4.2 AIR QUALITY

This section describes existing air quality conditions in the planning area, a summary of applicable regulations, and an analysis of potential short-term construction and long-term operational air quality impacts of the 2012 General Plan. In addition, mitigation measures are recommended, as necessary, to reduce significant air quality impacts. The air quality calculations conducted for the project are attached as Appendix B of this EIR.

4.2.1 Existing Environmental Setting

Air quality is defined by the concentration of pollutants related to human health. Concentrations of air pollutants are determined by the rate and location of pollutant emissions released by pollution sources, and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, and sunlight. Therefore, ambient air quality conditions within the local air basin are influenced by such natural factors as topography, meteorology, and climate, in addition to the amount of air pollutant emissions released by air pollutant sources.

Climate, Topography, and Meteorology

Climate, topography, and meteorology influence regional and local ambient air quality. Southern California is characterized as a semiarid climate, although it contains three distinct zones of rainfall that coincide with the coast, mountains, and desert. The City is located in the central portion of San Diego County and within the San Diego Air Basin (SDAB). The SDAB is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the west and high mountain ranges to the east.

The boundary of the SDAB is the San Diego County boundary. The topography in the SDAB region varies greatly, from beaches on the west, to mountains and then desert to the east. Much of the topography in between consists of mesas intersected by canyons. The mountains to the east inhibit the dispersion of pollutants generated in the SDAB.

The climate of the SDAB is characterized by warm, dry summers and mild winters. One of the main determinants of its climatology is a semi-permanent high-pressure area (the Pacific High) in the eastern Pacific Ocean. This high-pressure cell maintains clear skies for much of the year. When the Pacific High moves southward during the winter, this pattern changes, and low-pressure storms are brought into the region, causing widespread precipitation. During fall, the region often experiences dry, warm easterly winds, locally referred to as Santa Ana winds, which raise temperatures and lower humidity, often to less than 20 percent. Rainfall in the City

averages approximately 13 inches annually (WRCC 2012). The heaviest precipitation occurs November through April. The mean annual air temperature is 63.6 degrees Fahrenheit (°F), and the mean maximum and mean minimum temperatures are 75.0°F and 52.3°F, respectively (WRCC 2012).

A dominant characteristic of spring and summer is night and early morning cloudiness, locally known as the marine layer. Low clouds form regularly, frequently extending inland over the coastal foothills and valleys. These clouds usually dissipate during the morning, and afternoons are generally clear.

A common atmospheric condition known as a temperature inversion affects air quality in the SDAB. During an inversion, air temperatures get warmer rather than cooler with increasing height. Inversion layers are important for local air quality because they inhibit the dispersion of pollutants and result in a temporary degradation of air quality.

The pollution potential of an area is largely dependent on a combination of wind, atmospheric stability, solar radiation, and terrain. The combination of low wind speeds and low-level inversions produces the greatest concentration of air pollutants. On days without inversions, or on days of winds averaging 15 miles per hour or faster, the atmospheric pollution potential is greatly reduced.

Criteria Air Pollutants

The California Air Resources Board (ARB) and the U.S. Environmental Protection Agency (USEPA) focus on the following air pollutants as indicators of ambient air quality: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), PM_{10}, $PM_{2.5}$, and lead. Because these are the most prevalent air pollutants known to be harmful to human health, and extensive health-effects criteria documentation is available for these pollutants, they are commonly referred to as "criteria air pollutants."

Health-based air quality standards have been established for these pollutants by ARB at the state level and by USEPA at the national level. These standards were established to protect the public with a margin of safety from adverse health impacts due to exposure to air pollution. California has also established standards for sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride. A brief description of each criteria air pollutant, including source types and impacts to health, is provided below, along with the most current monitoring station data and attainment designations for the planning area. Table 4.2-1 presents the CAAQS and NAAQS.

Table 4.2-1
National and California Ambient Air Quality Standards

Pollutant	Averaging Time	National[a]		California[b]
		Primary[c, d]	Secondary[c, e]	Concentration[c]
Ozone	1 hour	—	Same as primary standard	0.09 ppm (180 µg/m3)
	8 hour	0.075 ppm (147 µg/m^3)		0.07 ppm (137 µg/m^3)
Respirable particulate matter	24 hour	150 µg/m^3	Same as primary standard	50 µg/m^3
	Annual arithmetic mean	—		20 µg/m^3
Fine particulate matter	24 hour	35 µg/m^3	Same as primary standard	No separate state standard
	Annual arithmetic mean	15 µg/m^3		12 µg/m^3
Carbon monoxide	8 hour	9 ppm (10 mg/m^3)	None	9 ppm (10 mg/m^3)
	1 hour	35 ppm (40 mg/m^3)		20 ppm (23 mg/m^3)
	8 hour (Lake Tahoe)	—	—	6 ppm (7 mg/m^3)
Nitrogen dioxide	Annual Arithmetic Mean	0.053 ppm (100 µg/m^3)	Same as primary standard	0.03 ppm (57 µg/m^3)
	1 hour	0.100 ppm	None	0.18 ppm (339 µg/m^3)
Sulfur dioxide	Annual Arithmetic Mean	0.03 ppm (for certain areas)	—	—
	24 hour	0.14 ppm (for certain areas)	—	0.04 ppm (105 µg/m^3)
	3 hour	—	0.5 ppm (1,300 µg/m^3)[h]	—
	1 hour	75 ppb	—	0.25 ppm (655 µg/m^3)
Lead[f]	30-day average	—	—	1.5 µg/m^3
	Calendar quarter	1.5 µg/m^3	Same as primary standard	—
	Rolling 3-month average[g]	0.15 µg/m^3		—
Visibility-reducing particles	8 hour	No national standards		Extinction coefficient of 0.23 per kilometer —visibility of 10 miles or more (0.07 to 30 miles for Lake Tahoe) because of particles when the relative humidity is less than 70%. Method: Beta attenuation and transmittance through filter tape.
Sulfates	24 hour			25 µg/m^3
Hydrogen sulfide	1 hour			0.03 ppm (42 µg/m^3)
Vinyl chloride[f]	24 hour			0.01 ppm (26 µg/m^3)

Notes: mg/m^3 = milligrams per cubic meter; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM_{10} = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ppm = parts per million; µg/m^3 = micrograms per cubic meter.

