

4.3 Air Quality

This section of the EIR evaluates the potential for impacts to air quality associated with implementation of the City of Escondido General Plan Update. It examines the existing air quality in the City, evaluates City-wide and regional air quality impacts, and identifies mitigation measures to lessen those impacts. The information in this section is based on the Air Quality Technical Report prepared by Atkins (2011a), included as Appendix B to this EIR. Analysis regarding City of Escondido greenhouse gas emissions and the potential for the proposed project to conflict with the goals and strategies of Assembly Bill (AB) 32 is discussed in Section 4.7, Greenhouse Gas Emissions, of this EIR.

A summary of the impacts to air quality identified in Section 4.3.3, Analysis of Project Impacts and Determination of Significance, is provided below.

Air Quality Summary of Impacts

Issue Number	Issue Topic	Project Direct Impact	Project Cumulative Impact	Impact After Mitigation
1	Air Quality Plans	Less than Significant	Less than Significant	Less than Significant
2	Air Quality Violations	Potentially Significant	Potentially Significant	Significant and Unavoidable
3	Sensitive Receptors	Potentially Significant	Less than Significant	Less than Significant
4	Objectionable Odors	Less than Significant	Less than Significant	Less than Significant

4.3.1 Existing Conditions

Air pollution is a general term used to describe undesirable amounts of particulate or gaseous matter in the atmosphere. Air pollution can be natural or human-made. It occurs naturally during volcanic eruptions, forest fires, and dust storms and has been an occasional problem for humans over time. However, during the past 100 years, air pollution created by humans has become a persistent public health problem.

4.3.1.1 Climate and Meteorology

Regional climate and local meteorological conditions influence ambient air quality. The City of Escondido and surrounding area is located in the San Diego Air Basin (SDAB). The climate of the SDAB is dominated by a semi-permanent high pressure cell located over the Pacific Ocean. This cell influences the direction of prevailing winds (westerly to northwesterly) and maintains clear skies for much of the year. In Escondido, the normal daily maximum temperature is 87 degrees Fahrenheit (°F) in July, and the normal daily minimum temperature is 39° F in December, according to the Western Regional Climate Center (WRCC 2010). The normal precipitation in Escondido is about 16 inches annually, occurring primarily from November through March.

The high pressure cell also creates two types of temperature inversions that may act to degrade local air quality. Subsidence inversions occur during the warmer months as descending air associated with the Pacific high pressure cell comes into contact with cool marine air. The boundary between the two layers of air creates a temperature inversion that traps pollutants. The other type of inversion, a radiation

inversion, develops on winter nights when air near the ground cools through radiation and the air aloft remain warm. The shallow inversion layer formed between these two air masses can also trap pollutants.

In addition, ambient air quality in the SDAB is affected by air quality in the South Coast Air Basin (the metropolitan areas of Los Angeles, Orange, San Bernardino, and Riverside Counties). Air pollutants, specifically the components of smog, discussed below in Section 4.3.1.3, Air Pollutants, are transported to San Diego during relatively mild Santa Ana weather conditions. Winds blowing toward the southwest transport the polluted air from the South Coast Air Basin over the ocean. The sea breeze brings it onshore into San Diego County. During strong Santa Ana conditions, pollutants are pushed far out to sea and do not affect the SDAB. When the transported smog is at ground level, the highest ozone concentrations are measured at coastal and near-coastal monitoring sites. However, when the blown-in smog cloud is elevated, coastal sites may be passed over, and the transported ozone is measured further inland such as in the City (SDAPC 2011). Although this phenomenon may complicate regional air quality planning for the SDAPCD, it does not influence the findings of this technical report. Smog from other air basins is not distinguished from locally generated smog at the ambient air quality monitoring stations; therefore, it has been accounted for in the discussion of ambient air quality below in Section 4.3.1.4, Air Quality Monitoring Data.

4.3.1.2 Measuring Air Quality

Air quality at a given location can be described by units of concentration that are generally expressed in parts per million (ppm) or micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). The significance of a pollutant concentration is typically determined by comparing the concentration to ambient air quality standards (AAQS), described below in Section 4.3.2, Regulatory Framework. The standards represent the allowable atmospheric concentrations at which the public health and welfare are protected, and include a reasonable margin of safety to protect the more sensitive receptors in the population. Sensitive receptors include day care centers, schools, retirement homes, hospitals, medical patients in residential homes, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality.

