP, and impacts would be potentially significant.

4.2.5.3 Mitigation

AQ-1: Applications for future development, wherein the Director of Community Development or their 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 their 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. The City shall require that applicants for new development projects with the potential to exceed the SCAQMD's adopted thresholds of significance to incorporate the measures listed below 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.

4.2.5.4 Significance of Impacts after Mitigation

The project would not exceed the assumptions used to develop the 2022 AQMP. However, 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.

4.2.6 Topic 2: Criteria Pollutants

Would the project 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?

4.2.6.1 Impact Analysis

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

The proposed project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

As discussed in Section 4.2.4.1 above, a residential project consisting of 1,500 units, with an average size of 670 square-feet (small apartments), on a 15-acre site was modeled to illustrate potential construction-related air quality impacts associated with future development under the project. The results are summarized in Table 4.2-5. CalEEMod output is contained in Appendix B.

Table 4.2-5 Construction Emissions – 15-Acre Mixed-Use Project						
Construction Phase	Pollutant (pounds per day)					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Maximum Daily Emissions	**315.37**	**31.70**	**76.14**	**<1**	**21.25**	**11.41**
SCAQMD Significance Threshold	*75*	*100*	*550*	*150*	*150*	*55*

For assessing the significance of the air quality emissions resulting during construction of the hypothetical project, the construction emissions were compared to the SCAQMD Significance Thresholds. As shown in Table 4.2-5, construction of the hypothetical project would exceed the applicable threshold for VOC. Additionally, if several future site-specific projects were to occur simultaneously, there is the potential to exceed significance thresholds.

Future development would be required to implement construction Best Management Practices (BMPs) at all construction sites consistent with SCAQMD rules and regulations. Future construction activities would also be required to comply with PPP AQ-1, which outlines compliance with California Code of Regulations, Title 13, Section 2449, which itself requires that nonessential idling of construction equipment be restricted to five minutes or less. Future construction activities would also be conducted in compliance with any applicable SCAQMD rules and regulations, as outlined in PPP AQ-2, 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 City 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 discretionary projects would include environmental review and documentation pursuant to CEQA where applicable, as well as an analysis of those site-specific projects for consistency with the goals, policies, and recommendations of the General Plan. 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 in accordance with mitigation measure AQ-1.

While individual site-specific projects may not exceed the SCAQMD regional significance thresholds (demonstrated in Table 4.2-5), the scale and extent of construction activities associated with buildout of the City 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

At the program level, the analysis compares emissions generated by project buildout to emissions generated under buildout of the City's adopted 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. Under this approach, 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 City's existing General Plan (adopted in 2000) in the year 2045 compared to buildout of the project in the year 2045. As shown in Table 2.4-4 above, buildout of the project would result in a decrease in emissions compared to buildout of the City's adopted General Plan. Most of the future residential growth would occur in the three focus areas that are most suited for new growth and development as they are located near existing job centers, which would reduce VMT and associated vehicle emissions.

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 where applicable, as well as an analysis of those site-specific projects for consistency with the goals, policies, and recommendations of the project. While individual site-specific projects may not exceed the SCAQMD regional significance thresholds, the scale and extent of emissions associated with buildout of the project may result in some instances where future development would exceed the relevant SCAQMD thresholds. Therefore, operational regional air quality impacts would be potentially significant, and mitigation would be required (see mitigation measure AQ-2).

4.2.6.2 Significance of Impacts

a. Construction

The scale and extent of construction activities associated with buildout of the project could exceed the relevant SCAQMD thresholds for some future site-specific development projects. Construction impacts would be potentially significant, and mitigation would be required to implement construction practices and measures that would reduce emissions.

b. Operation

The project would not conflict with implementation of the AQMP,. However, the scale and extent of emissions associated with buildout of the project may result in some instances where operation of future development would exceed the relevant SCAQMD thresholds. Therefore, operational impacts would be potentially significant, and mitigation would be required to reduce emissions.

4.2.6.3 Mitigation

a. Construction

See mitigation measure AQ-1 above.

b. Operation

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

AQ-2: For individual projects that may exceed the daily operational emissions thresholds established by the SCAQMD, the owner/permitee shall conduct an analysis of the project's operational air quality impacts using the latest available CalEEMod mode, or other analytical method determined in conjunction with the City. If such analyses identify potentially significant regional or local air quality impacts, project-level mitigation and/or project design features would be required to reduce operational impacts to less than significant. Mitigation to reduce operational impacts depends on the specific project, but may include measures such as, but not limited to:

- Demonstrate net zero energy expenditure.
- Implementation of transportation demand management measures.
- Prohibit the installation of woodstoves, hearths, and fireplaces in new construction facilitated by the General Plan Update.
- Expand and facilitate completion of planned networks of active transportation infrastructure.
- Implement electric vehicle charging infrastructure beyond requirements set forth in the 2022 CALGreen mandatory measures, such as Tier 2 voluntary measures set forth in 2022 CALGreen (or future more stringent) standards.
- Implement traffic demand measures, such as unbundling parking fees from rent/lease options, encouraging/developing a ride-share program for the community, and provide car/bike sharing services, that will reduce daily individual car usage and reduce project VMT.