[a] National standards (other than those for ozone and particulate matter and those based on annual averages or 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 in a year, averaged over 3 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 1. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact U.S. Environmental Protection Agency for further clarification and current federal policies.

[b] California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended 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.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on 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.

[d] National primary standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

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

[f] The California 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.

[g] National lead standard, rolling 3-month average: final rule signed October 15, 2008.

[h] 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 nonattainment 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 parts per billion (ppb). California standards are in units of parts per million (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.

Source: ARB 2012a

Ozone

Ozone is a colorless, odorless gas that primarily exists as a beneficial component of the ozone layer in the upper atmosphere (stratosphere) and as a pollutant in the lower atmosphere (troposphere). Tropospheric ozone is a principal cause of lung and eye irritation in the urban environment. It is the principal component of smog, which is formed in the troposphere through a series of reactions involving reactive organic gases (ROGs) and oxides of nitrogen (NO_X) in the presence of sunlight. Therefore, ROG and NO_X are precursors of ozone. ROG and NO_X emissions are both considered critical in ozone formation. Control strategies for ozone have focused on reducing ROG and NO_X emissions from vehicles, industrial processes using solvents and coatings, and consumer products. Ozone concentrations are generally greatest in the summer when atmospheric inversions are greatest and the presence of sunlight and heat is high.

Particulate Matter (PM)

Particulate matter (PM) is a complex mixture of extremely small particles and liquid droplets. PM is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. Natural sources of particulates include windblown dust and ocean spray. Some particles are emitted directly into the atmosphere. Others, referred to as secondary particles, result from gases that are transformed into particles through physical and chemical processes in the atmosphere.

The size of PM is directly linked to the potential for causing health problems. USEPA is concerned about particles that are 10 micrometers in diameter or smaller because those are the particles that generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects such as aggravation of respiratory and cardiovascular disease, lung disease, and decreased lung function. Individuals particularly sensitive to fine particle exposure include older adults, people with heart and lung disease, and children. USEPA groups PM into two categories: coarse PM (PM_{10}) and fine PM ($PM_{2.5}$), as described below.

Inhalable coarse particles (PM_{10}), such as those found near roadways and dusty industries, are larger than 2.5 micrometers and smaller than 10 micrometers in diameter. Sources of coarse particles include crushing or grinding operations and dust from paved or unpaved roads. Control of PM_{10} is primarily achieved through the control of dust at construction and industrial sites, the cleaning of paved roads, and the wetting or paving of frequently used unpaved roads.

PM_{10} includes the subgroup of finer particles ($PM_{2.5}$), such as those found in smoke and haze, with an aerodynamic diameter of 2.5 microns or smaller. These finer particles pose an increased

health risk because they can deposit deep in the lungs and contain substances that are particularly harmful to human health. Sources of fine particles include all types of combustion activities such as from motor vehicles, power plants, wood burning, and certain industrial processes. $PM_{2.5}$ is the major cause of reduced visibility (haze) in California.

Carbon Monoxide (CO)

CO is a colorless and odorless gas that, in the urban environment, is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. Overall, CO emissions are decreasing because of the Federal Motor Vehicle Control Program, which has mandated increasingly lower emissions levels for vehicles manufactured since 1973. CO concentrations are typically higher in the winter due to higher rates of combustion inefficiency in colder engines; therefore, California requires use of oxygenated gasoline in the winter months to reduce CO emissions.

Relatively high concentrations of CO are typically found near crowded intersections and along heavily used roadways carrying slow-moving traffic. Even under the most severe meteorological and traffic conditions, high concentrations of CO are limited to locations within a relatively short distance (300 to 600 feet) of heavily traveled roadways. Severe vehicle congestion at major signalized intersections can generate elevated CO levels, called "hotspots," that can be hazardous to human receptors adjacent to the intersections.

Nitrogen Dioxide (NO_2)

NO_2 is a gas that is a product of the combustion of fossil fuels generated from vehicles and stationary sources, such as power plants and boilers. NO_2 can cause lung damage. As noted above, NO_2 is a type of NO_X and is a principal contributor to ozone and smog production.

Sulfur Dioxide (SO_2)

SO_2 is a gas that is a product of the combustion of fossil fuels, with the primary source being power plants and heavy industry that use coal or oil as fuel. SO_2 is also a product of diesel engine emissions. The human health effects of SO_2 include lung disease and breathing problems for asthmatics. SO_2 in the atmosphere contributes to the formation of acid rain. In the SDAB, there is relatively little combustion of coal and oil; therefore, SO_2 is less of a concern than in other parts of the country.

Lead

Lead is a highly toxic metal that may cause a range of human health effects. Lead anti-knock additives in gasoline represent a major source of lead emissions to the atmosphere. However, lead emissions have significantly decreased due to the near elimination of leaded gasoline use. Lead-based paint, banned or limited by USEPA in the 1980s, is a health hazard when it deteriorates by peeling, chipping, or cracking, or generates lead dust when scraped, sanded, or heated.

Odor

Odor is considered an air quality issue at the local level (e.g., odor from wastewater treatment) and regional level (e.g., smoke from wildfires). An air pollutant means any fume, smoke, PM, vapor, gas, odorous substance, or any combination thereof. Odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

Attainment Status in the SDAB

Specific geographic areas are classified as either "attainment" or "nonattainment" areas for each pollutant based on the comparison of measured data with federal and state standards. The SDAB currently meets the NAAQS for all criteria air pollutants except ozone, and meets the CAAQS for all criteria air pollutants except ozone, PM_{10}, and $PM_{2.5}$. For the 8-hour ozone standard, the SDAB was previously classified as "basic" nonattainment, which is the designation USEPA assigns to regions that were in attainment of the previous 1-hour standard, but would become nonattainment when subject to the new 8-hour standard. However, USEPA was challenged on its justification for "basic" designations and, in January 2009, published proposed reclassifications for all "basic" nonattainment areas. This resulted in the SDAB being considered "moderate" nonattainment. However, the SDAB nonattainment status for the 8-hour ozone standard will be reclassified as a "serious" nonattainment area with a mandatory attainment date of June 15, 2013. Final USEPA action on this proposed reclassification has yet to be taken.