4.3.1.3 Air Pollutants

Historically, air quality laws and regulations have divided air pollutants into two broad categories: “criteria air pollutants” and “toxic air contaminants.” Criteria air pollutants are a group of common air pollutants regulated by the federal and state governments by means of ambient standards based on criteria regarding health and/or environmental effects of pollution (County of San Diego 2007). Toxic Air Contaminants (TACs) (air toxics or toxic air pollutants) are often referred to as “non-criteria” air pollutants because AAQS have not been established for them. Under certain conditions, TACs may cause adverse health effects, including cancer and/or acute and chronic noncancerous effects.

Criteria Pollutants

The criteria air pollutants pertinent to the project analysis are carbon monoxide, nitrogen oxides, ozone, particulate matter, and sulfur oxide (SO_x). The following describes the health effects for each criteria air pollutant based on information published by the EPA (2011) and CARB (2010).

Carbon monoxide (CO) is a colorless, odorless, poisonous gas, produced by incomplete burning of carbon-based fuels, including gasoline, oil, and wood. Carbon monoxide is also produced from incomplete combustion of many natural and synthetic products. For instance, cigarette smoke contains carbon monoxide. When carbon monoxide gets into the body, it combines with chemicals in the blood and prevents the blood from providing oxygen to cells, tissues, and organs. Because the body requires oxygen for energy, high-level exposures to carbon monoxide can cause serious health effects.

Nitrogen oxide (NO_x) is a general term pertaining to compounds, including nitric oxide, nitrogen dioxide, and other oxides of nitrogen. NO_x are produced from burning fuels, including gasoline, diesel, and coal. NO_x react with volatile organic compounds (VOCs) to form smog. NO_x are also major components of acid rain.

Ozone is a corrosive gas composed of three oxygen atoms linked together. Ozone exists in two layers of the atmosphere. It occurs naturally in the stratosphere (upper atmosphere) where it absorbs and provides a protective shield against the sun's damaging ultraviolet radiation. Ozone also exists in the troposphere (lower atmosphere), and even near ground level, where it can cause health effects in humans including respiratory and eye irritation and decreases in lung function and capacity. Ozone is not emitted directly in the air, but at ground level is formed by chemical reactions of "precursor" pollutants – NO_x and VOCs – in the presence of sunlight. Ozone levels are higher during the spring and summer months.

Particulate matter (PM) includes dust, soot, and other tiny bits of solid materials that are released into and move around in the air. Particulates are produced by many sources, including burning of diesel fuels by trucks and buses, incineration of garbage, mixing and application of fertilizers and pesticides, road construction, industrial processes such as steel making, mining operations, agricultural burning (field and slash burning), and operation of fireplaces and woodstoves. Particulate pollution can cause eye, nose, and throat irritation and other health problems. Particulate matter is measured in microns, which are one millionth of a meter in length (or one-thousandth of a millimeter). PM₁₀ is small (respirable) particulate matter measuring 10 microns in diameter, while PM_{2.5} is fine particulate matter no more than 2.5 microns in diameter.

Sulfur dioxide (SO₂) is a pungent, colorless gas formed primarily by the combustion of sulfur-containing fossil fuels, especially coal and oil. Some industrial processes, such as production of paper and smelting of metals, produce sulfur dioxide. Sulfur dioxide emissions have not been a problem in the SDAB because of the low sulfur fuels used in the region (SDAPCD 2007).

Toxic Air Contaminants

TACs are a category of air pollutants that have been shown to have an impact on human health but are not classified as criteria pollutants. Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including construction activities; area sources such as architectural coatings for maintenance purposes; fuel combustion emissions from landscape maintenance equipment; energy use from space and water heating; stationary sources such as diesel emergency generators and laboratories; and mobile sources. Adverse health effects of TACs can be carcinogenic (cancer-causing), short-term (acute) non-carcinogenic, and long-term (chronic) non-carcinogenic.

Odors

The major elements involved in odor emissions are deductibility, recognition, intensity, character, and hedonic tone. Deductibility is the lowest concentration of an odor that will elicit a sensory response; at this concentration, there is an awareness of the presence of an added substance, but not necessarily an odor sensation. Recognition, however, is the minimum concentration that is recognized as having a characteristic odor quality by a segment of the population. Intensity refers to the perceived strength of the odor sensation, and character is how the substance smells (e.g., fishy, rancid, hay, sewer, turpentine, ammonia, etc.). Hedonic tone is a judgment of the relative pleasantness or unpleasantness of the odor, and is influenced by factors such as subjective experience and frequency of occurrence. The apparent presence of an odor in ambient air depends on the properties of the substance emitted, its concentration in emissions, and dilution of emissions between the emissions point and the receptor (person).