4.2.6.4 Significance of Impacts after Mitigation

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

The project would not conflict with implementation of the AQMP. Buildout of the project would occur over a period of approximately 20 years or longer. Operational emissions associated with buildout of the project could generate 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-2 would reduce criteria air pollutant emissions from construction-related activities to the extent feasible. However, site-specific development projects are not currently available, and there is a potential for operational emissions to exceed the SCAQMD's significance thresholds. Therefore, despite adherence to mitigation measure AQ-2, impacts associated with criteria pollutants would remain significant and unavoidable.

4.2.7 Topic 3: Sensitive Receptors

Would the project expose sensitive receptors to substantial pollutant concentrations?

4.2.7.1 Impact Analysis

a. Localized Carbon Monoxide Hot Spots

It has long been recognized that carbon monoxide (CO) hotspots are caused by vehicular emissions, primarily when idling at congested intersections. In response, vehicle emissions standards have become increasingly stringent in the last 20 years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SCAB is now designated as attainment. To establish a more accurate record of baseline CO concentrations affecting the SCAB a CO hotspot analysis was conducted in 2003 by the SCAQMD for four busy intersections in Los Angeles at the peak morning and afternoon time periods. This "hot spot" analysis did not predict any violation of CO standards. Based on the SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon

monoxide concentrations in the SCAB were a result of unusual meteorological and topographical conditions and not a result of traffic volumes and congestion at a particular intersection. Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (BAAQMD) concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour (vph)—or 24,000 vph where vertical and/or horizontal air does not mix—in order to generate a significant CO impact. The busiest intersection evaluated was that at Wilshire Boulevard and Veteran Avenue in Los Angeles, which has a daily traffic volume of approximately 100,000 vph and AM/PM traffic volumes of 8,062 vph and 7,719 vph respectively. The 2003 AQMP estimated that the 1-hour concentration for this intersection was 4.6 parts per million (ppm); this indicates that, should the daily traffic volume increase four times to 400,000 vehicles per day, CO concentrations (4.6 ppm x 4= 18.4 ppm) would still not likely exceed the most stringent 1-hour CO standard (20.0 ppm). As such, the project considered herein along with background and cumulative development would not produce the volume of traffic required to generate a CO "hot spot" either in the context of the 2003 Los Angeles hot spot study or based on representative BAAQMD CO threshold considerations. Therefore, new development adjacent to heavily traveled streets or intersections would not expose sensitive receptors to substantial pollutant concentrations associated with CO hot spots, and impacts would be less than significant. The Level of Service Traffic Study determined that roadway segment and intersection volumes would not exceed 100,000 average daily trips (Iteris 2024). Consequently, the project would not produce the volume of traffic required to generate a CO hot spot either in the context of the 2003 Los Angeles study or BAAQMD CO threshold considerations. 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

The proposed project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

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. Such emissions would have the potential to exceed the SCAQMD's LST thresholds.

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 U.S. EPA 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. Additionally, construction of future projects would adhere to the requirements of California Code of Regulations, Title 13, Section 2449 to reduce nonessential idling (PPP AQ-1), the construction requirements of SCAQMD rules and regulations (PPP AQ-2), and the requirements of the City's grading code (PPP AQ-3) Therefore, the project would not exceed the SCAQMD LST thresholds or expose sensitive receptors to toxic air emissions during construction of future development within the City, and impacts would be less than significant.

Stationary Sources

The project would not result in the construction and operation of a stationary source of TACs. Various uses, such as dry cleaners and gasoline-dispensing facilities, have the potential to be substantial stationary sources that would require a permit from the SCAQMD. Although future site-specific development under the project could be located near existing types of facilities, emissions of TACs are regulated by SCAQMD through permitting and monitoring requirements. 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 City, 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.

The City is generally bounded on the southwest by SR-73 and on the northeast by State Route 241 (SR-241). I-5, I-405, and SR-133 cross through the central portion of the City, and multiple Interstates and State Routes traverse the City and provide connection to surrounding communities throughout the southern California region. Portions of the focus areas are located adjacent to these highways and freeways. 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 California Air Pollution Control Officers Association (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. Additionally, the 2022 California Building Code – Title 24 requires that all new residential uses include improved air filtration systems. Filters are categorized according to minimum efficiency reporting value (MERV) rating. The higher the MERV rating, the better the filtration. MERV-13 filters are effective at filtering DPM. Therefore, the project would not expose sensitive receptors to substantial pollutant concentrations associated with mobile source emissions and impacts would be less than significant. However, the scale and extent of exposure of future development under the amended general plan to mobile sources of TACs cannot be known at this time, and impacts would be potentially significant.

4.2.7.2 Significance of Impacts Topic 3: Sensitive Receptors

Buildout of the project would not result in a CO hot spot. Additionally, construction and operation of future development would not result in the exposure of sensitive receptors to TACs from construction activities or mobile sources. However, future development within the focus areas would potentially place future residential development near existing roadways, which would be considered potentially significant.