The SDAB currently falls under a federal maintenance plan for CO following a 1998 redesignation as a CO attainment area. The SDAB is currently classified as a state "serious" ozone nonattainment area and a state nonattainment area for PM_{10} and $PM_{2.5}$.

Existing Air Quality in the SDAB

Ambient air pollutant concentrations in the SDAB are measured at 10 air quality monitoring stations operated by the SDAPCD. The air quality monitoring station closest to the planning area is the El Cajon monitoring station, located on Redwood Parkway. Table 4.2-2 presents the most recent available data from the El Cajon monitoring station, with summaries of the exceedances of standards and the highest pollutant levels recorded for years 2009 through 2011.

As shown in Table 4.2-2, ambient air concentrations of CO and NO_2 at the El Cajon monitoring station have not exceeded the NAAQS/CAAQS in the past 3 years. PM_{10} concentrations have not exceeded the federal standards for the past 3 years, but did exceed the state standards in 2009. $PM_{2.5}$ concentrations exceeded the federal standards in 2009 and 2011. Concentrations of 8-hour ozone registered at the monitoring station have exceeded the CAAQS and NAAQS every year for the past 3 years.

Sensitive Receptors

Some members of the population are especially sensitive to air pollutant emissions and should be given special consideration when evaluating air quality impacts from projects. These include children, older adults, people with preexisting respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise.

Residential areas are considered sensitive to air pollution because residents (including children and older adults) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Recreational land uses are considered moderately sensitive to air pollution. Exercise places a high demand on respiratory functions, which can be impaired by air pollution even though exposure periods during exercise are generally short. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, as the majority of the workers tend to stay indoors most of the time.

4.2.2 Regulatory Setting

Federal

At the federal level, USEPA is charged with implementing national air quality programs. USEPA's air quality mandates are drawn primarily from the federal Clean Air Act (CAA), which was enacted in 1970. The most recent major amendments made by Congress occurred in 1990.

Table 4.2-2
Ambient Air Quality Summary – El Cajon Monitoring Station

Pollutant Standards	2009	2010	2011
Carbon Monoxide (CO)			
National maximum 8-hour concentration (ppm)	*	*	1.33
State maximum 8-hour concentration (ppm)	*	*	1.46
State maximum 1-hour concentration (ppm)	*	*	1.7
Number of Days Standard Exceeded			
NAAQS 8-hour (>9.0 ppm)	0	0	0
CAAQS 8-hour (>9.0 ppm)	0	0	0
CAAQS 1-hour (>20.0 ppm)	0	0	0
Nitrogen Dioxide (NO_2)			
State maximum 1-hour concentration (ppm)	0.054	0.058	0.049
Annual Average (ppm)	0.014	0.013	0.012
Number of Days Standard Exceeded			
CAAQS 1-hour	0	0	0
Ozone			
State max 1-hour concentration (ppm)	0.098	0.102	0.105
National maximum 8-hour concentration (ppm)	0.082	0.078	0.086
Number of Days Standard Exceeded			
CAAQS 1-hour (>0.09 ppm)	2	1	1
CAAQS 8- hour (>0.070 ppm)/ NAAQS 8-hour (>0.075 ppm)	5/2	6/3	1/1
Particulate Matter (PM_{10}) [a]			
National maximum 24-hour concentration ($\mu g/m^3$)	55.0	41.0	37.0
State maximum 24-hour concentration ($\mu g/m^3$)	57.0	42.0	41.9
State annual average concentration ($\mu g/m^3$)	25.3	21.3	23.7
Estimated Number of Days Standard Exceeded			
NAAQS 24-hour (>150 $\mu g/m^3$)	0	0	0
CAAQS 24-hour (>50 $\mu g/m^3$)	1	0	0
Particulate Matter ($PM_{2.5}$) [a]			
National maximum 24-hour concentration ($\mu g/m^3$)	56.5	27.7	38.7
State maximum 24-hour concentration ($\mu g/m^3$)	56.5	41.9	29.7
National annual average concentration ($\mu g/m^3$)	12.1	10.8	12.3
State annual average concentration ($\mu g/m^3$)	12.2	10.8	10.6
Estimated Number of Days Standard Exceeded			
NAAQS 24-hour (>35 $\mu g/m^3$)	1	0	1

Notes:
* Data unavailable
[a] State and national statistics may differ for the following reasons: State statistics are based on California-approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may, therefore, be based on different samplers. State statistics are based on *local* conditions; national statistics are based on *standard* conditions. State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.
ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter
Source: ARB 2012b

The CAA required USEPA to establish primary and secondary NAAQS. The CAA also required each state to prepare an air quality control plan, which is referred to as a State Implementation Plan (SIP). The federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. USEPA is responsible for reviewing all state SIPs to determine conformation to the mandates of the CAAA and to determine whether implementation will achieve air quality goals. If USEPA determines an SIP to be inadequate, a Federal Implementation Plan that imposes additional control measures may be prepared for the nonattainment area.

State

ARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA). The CCAA was adopted in 1988 and required ARB to establish the CAAQS. ARB has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and criteria air pollutants. In most cases, the CAAQS are more stringent than the NAAQS, and incorporate a margin of safety to protect sensitive individuals.

ARB and local air pollution control districts are currently developing plans for meeting new national air quality standards for ozone and $PM_{2.5}$. California's adopted 2007 State Strategy was submitted to USEPA as a revision to the SIP in November 2007 (ARB 2008).

Local

In San Diego County, the SDAPCD is the agency responsible for protecting the public health and welfare through the administration of federal and state air quality laws and policies. The SDAPCD is responsible for monitoring air pollution, preparing the San Diego County portion of the SIP, and publicizing rules and regulations. The SIP includes strategies and tactics to be used to attain and maintain acceptable air quality in San Diego County; this list of strategies is called the Regional Air Quality Strategy (RAQS). The rules and regulations include procedures and requirements to control emissions of pollutants and prevent significant adverse impacts.