Certain amounts of odor emissions are generated from on-going construction activities in Escondido and the surrounding area, including unburned hydrocarbons in tailpipe exhaust, emissions from construction vehicles and equipment and road improvements requiring the use of asphalt. The CARB's Air Quality and Land Use Handbook also includes a list of the most common sources of odor complaints received by local air districts. Typical sources of odor complaints include facilities such as sewage treatment plants, landfills, recycling facilities, petroleum refineries, and livestock operations. One wastewater treatment plant operates in the City of Escondido, the Hale Avenue Resources Recovery Facility, located at 1521 South Hale Avenue. No landfills, recycling facilities, or petroleum refineries are located in the City, but a solid waste transfer facility is located at 1044 West Washington Avenue. Livestock operations are located within the General Plan Update boundary in the agricultural areas, including the Watson Farms Llama Ranch located at 1984 Greenview Road and several chicken farms. Agricultural land uses in the planning area are generally located outside the City's urban core, on the outskirts and outside of the City limits. These land uses are existing potential sources of nuisance odors.

4.3.1.4 Air Quality Monitoring Data

The SDAPCD operates a network of ambient air monitoring stations throughout San Diego County. The purpose of the monitoring stations is to measure ambient concentrations of air pollutants and determine whether the ambient air quality meets the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS). The City of Escondido contains an ambient air quality monitoring station on East Valley Parkway, which measures all air pollutants except sulfur dioxide. The San Diego (Beardsley Street) station is the closest station to the project area that measures sulfur dioxide. Table 4.3-1, Air Quality Monitoring, below presents a summary of the ambient pollutant concentrations monitored at the Escondido and San Diego stations during the last three years (2008 through 2010). The corresponding NAAQS and CAAQS are presented below in Table 4.3-2, State and National Ambient Air Quality Standards. The SDAB is currently designated as a state standard nonattainment area for PM₁₀, PM_{2.5}, 1-hour and 8-hour ozone, and the Federal 8-hour standard for ozone.

As shown below in Table 4.3-1, Air Quality Monitoring, the 1-hour ozone concentration exceeded the state standard nine times during 2008 and two times in 2010. The 8-hour ozone concentration exceeded both the state and federal standard in 2008, 2009, and 2010. The daily PM₁₀ concentration exceeded the state standard in 2008 and 2009, but not in 2010. The federal standard was not exceeded

during this period. The federal 24-hour $PM_{2.5}$ standard was violated three times in 2008 and two times in 2009 and 2010.

Neither the state nor federal standards for CO, NO_2 , or SO_2 were exceeded at any time during years 2008 through 2010. The federal annual average NO_2 standard has not been exceeded since 1978 and the state 1-hour standard has not been exceeded since 1988 (SDAPCD 2007). With one exception during October 2003, the SDAB has not violated the state or federal standards for CO since 1990 (SDAPCD 2007).

Table 4.3-1 Air Quality Monitoring

Pollutant	Monitoring Station	2008	2009	2010
Ozone (O_3)				
Maximum 1-hour concentration (ppm)	Escondido-East Valley Parkway	0.116	0.093	0.105
Days above 1-hour state standard (>0.09 ppm)		9	0	2
Maximum 8-hour concentration (ppm)		0.098	0.080	0.084
Days above 8-hour state standard (>0.07 ppm)		23	9	5
Days above 8-hour federal standard (>0.075 ppm)		13	1	3
Carbon Monoxide (CO)				
Maximum 8-hour concentration (ppm)	Escondido-East Valley Parkway	2.81	3.24	2.46
Days above state or federal standard (>9.0 ppm)		0	0	0
Respirable Particulate Matter (PM_{10})				
Peak 24-hour concentration ($\mu g/m^3$)	Escondido – East Valley Parkway	84.0	74.0	43.0
Days above state standard (>50 $\mu g/m^3$)		1	1	0
Days above federal standard (>150 $\mu g/m^3$)		0	0	0
Fine Particulate Matter ($PM_{2.5}$)				
Peak 24-hour concentration ($\mu g/m^3$)	Escondido – East Valley Parkway	44.0	78.4	52.2
Days above federal standard (>35 $\mu g/m^3$)		3	2	2
Nitrogen Dioxide (NO_2)				
Peak 1-hour concentration (ppm)	Escondido – East Valley Parkway	0.081	0.073	0.64
Days above state 1-hour standard (0.18 ppm)		0	0	0
Sulfur Dioxide (SO_2)				
Maximum 24-hour concentration (ppm)	San Diego Beardsley Street	0.007	0.006	0.02
Days above 24-hour state standard (>0.04 ppm)		0	0	0
Days above 24-hour federal standard (>0.14 ppm)		0	0	0