4.2.7.3 Mitigation

AQ-3: For individual projects that may site new sensitive land uses within 500 feet of a freeway or urban roads with 100,000 or more vehicles/day, the applicant shall prepare a Health Risk Assessment (HRA) evaluating the potential for sensitive receptors to be exposed to TACs, which shall be required for such individual projects. The HRA shall be prepared in accordance with the policies and procedures of the state Office of Environmental Health Hazard Assessment (OEHHA) and the South Coast Air Quality Management District (SQAQMD). If the HRA shows that the incremental cancer risk and/or noncancer hazard index exceed the respective thresholds, as established by the SQAQMD at the time a project is considered (i.e., 10 in one million cancer risk and 1 hazard index), the project applicant will be required to identify and demonstrate that best available control

technologies to reduce substantial exposure of sensitive receptors to TACs. Examples may include, but are not limited to, air intakes located away from high-volume roadways and/or truck loading zones unless it can be demonstrated that these are operational limitations and/or heating, ventilation, and air conditioning (HVAC) systems provided with appropriately sized maximum efficiency rating value (MERV) filters. Mitigation measures identified in the HRA shall be incorporated into the site development plan as a component of the proposed project. Air intake and MERV filter requirements shall be noted on all building plans submitted to the City of Irvine Community Development Department.

4.2.7.4 Significance of Impacts after Mitigation

Implementation of mitigation measure AQ-3 would reduce exposure of sensitive receptors to mobile source TACs to the extent feasible. However, site-specific development projects are not currently available, and there is a potential for TAC exposure to remain. Therefore, despite adherence to mitigation measure AQ-3, impacts associated with exposure of sensitive receptors to mobile source TACs would remain significant and unavoidable.

4.2.8 Topic 4: Odor

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

4.2.8.1 Impact Analysis

In the context of land use planning, one of the most important factors influencing the potential for an odor impact to occur is the distance between the odor source and receptors. The greater the distance between an odor source and receptor, the less concentrated the odor emission would be when it reaches the receptor. Odors can be generated from a variety of source types including both construction and operational activities. Although less common, construction activities that include the operation of a substantial number of diesel-fueled construction equipment and heavy-duty trucks can generate odors from diesel exhaust emissions. A project's operations, depending on the project type, can generate a large range of odors that can be considered offensive to receptors. Examples of common land use types that typically generate significant odor impacts include, but are not limited to:

- Wastewater treatment plants
- Sanitary landfills
- Composting/green waste facilities
- Recycling facilities
- Petroleum refineries
- Chemical manufacturing plants
- Painting/Coating operations
- Rendering plants
- Food packaging plants

When land uses such as these or other odor-generating land uses are sited proximate to sensitive receptors, odor impacts may occur and further analysis of the nature of the odor source, the prevailing wind patterns, number of potentially effected receivers and other considerations would be warranted.

Emissions from construction equipment associated with future development facilitated by the proposed project, 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 a receptor (e.g., people in residential units, day care centers, schools, nursing homes, etc.), 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.

Future site-specific development under the project would include residential uses, as well as the extension of Ada roadway, and nonresidential uses including a botanical garden, a veteran's memorial garden, a library, a discovery center, two museums, a 65-acre central park area, an accessory restaurant use, an aquatic center, an all-wheel park, and pickleball courts, that are generally not a source of objectionable odors. Additionally, with respect to all development under the project, nuisance odors are regulated under SCAQMD Rule 402, which requires abatement of any nuisance generating a verified odor complaint. Therefore, project operation would not result in odors affecting a substantial number of people, and impacts would be less than significant.

4.2.8.2 Significance of Impacts Topic 4: Odor

The project 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.

4.2.8.3 Mitigation

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

4.2.9 Cumulative Analysis

As defined in Section 15130 of the State CEQA Guidelines, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and probably future projects within the cumulative impact area for air quality. The cumulative study area would be considered the Basin. The evaluation of consistency with the AQMP 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 4.2.5.1 above, project buildout would generate fewer emissions compared to buildout of the City's adopted General Plan. The project would not exceed the assumptions used to develop the AQMP. However, construction of future development under the project would have the potential to increase in the frequency or severity of existing air quality violations .Although mitigation measure AQ-1 would include measures

to reduce construction emissions, 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 cumulatively significant construction-related emissions. Similarly, mitigation measure AQ-2 proposes measures to reduce operation emissions associated with future development, site-specific development projects are not available at this time, and there is a potential for operational emissions to exceed the SCAQMD's significance thresholds, which would result in cumulatively significant impacts. Furthermore, future development may site new sensitive land uses within 500 feet of a freeway or urban roads with 100,000 or more vehicles/day. Although mitigation measure AQ-3 would require such projects to prepare an HRA identifying measures to reduce impacts to TACs, there is a potential for TAC exposure to remain, which would be cumulatively significant. Therefore, despite implementation of mitigation measures AQ-1 through AQ-3, project construction and operation is anticipated to result in cumulatively considerable air quality impacts.