In response to the federal nonattainment designation for the 8-hour ozone standard, the SDAPCD prepared and ARB approved and submitted the *Eight-Hour Ozone Attainment Plan for San Diego County* to USEPA in May 2007. The plan identifies control measures and associated emissions reductions necessary to demonstrate attainment of the 8-hour ozone NAAQS. The SIP provides plans for attaining and maintaining the 8-hour NAAQS for ozone and demonstrates how the SDAB would continue to maintain compliance with federal CO standards. The SDAB

achieved the NAAQS for CO in 1993 and USEPA approved a 10-year maintenance plan in 1998. The current version of the maintenance plan is the *2004 Revision to the California State Implementation Plan for Carbon Monoxide Updated Maintenance Plan for Ten Federal Planning Areas.*

Toxic Air Contaminants

In addition to criteria pollutants, air quality regulations also focus on localized hazardous air pollutants, which are also called toxic air contaminants (TACs). For those TACs that may cause cancer there is, in general, no minimum concentration that does not present some risk. This contrasts with the criteria air pollutants, for which acceptable levels of exposure can be determined and ambient standards have been established (i.e., NAAQS).

USEPA and ARB have ongoing programs to identify and regulate TACs. Among the many substances identified as TACs are diesel exhaust particulates, asbestos, and inorganic lead. The regulation of TACs is generally through statutes and rules that require the use of the maximum or best available control technology (MACT or BACT) to limit TAC emissions.

Particulate exhaust emissions from diesel-fueled engines (diesel PM) were identified as a TAC by ARB in 1998. The control of diesel PM emissions is a prominent concern of regulatory agencies at all levels. The majority of the estimated local health risk from TACs is from diesel PM. The composition of diesel PM emissions from diesel-fueled engines varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emissions control system is present. Federal and state efforts to reduce diesel PM emissions have focused on the use of improved fuels, adding particulate filters to engines, and requiring the production of new-technology engines that emit fewer exhaust particulates.

MACT/BACT for asbestos and lead have been identified for many years, and there are established rules and procedures to prevent dispersion and inhalation of these substances. Asbestos is a naturally occurring mineral that was used in building materials for thermal and acoustical insulation and fire resistance until the mid-1980s; a partial ban by USEPA was imposed in 1989. Lead was used in paint for housing until 1978 when lead-based paint was banned by USEPA for use in housing. Asbestos and lead, when disturbed during building demolition, can become airborne as inhalable health hazard pollutants and, therefore, require abatement before demolition.

4.2.3 Thresholds for Determining Significance

Based on Appendix G of the CEQA Guidelines, a significant impact related to air quality would occur if implementation of the 2012 General Plan would do any of the following:

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).
- Result in CO hotspots.
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.

As stated in Appendix G of the CEQA Guidelines, the significance criteria established by the applicable air quality management board or air pollution control district may be relied on to make the impact determinations for specific program elements. The SDAPCD and the City do not have quantitative significance thresholds. However, San Diego County has recommended screening level thresholds of significance for regional pollutant emissions. Since neither the City nor the SDAPCD have quantitative significance thresholds, the City applies the San Diego County screening thresholds of significance for regional pollutant emissions. A project with emissions rates below these thresholds is considered to have a less-than-significant impact on regional and local air quality throughout the SDAB. The County of San Diego *Guidelines for Determining Significance and Report Format and Content Requirements, Air Quality* (County of San Diego 2007), which outline these screening level thresholds, states that any project that results in an emissions increase less than any of these levels would not:

- cause a violation of a state or national ambient air quality standard anywhere that does not already exceed such standard,
- cause additional violations of a national ambient air quality standard anywhere the standard is already being exceeded,
- cause additional violations of a state ambient air quality standard anywhere the standard is already being exceeded, or
- prevent or interfere with the attainment or maintenance of any state or national ambient air quality standard.

Therefore, if emissions from projects related to the 2012 General Plan are found to be below the screening level thresholds, it can be concluded that the project would not lead to a violation of a NAAQS/CAAQS. Screening level thresholds are shown in Table 4.2-3.

Table 4.2-3
Regional Pollutant Emissions Screening Level Thresholds of Significance

	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$	Lead
Pounds per hour	–	25	100	25	–	–	–
Pounds per day	75	250	550	250	100	55	3.2
Tons per year	13.7	40	100	40	15	10	0.6

ROG = reactive organic gases; NO_X = oxides of nitrogen; SO_X = sulfur oxides
– = No threshold proposed
Source: County of San Diego 2007

4.2.4 Analysis of Environmental Impacts

Conflict with or obstruct implementation of the applicable air quality plan

Projects or plans that are consistent with the assumptions used in development of the applicable air quality plan are considered to not conflict with or obstruct the attainment of the air quality levels identified in the plan, even if the project-level emissions exceed the regional emissions thresholds. Therefore, consistency of the 2012 General Plan with the regional air quality plan would constitute a less-than-significant impact. Air quality planning efforts are based on analysis and forecasts of air pollutant emissions throughout the entire region. Assumptions for land use development used in the RAQS are taken from local and regional planning documents, including General Plan land use designations and zoning. Emissions forecasts rely on projections of vehicle miles traveled (VMT) by Metropolitan Planning Organizations, such as SANDAG, and population, employment, and land use projections made by local jurisdictions, such as those contained in the 2012 General Plan.

Future development in the City would generate additional VMT and associated emissions of ozone precursors and PM. Future development would be required to demonstrate compliance with the strategies and measures adopted as part of the RAQS and SIP during the environmental review process, as well as with the requirements of the SDAPCD, to reduce emissions of particulate matter. The City has coordinated with SANDAG and the SDAPCD to ensure that the assumptions used in the RAQS are consistent with the assumptions in the 2012 General Plan; the City will continue to coordinate with SANDAG and the SDAPCD to ensure that all new assumptions regarding local land use decisions are incorporated into future regional planning and air quality plan updates.