ppm = parts per million, $\mu g/m^3$ = micrograms per cubic meter

Source: CARB 2011

Table 4.3-2 State and National Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ⁽¹⁾		Federal Standards ⁽²⁾	
		Concentration ⁽³⁾		Primary ^(3, 4)	Secondary ^(3, 5)
Ozone (O ₃)	1-hour	0.09 ppm (180 µg/m ³)		--	Same as Primary Standards
	8-hour	0.070 ppm (137 µg/m ³)		0.075 ppm (147 µg/m ³)	
Respirable Particulate Matter (PM ₁₀)	24-hour	50 µg/m ³		150 µg/m ³	Same as Primary Standards
	Annual Arithmetic Mean	20 µg/m ³		--	
Fine Particulate Matter (PM _{2.5})	24-hour	No Separate State Standard		35 µg/m ³	Same as Primary Standards
	Annual Arithmetic Mean	12 µg/m ³		15 µg/m ³	
Carbon Monoxide (CO)	8-hour	9 ppm (10 mg/m ³)		9 ppm (10 mg/m ³)	None
	1-hour	20 ppm (23 mg/m ³)		35 ppm (40 mg/m ³)	
Nitrogen Dioxide (NO ₂)	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)		53 ppb (100 µg/m ³) ⁽⁶⁾	Same as Primary Standard
	1-hour	0.18 ppm (470 µg/m ³)		100 ppb (188 µg/m ³) ⁽⁶⁾	None
Sulfur Dioxide (SO ₂)	24-hour	0.04 ppm (105 µg/m ³)		--	--
	3-hour	--		--	0.5 ppm (1300 µg/m ³) ⁽⁷⁾
	1-hour	0.25 ppm (655 µg/m ³)		75 ppb (196 µg/m ³) ⁽⁷⁾	--
Lead ⁽⁸⁾	30-Day Average	1.5 µg/m ³		--	Same as Primary Standard
	Calendar Quarter	--		1.5 µg/m ³	
	Rolling 3-Month Average ⁽⁹⁾	--		0.15 µg/m ³	
Visibility Reducing Particles	8-hour	Extinction coefficient of 0.23 per kilometer - visibility of 10 miles or more due to particles.		No Federal Standards	
Sulfates	24-hour	25 µg/m ³		No Federal Standards	
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m ³)		No Federal Standards	
Vinyl Chloride ⁽⁸⁾	24-hour	0.01 ppm (26 µg/m ³)		No Federal Standards	

⁽¹⁾ California standards for ozone, CO, SO₂ (1-hour and 24-hour), NO₂, PM₁₀, and visibility reducing particles are values that are not to be exceeded. The standards for sulfates, lead, hydrogen sulfide, and vinyl chloride standards are not to be equaled or exceeded.

⁽²⁾ National standards, other than 1-hour ozone, 8-hour ozone, 24-hour PM₁₀, 24-hour PM_{2.5}, and those based on annual averages, are not to be exceeded more than once a year. The 1-hour ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one. The 8-hour ozone standard is attained when the 3-year average of the annual fourth-highest daily maximum 8-hour concentrations is below 0.08 ppm. The 24-hour PM₁₀ standard is attained when the 3-year average of the 99th percentile 24-hour concentrations is below 150 µg/m³. The 24-hour PM_{2.5} standard is attained when the 3-year average of the 98th percentile 24-hour concentrations is below 65 µg/m³.

⁽³⁾ Concentration expressed first in units in which it was promulgated. Equivalent units given in parenthesis are based on a reference temperature of 25°C and a reference pressure of 760 mm of mercury (1,013.2 millibar). All measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 mm of mercury; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

⁽⁴⁾ National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

⁽⁵⁾ National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

⁽⁶⁾ To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010). Note that the EPA standards are in units of parts per billion (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 standards of 53 ppb and 100 ppb are identical to 0.053 ppm and 0.100 ppm, respectively.