Policies in the 2012 General Plan include a variety of actions aimed at cooperating with regional planning efforts. The SANDAG 2050 Regional Transportation Plan/Sustainable Communities Strategy (2050 RTP/SCS), approved in October 2011, is a comprehensive approach to addressing the region's mobility challenges (SANDAG 2011). The 2012 General Plan includes relevant

goals and policies that reflect and respond to the SANDAG RTP/SCS regional goals, such as the following:

- Maintain strong relationships across jurisdictions (Goal LU-7). This includes open communication, cooperation, and collaboration with neighboring communities and relevant agencies (Objective LU-7.1); actively participate in regional planning efforts, and strive to implement regional growth management strategies, including SANDAG's Sustainable Communities Strategy and Regional Comprehensive Plan (Policy LU-7.1.1); and continue to monitor and support the efforts of the California Air Resources Board and other agencies as they formulate global warming and climate change adaptation and mitigation strategies and programs (Policy LU-7.1.4).
- Minimal negative impacts to environmental and public health (Goal CS-2). The objectives and policies to meet this goal include minimize the level of pollutants entering the air (Objective CS-2.2); establish local thresholds by City Council adoption required as mitigation to the Environmental Impact Report for emissions [that] could have a significant negative impact on air quality (Policy CS-2.2.1); encourage infrastructure, such as fueling stations, for alternative fuel vehicles (Policy CS-2.2.2); and collaborate with public, private, and regional entities to develop and implement "clean energy fueled" fleet, bus, and train vehicles (Policy CS-2.2.3).
- Safe mobility and access for all without compromising our ability to protect public health and safety (Goal CS-3). This includes facilitating a reduction of automobile dependency in favor of affordable alternative, sustainable modes of travel (Objective CS-3.1); and encouraging businesses, organizations, and residents to participate in the implementation of regional transportation demand management, including carpooling programs (Policy CS-3.1.1).
- A diverse transit system offering a safe, time-efficient, and cost-effective transportation choice that reduces traffic congestion and improves air quality (Goal CE-3).

Based on the requirements for consistency with emissions control strategies in the RAQS and SIP, the 2012 General Plan would not conflict with or obstruct implementation of the RAQS and/or applicable portions of the SIP. Because the RAQS and the 2012 General Plan are based on projections using the same data developed by SANDAG, the 2012 General Plan is consistent with SDAPCD's current air quality planning efforts. Therefore, this impact would be **less than significant.**

Violate any air quality standard or contribute substantially to an existing or projected air quality violation

The air pollutants of greatest concern in San Diego County are ozone, PM_{10}, and $PM_{2.5}$ because of the current nonattainment status for these pollutants. Sources of these pollutants include stationary sources (e.g., fuel combustion, waste disposal processes, and industrial processes), area-wide sources (e.g., use of consumer products), and mobile sources (e.g., on-road vehicles). Stationary source emissions are reported to the SDAPCD and are not anticipated to vary significantly unless new stationary sources are constructed. However, if new stationary sources are constructed, they would be subject to SDAPCD's requirements for permitting and would have to demonstrate that they would not cause or contribute to a violation of an air quality standard. Therefore, future emissions from stationary sources developed under the 2012 General Plan were not calculated because these sources would be required to conduct environmental review pursuant to CEQA prior to approval and demonstrate that they would not contribute to or violate any air quality standards in order to obtain required permits from the SDAPCD.

The earlier discussion related to whether the 2012 General Plan would conflict with the applicable air quality plan is based on consistency with the RAQS, including assumptions for VMT, population, and employment. The significance thresholds from Appendix G of the CEQA Guidelines indicate that emissions associated with the 2012 General Plan should also be evaluated to determine if the development of land uses would violate any air quality standard. Construction, area-source, and mobile emissions estimates were based on development associated with the 2012 General Plan and the forecasted build-out of the 2012 General Plan land use designations.

Construction

The 2012 General Plan would allow for additional commercial, residential, and industrial development within the City. The increase in density and development potential would also result in additional construction-related air quality emissions. During construction, criteria air pollutant and precursor emissions would be temporarily and intermittently generated from a variety of sources. Potential demolition, excavation, and site grading activities would generate fugitive PM dust emissions. Fugitive PM dust emissions are primarily associated with ground disturbance and material transport, and vary as a function of parameters such as soil silt content and moisture, wind speed, acreage of disturbance area, and the intensity of activity performed with construction equipment. Exhaust emissions from diesel equipment, material transport trips, and construction worker commute trips also contribute to short-term increases in criteria pollutant emissions. In addition, the application of architectural coatings (i.e., interior and exterior surface painting) would result in off-gas emissions of ROG.

Construction emissions associated with the proposed additional land uses were quantified using the California Emissions Estimator Model (CalEEMod), Version 2011.1.1. CalEEMod allows the user to enter project-specific information such as types of land uses, amount of land uses, and vehicle trip generation rates. At the time of this writing, the development schedule for these additional uses is unknown; therefore, emissions estimates assumed equal levels of construction during each year of the life of the 2012 General Plan.

The analysis was conducted for 2013, the earliest year that construction would occur. When construction occurs in future years, emissions factors associated with off-road construction equipment would be lower. This reduction is due to the regulation of equipment emissions by the state, and implementation of more stringent emissions standards. As older models of equipment are replaced by newer models with cleaner engines, fleet-wide emissions factors would decrease. Therefore, the analysis using 2013 would likely be an overestimate of emissions factors for years after 2013.

Maximum daily emissions estimates (Table 4.2-4) were derived assuming that the intensity of construction activity would be the same during each year of construction over the life of the 2012 General Plan. It is more likely, however, that some periods of construction (and associated emissions) would be more intense than other periods due to changes in market conditions and according to preferences of the City and the project applicants. If, for instance, peak construction activity would be more intense than the average level assumed in this analysis, then maximum daily emissions levels may be greater than the levels presented in Table 4.2-4.

Table 4.2-4
Summary of Modeled Construction Emissions

	Emissions (tons per year)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
2013	6.8	25.9	17.5	3.3	2.3
Annual Significance Threshold	***13.7***	***40***	***100***	***15***	***10***
Exceeds Threshold?	***No***	***No***	***No***	***No***	***No***

Notes: ROG = reactive organic gas; NO_X = oxides of nitrogen; CO = carbon monoxide; PM_{10} = particulate matter less than or equal to 10 microns in diameter; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter
Source: Data modeled by AECOM in 2012

As shown in Table 4.2-4, construction-related emissions would not exceed the recommend levels of significance for any of the criteria pollutants. While construction estimates do not indicate that emissions of the other criteria pollutants would exceed the recommended thresholds of significance, the timing and intensity of construction activities cannot, at this time, be accurately

identified. Therefore, emissions levels could be even greater than those indicated in Table 4.2-4. Some air districts even suggest that lead agencies assume that up to 25 percent of the total land uses would be constructed in a single year (SMAQMD 2011). Since it is not possible to accurately estimate the construction schedule and future emissions from development activities associated with the 2012 General Plan, construction activities could lead to the violation of an applicable air quality standard for ROG, NO_X, CO, PM_{10}, or $PM_{2.5}$. This impact would be **significant** and Mitigation Measure AQ-1 is required.

Operational

The 2012 General Plan would allow an increased intensity of development in the City compared to existing conditions. The additional development would include land uses such as residential, retail, offices, and general commercial services. Daily activities associated with the operation of these land uses would generate criteria air pollutant and precursor emissions from mobile and area sources. Mobile sources include vehicle trips coming to and leaving from the planned land uses. Area sources include sources such as consumer products (i.e., ROG), natural gas combustion for water and space heating, landscape maintenance equipment, hearth operation in residential homes, and periodic architectural coatings. While construction emissions are considered short term and temporary, operational emissions are considered long term and occur for the lifetime of the project and the resulting land uses that are established.

Operational emissions associated with the day-to-day activities of the proposed additional land uses were quantified using CalEEMod. This modeling assumes that the new residences and commercial and industrial uses proposed in the 2012 General Plan would be constructed by 2035. As shown in Table 4.2-5, annual operational emissions resulting from full implementation of the 2012 General Plan would exceed the thresholds of significance for ROG, CO, and PM_{10}.

Table 4.2-5
Summary of Modeled Operational Emissions of Criteria Air Pollutants and Precursors

	Emissions (tons per year)				
	ROG	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Area Sources	57.1	0.9	71.2	7.9	7.9
Energy	0.5	4.8	2.9	0.4	0.4
Mobile Sources	6.9	12.3	56.5	19.1	1.2
Total	64.5	18.0	130.8	27.3	9.4
Significance Threshold	*13.7*	*40*	*100*	*15*	*10*
Exceeds Threshold?	***Yes***	***No***	***Yes***	***Yes***	***No***

Notes: ROG = reactive organic gas; NO_X = oxides of nitrogen; CO = carbon monoxide; PM_{10} = particulate matter less than or equal to 10 microns in diameter; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter
Refer to Appendix B for detailed assumptions and modeling output files.
Source: Data modeled by AECOM in 2012

The 2012 General Plan includes a number of goals, policies, and programs that address air quality and would reduce criteria pollutant emissions:

- Goal CS-1: A City that prioritizes the conservation and efficient use of natural resources and uses effective methods of preserving sensitive lands.
    - Objective CS-1.1: Create compact, mixed-use projects with amenities to enhance the City's natural setting.
        - Policy CS-1.1.2: Promote the Mixed Use Overlay Zone and related design guidelines to encourage infill along the City's transit corridors.
    - Objective CS-1.2: Encourage the use of local, non-polluting, renewable and recycled resources.
    - Objective CS-1.4: Collaborate with partner agencies, utilities, and businesses to support a range of energy efficiency and conservation measures.
        - Policy CS-1.4.1: Facilitate savings-by-design and address energy-efficient building and site design in the retrofit or renovation of new and existing development.
        - Policy CS-1.4.2: Encourage the use of local, non-polluting, renewable and recycled resources.
- Goal CS-2: Minimal negative impacts to environmental and public health.
    - Objective CS-2.2: Minimize the level of pollutants entering the air.
        - Policy CS-2.2.1: Establish local thresholds by City Council adoption required as mitigation to the Environmental Impact Report for emissions that could have a significant negative impact on air quality.
        - Policy CS-2.2.2: Encourage infrastructure, such as fueling stations, for alternative fuel vehicles.
        - Policy CS-2.2.3: Collaborate with public, private, and regional entities to develop and implement clean-energy-fueled fleet, bus, and train vehicles.
- Goal CS-3: Safe mobility and access for all without compromising our ability to protect public health and safety.
    - Objective CS-3.1: Facilitate a reduction of automobile dependency in favor of affordable alternative, sustainable modes of travel.

- Policy CS-3.1.1: Encourage businesses, organizations, and residents to participate in the implementation of regional transportation demand management, including carpooling programs.

While implementation of the policies and programs included in the 2012 General Plan would reduce the emissions associated with development of the 2012 General Plan, long-term operational emissions associated with the 2012 General Plan would potentially violate an ambient air quality standard. This impact would be **significant** and Mitigation Measure AQ-2 is required.

Result in cumulatively considerable net increase of criteria pollutants

The 2012 General Plan and the related cumulative projects are under the jurisdiction of the SDAPCD and are all located in the SDAB. By its nature, air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development within the air basin, and this regional impact is a cumulative impact; projects within the air basin would contribute to this impact only on a cumulative basis. No single project would be sufficient in size, by itself, to result in nonattainment of the regional air quality standards. Instead, a project's emissions may be individually limited but cumulatively considerable when taken in combination with past, present, and future development projects. All new development that results in an increase in air pollutant emissions above those assumed in regional air quality plans contributes to cumulative air quality impacts.

Cumulative analysis focuses on whether a specific project would result in cumulatively considerable emissions. Per CEQA Guidelines Section 15064(h)(4), the existence of significant cumulative impacts caused by other projects alone would not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable.

As regional growth occurs within the SDAB, the increased population, VMT, and construction of new land uses throughout the basin would result in increased emissions of criteria air pollutants and precursors in excess of the significance thresholds. As discussed above, construction-related criteria air pollutant and precursor emissions could exceed significance thresholds based on construction of the land uses envisioned in the 2012 General Plan. In addition, implementation of the land uses identified in the 2012 General Plan would result in a net increase of long-term operation-related emissions from mobile and area sources. Thus, 2012 General-Plan-generated emissions would potentially result in a cumulatively considerable net increase of a criteria pollutant for which the region is in nonattainment under an applicable federal or state ambient air quality standard. As a result, the 2012 General Plan's contribution to this significant cumulative

impact would be considerable. This impact would be **significant** and Mitigation Measures AQ-1 and AQ-2 are required.