⁽⁷⁾ On June 2, 2010, the EPA established a new 1-hour SO₂ standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. EPA also proposed a new automated Federal Reference Method (FRM) using ultraviolet technology, but will retain the older parosoniline methods until the new FRM have adequately permeated state monitoring networks. The EPA also revoked both the existing 24-hour SO₂ standard of 0.14 ppm and the annual primary SO₂ standard of 0.030 ppm, effective August 23, 2010. The secondary SO₂ standard was not revised at that time; however, the secondary standard is undergoing a separate review by EPA. Note that the new standard is in units of ppb. California standards are in units of ppm. To directly compare the new primary 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.

⁽⁸⁾ The CARB had identified lead and vinyl chloride as TACs 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.

⁽⁹⁾ National lead standard, rolling 3-month average: final rule signed October 15, 2008.

Source: CARB 2010

4.3.1.5 Toxic Air Contaminants in the San Diego Air Basin

As described above in Section 4.3.1.3, Air Pollutants, TACs can have serious adverse health effects and are controlled under a different regulatory process than criteria pollutants. Of particular concern are cancer-causing pollutants. Because no safe level of emissions can be established for TACs regionwide, the regulation of TACs is based on the levels of cancer risk and other health risks posed to persons who may be exposed.

Based on 2010 estimates from the SDAPCD, inventoried stationary sources of TACs in the region emit more than 1.9 million pounds of TACs annually (SDAPCD 2011). These sources include industrial, commercial, and governmental facilities. Although TAC emissions from stationary sources in San Diego County, including Escondido, have been reduced by approximately 83 percent since 1989, large amounts of toxic compounds are still emitted into the air from a wide variety of sources including motor vehicles, industrial facilities, household products, area sources, and natural processes. Motor vehicles and natural sources emit more than 31 million pounds per year (SDAPCD 2009). Prioritizing and reducing these emissions further will require a continued, cooperative effort by the public, industry, environmental groups, CARB, and SDAPCD.

Two facilities in Escondido were required to prepare Health Risk Assessments to submit to the SDAPCD due to their potential to emit TACs: 1) the Palomar Medical Center; and 2) Goal Line Operations, which is an electronic power supply company. The HRAs for these facilities, both prepared in 2003, determined that neither facility would exceed the standards for cancer or non-cancer risk (SDAPCD 2009).

Diesel particulate matter (DPM) is also emitted from mobile sources such as traffic and temporary construction equipment. DPM contributes significantly to ambient cancer risk levels. Based on CARB estimates, DPM emissions could add an additional 157 in one million to the ambient health risk levels in San Diego County, down from 545 in one million in 1989 (SDAPCD 2011).

4.3.2 Regulatory Framework

4.3.2.1 Federal

Clean Air Act

The Clean Air Act (CAA) of 1970 and the CAA Amendments of 1971 required the EPA to establish NAAQS with states retaining the option to adopt more stringent standards or to include other specific pollutants. On April 2, 2007, the Supreme Court found that carbon dioxide is an air pollutant covered by the CAA; however, no NAAQS have been established for carbon dioxide. Current NAAQS are listed above in Table 4.3-2, State and National Ambient Air Quality Standards.

These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those “sensitive receptors” most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise.

Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

The EPA has classified air basins (or portions thereof) as being in “attainment,” “nonattainment,” or “unclassified” for each criteria air pollutant, based on whether or not the NAAQS have been achieved. If an area is designated unclassified, it is because inadequate air quality data were available as a basis for a nonattainment or attainment designation. Table 4.3-3, San Diego Air Basin Attainment Status, below lists the federal attainment status of the SDAB for the criteria pollutants. The EPA classifies the SDAB as being in attainment for carbon monoxide, NO₂, lead, PM_{2.5} and SO₂, and unclassifiable for PM₁₀ with respect to federal air quality standards. The SDAB is in non-attainment for the state and federal ozone standards and the state PM₁₀ and PM_{2.5} standards.