Result in CO Hotspots

CO concentration is a direct function of meteorological conditions and motor vehicle activity, particularly during peak commute hours. Under specific meteorological conditions, CO concentrations may reach unhealthy levels with respect to local sensitive land uses, such as residential areas, schools, preschools, playgrounds, and hospitals. As a result, air districts typically recommend analysis of CO emissions at a local, rather than a regional, level. Because increased CO concentrations are usually associated with roadways that are congested and with heavy traffic volume, many air districts have established preliminary screening criteria to determine, with fair certainty, that, if not violated, project-generated, long-term operational local mobile-source emissions of CO would not result in, or substantially contribute to, emissions concentrations that exceed the 1-hour ambient air quality standard of 20 parts per million (ppm) or the 8-hour standard of 9.0 ppm, respectively.

The SDAPCD has not established screening criteria for CO hotspots, but the County of San Diego indicates that projects that cause road intersections or roadway segments to operate at or below a level of service (LOS) of E could create a CO hotspot and result in a cumulatively considerable net increase of CO (County of San Diego 2007).

CO emissions factors are projected to decrease in future years, which would reduce the concentration of CO emissions. Since the current operations do not result in a CO hotspot, the same roadway segment in the future would also not be anticipated to result in a CO hotspot.

Traffic volumes also affect the ability of a roadway or intersection to result in a CO hotspot. The Bay Area Air Quality Management District's CEQA Guidelines suggest that projects that would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour would not be anticipated to result in or substantially contribute to an exceedance of the CO CAAQS (BAAQMD 2010). Furthermore, the Sacramento Metropolitan Air Quality Management District's screening criteria determined that a project would not result in significant localized CO impacts if the project would not result in an affected intersection experiencing more than 31,600 vehicles per hour (SMAQMD 2011).

The traffic analysis prepared for the 2012 General Plan determined that total daily traffic volumes would result in a maximum of 31,012 trips on 70th Street south of Alvarado Road (Appendix F). Given the maximum daily volume anticipated in 2035, the hourly volumes would not approach any of the screening thresholds discussed above.

Therefore, it is not anticipated that implementation of the 2012 General Plan would cause a CO hotspot. Specifically, the CO concentrations resulting from the 2012 General Plan would not violate the CAAQS for either the 1-hour (20 ppm) or 8-hour period (9.0 ppm). Therefore, this impact would be **less than significant.**

Result in the exposure of sensitive receptors to substantial pollutant concentrations

Construction

During construction of the additional land uses, heavy-duty construction equipment, on-site generators, and construction worker vehicles could generate diesel PM, which has been identified as a TAC by ARB. Generation of diesel PM from construction projects typically occurs in a single area for a short period. The variable nature of construction activity also affects the amount of time that equipment is typically within a distance that would expose sensitive receptors to substantial concentrations. Concentrations of mobile-source diesel PM emissions are typically reduced by 70 percent at a distance of approximately 500 feet (ARB 2005).

The dose of TAC to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance in the environment and the extent of exposure a person has with the substance; a longer exposure period to a fixed amount of emissions would result in higher health risks. According to the Office of Environmental Health Hazard Assessment, health risk assessments used to determine the exposure of sensitive receptors to TAC emissions should be based on a 70-year exposure period; however, such assessments should also be limited to the period/duration of activities associated with the proposed project (OEHHA 2003). Building construction activities for individual projects in the 2012 General Plan are anticipated to last approximately 6 months to 1 year. Thus, if the duration of potentially harmful construction activities near a sensitive receptor is 1 year, the exposure would be approximately 1 percent of the total exposure period used for typical health risk calculations. Considering this information, the highly dispersive nature of diesel PM, and the fact that construction activities would occur intermittently and at various locations over approximately 23 years (i.e., 2012 to 2035), it is not anticipated that construction related to the 2012 General Plan would expose sensitive receptors to substantial TAC concentrations. This impact would be **less than significant.**

Operations

The proposed land uses associated with the 2012 General Plan would primarily be residential and commercial. The 2012 General Plan also anticipates construction of industrial sources and commercial land uses, which may potentially include stationary sources of TACs such as dry-

cleaning establishments and diesel-fueled back-up generators. These types of stationary sources, in addition to any other stationary sources, including industrial land uses, that may emit TACs would be subject to SDAPCD's rules and regulations. This includes Regulation XII, which applies to any new, relocated, or modified emissions unit that may increase emissions of TACs. While build-out of the 2012 General Plan is not expected to include substantial sources of TAC emissions, it is possible that individual projects could expose sensitive receptors to adverse health impacts. Therefore, the impact would be **significant** and Mitigation Measure AQ-3 would be required.

Result in objectionable odors affecting a substantial number of people

As discussed previously, the human response to odors is subjective, and sensitivity to odors varies greatly. Potential sources that may emit odors during construction activities include equipment exhaust. Odors from these sources would be localized and generally confined to the immediate area surrounding the proposed project site. The projects constructed as part of the 2012 General Plan would use typical construction techniques, and the odors would be temporary and typical of most construction sites.

Major sources of odors could include new or expanded wastewater treatment and pumping facilities, manufacturing facilities with significant quantities of odorous materials, sanitary landfills and transfer stations, painting/coating operations (e.g., auto body shops), composting facilities, and confined animal facilities. Minor sources of odors include restaurants, coffee roasters, and other urban land uses that are not typically associated with numerous odor complaints.

According to air quality guidelines developed by the County of San Diego (County of San Diego 2007), a project will not have a significant impact if the following are true:

- The project does not place a new odor-producing land use (e.g., waste water treatment facility) adjacent to existing sensitive receptors;
- The project does not place sensitive receptors adjacent to or near a confined animal facility or other odor-producing land use; and
- The project is not located near any other agricultural use with the potential to produce strong odors, including organic agricultural operations or agricultural operations that apply a substantial amount of agricultural chemicals that typically produce strong odors.

The City has anticipated the possibility that sensitive receptors may be exposed to sources of odor during implementation of the 2012 General Plan. All new development projects are

required to meet existing regulations, including permitting requirements and disclosure laws. Individual development projects would also be required to undergo project-specific environmental review, and mitigation measures would be identified to reduce any project-specific significant impacts. Therefore, the 2012 General Plan would not create objectionable odors affecting a substantial number of people, and impacts would be less than significant. With adherence to existing regulations and plans, impacts associated with odors would be **less than significant.**

4.2.5 Mitigation Measures

Implementation of the 2012 General Plan would result in significant impacts related to air quality. The following mitigation measures are general and programmatic, consistent with the approach of the 2012 General Plan.

AQ-1 **Reduce Construction-Related Emissions.** The City and project contractors shall implement the following measures during all construction activities:

- Comply with and implement all applicable SDAPCD rules and regulations that pertain to construction activities (e.g., asphalt paving ROG requirements, administrative requirements, and fugitive dust management practices). Implement all construction-related requirements recommended by the SDAPCD or local government.
- Water all exposed surfaces three times a day or sufficiently to prevent visible dust emissions.
- Apply water, nontoxic chemical stabilizers, or dust suppressants, or use tarps or other suitable material in all disturbed areas that will not be used for 10 days or more.
- Prevent carryout and track-out of fugitive dust on construction vehicles. Methods to limit carryout and track-out include using wheel washers; sweeping any track-out on adjacent public streets at the end of each work day; and lining access points with gravel, mulch, or wood chips.
- Cover or wet the filled cargo compartment of all transport trucks to limit visible dust emissions during transport, and maintain at least 2 feet of freeboard space from the top of a container.
- Install sandbags or other erosion-control measures on sites with a slope greater than 1 percent to prevent silt runoff to public roadways.

- Maintain all construction equipment according to the manufacturers' specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated.
- Minimize idling time either by shutting off equipment when it is not in use or reducing the time of idling to no more than 5 minutes. Provide clear signage regarding idling at site access points.
- Use alternative fueled (e.g., compressed natural gas, liquefied natural gas, propane), or electric-powered construction equipment where feasible.
- Use equipment with diesel oxidation catalysts, catalyzed diesel PM filters, or other applicable SDAPCD-approved emissions reduction retrofit devices where feasible.

AQ-2 **Reduce Operational Emissions.** The City shall work with the SDAPCD and SANDAG to implement measures in the RAQS and meet all federal and state air quality standards for pollutants. The City shall also implement, review, and interpret the 2012 General Plan and future discretionary projects in a manner consistent with the RAQS to meet standards and reduce overall emissions from mobile and stationary sources. The City shall require each project applicant, as a condition of discretionary approval, to implement measures to reduce operational emissions of criteria air pollutants. Example measures follow:

- Install solar, wind, or geothermal power systems and solar hot water heaters.
- Install solar panels on unused roof and ground space and over carports and parking areas.
- Incorporate bicycle lanes, routes, and facilities into street systems, new subdivisions, and large developments.
- Require amenities for non-motorized transportation, such as secure and convenient bicycle parking.
- Institute teleconferencing, telecommute, and/or flexible work hour programs to reduce unnecessary employee transportation.
- Provide information on alternative transportation options for consumers, residents, tenants, and employers/employees to reduce transportation-related emissions.
- Purchase, or create incentives for purchasing, low or zero-emissions vehicles.

- Create a ride sharing program. Promote existing ride sharing programs by designating a certain percentage of parking spaces for ride sharing vehicles, designating adequate passenger loading and unloading for ride sharing vehicles, and providing a website or message board for coordinating rides.
- Enforce and follow limits for idling time for commercial vehicles, including delivery and construction vehicles.

AQ-3 **Reduce Exposure of Sensitive Receptors to TAC Emissions**

- The City shall require new development with sensitive uses located near mobile and stationary TACs to be designed with consideration of site and building orientation, location of trees, and incorporation of appropriate technology for improved air quality (i.e., ventilation and filtration) to lessen any potential health risks.
- The City shall require every new land use that has the potential to be a source of air pollution from being located closer than the specified minimum distance from any sensitive land use, as provided in Table 1-1, "Recommendations for Siting New Sensitive Land Uses," of the ARB Air Quality and Land Use Handbook (ARB 2005), or subsequent revisions to that document. The City shall require that land uses located closer than the recommended buffer distances must (1) implement all commercially feasible design, equipment, and control technology to reduce exposure and emissions to the maximum extent feasible, and (2) perform a health risk assessment to ensure that implementation of mitigation would reduce health risks to less-than-significant levels pursuant to the most current SDAPCD guidelines at the time of analysis before development of the proposed project.

4.2.6 Significance After Mitigation

Conflict with or obstruct implementation of the applicable air quality plan

Implementation of the 2012 General Plan would not conflict with or obstruct the implementation of the applicable air quality plan; therefore, impacts would be **less than significant.**

Violate any air quality standard or contribute substantially to an existing or projected air quality violation

Implementation of Mitigation Measure AQ-1 would ensure that all construction activities associated with the 2012 General Plan would minimize fugitive dust and exhaust emissions. Therefore, compliance with all requirements of Mitigation Measure AQ-1 would reduce

significant impacts associated with construction emissions that could violate any air quality standard or result in cumulatively considerable net increase of criteria pollutants, but not necessarily to a less-than-significant level. Since the timing and intensity of construction activities cannot, at this time, be accurately identified, emissions levels could be even greater than those indicated in Table 4.2-4. Therefore, it is not possible to estimate the reductions associated with the proposed mitigation measure. This impact would remain **significant and unavoidable.**

Result in cumulatively considerable net increase of criteria pollutants

Adherence to SDAPCD rules and regulations, 2012 General Plan policies, and implementation of Mitigation Measure AQ-2 would reduce the impact associated with operational emissions that could violate any air quality standard or result in a cumulatively considerable net increase of criteria pollutants, but not to a less-than-significant level. Implementation of the 2012 General Plan could result in emissions in excess of thresholds for criteria air pollutants and precursors for which the region is in nonattainment. No additional feasible mitigation is available. The impact would remain **significant and unavoidable.**

Result in CO Hotspots

Implementation of the 2012 General Plan would not result in CO hotspots; therefore, impacts would be **less than significant.**

Result in the exposure of sensitive receptors to substantial pollutant concentrations

Where environmental review under CEQA indicates the need to identify health issues, individual projects constructed under the 2012 General Plan would also require preparation of a health risk assessment. Implementation of Mitigation Measure AQ-3 would lessen health-related risks associated with operational sources of TAC emissions. Therefore, this impact would be **less than significant** after mitigation.

Result in objectionable odors affecting a substantial number of people

Implementation of the 2012 General Plan would not result in impacts related to odors; therefore, impacts would be **less than significant.**

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