Table 4.3-3 San Diego Air Basin Attainment Status

Pollutant	Averaging Time	California Standards	Federal Standards
Ozone	1-hour	Nonattainment	No Federal Standard
	8-hour		Nonattainment
Respirable Particulate Matter (PM ₁₀)	Annual Arithmetic Mean	Nonattainment	No Federal Standard
	24-hour		Unclassified ⁽¹⁾
Fine Particulate Matter (PM _{2.5})	Annual Arithmetic Mean	Nonattainment	Attainment
	24-hour	No State Standard	Attainment
Carbon Monoxide (CO)	1-hour	Attainment	Attainment
	8-hour	Attainment	Attainment
Nitrogen Dioxide (NO ₂)	Annual Arithmetic Mean	No State Standard	Attainment
	1-hour	Attainment	No Federal Standard
Lead	Calendar Quarter	No State Standard	Attainment
	30-Day Average	Attainment	No Federal Standard
	Rolling 3-Month Average	No State Standard	Attainment
Sulfur Dioxide (SO ₂)	Annual Arithmetic Mean	No State Standard	Attainment
	24-hour	Attainment	Attainment
	1-hour	Attainment	No Federal Standard
Sulfates	24-hour	Attainment	No Federal Standard
Hydrogen Sulfide	1-hour	Unclassified	No Federal Standard
Visibility Reducing Particulates	8-hour (10:00 a.m. to 6:00 p.m., PST)	Unclassified	No Federal Standard

⁽¹⁾ Unclassified; indicates data are not sufficient for determining attainment or nonattainment.

Source: EPA 2011, CARB 2009

National Emissions Standards for Hazardous Air Pollutants Program

Under federal law, 188 substances are listed as Hazardous Air Pollutants (HAPs). Major sources of specific HAPs are subject to the requirements of the National Emissions Standards for Hazardous Air Pollutants (NESHAPS) program. The EPA is establishing regulatory schemes for specific source categories, and requires implementation of Maximum Achievable Control Technologies (MACTs) for major sources of HAPs in each source category. State law has established the framework for California’s TAC identification and control program, which is generally more stringent than the federal program, and

is aimed at HAPs that are a problem in California. The state has formally identified more than 200 substances as TACs, and is adopting appropriate control measures for each. Once adopted at the state level, each district will be required to adopt a measure that is equally or more stringent.

4.3.2.2 State

California Air Toxics “Hot Spots” Information and Assessment Act (AB 2588)

The California Air Toxics “Hot Spots” Information and Assessment Act (AB 2588) is a state-wide program enacted in 1987. The California Air Toxics “Hot Spots” Information and Assessment Act (AB 2588) requires facilities that exceed recommended Office of Environmental Health Hazard Assessment (OEHHA) levels to reduce risks to acceptable levels. AB 2588 requires hundreds of facilities in San Diego County to quantify the emissions of TACs, and in some cases conduct a HRA, and notify the public, while developing risk reduction strategies.

Typically, land development projects generate diesel emissions from construction vehicles during the construction phase, as well as some diesel emissions from small trucks during the operational phase. Diesel exhaust is mainly composed of particulate matter and gases, which contain potential cancer-causing substances. Emissions from diesel engines currently include over 40 substances that are listed by EPA as HAPs and by the CARB as TACs. On August 27, 1998, the CARB identified particulate matter in diesel exhaust as a TAC, based on data linking diesel particulate emissions to increased risks of lung cancer and respiratory disease.

In September 2000, CARB adopted a comprehensive diesel risk reduction plan to reduce emissions from both new and existing diesel-fueled engines and vehicles. The goal of the plan is to reduce DPM emissions and the associated health risk by 75 percent in 2010 and by 85 percent by 2020. As part of this plan, CARB identified Airborne Toxic Control Measures (ATCM) for mobile and stationary emissions sources. Each ATCM is codified in the California Code of Regulations, including the ATCM to limit diesel-fueled commercial motor vehicle idling, which puts limits on idling time for large diesel engines (13 CCR Chapter 10 Section 2485).

California Clean Air Act

The California Clean Air Act (CCAA) allows states to adopt AAQS and other regulations provided that they are at least as stringent as federal standards. The CARB, a part of the California EPA, is responsible for the coordination and administration of both federal and state air pollution control programs within California, including setting the CAAQS. The CARB also conducts research, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. The CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. The CARB also has primary responsibility for the development of California’s State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts.

In addition to standards set for the six criteria pollutants, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles (see Table 4.3-2 State and National

Ambient Air Quality Standards). These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. Further, in addition to primary and secondary AAQS, the state has established a set of episode criteria for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, and particulate matter. These criteria refer to episode levels representing periods of short-term exposure to air pollutants that actually threaten public health. Table 4.3-3, San Diego Air Basin Attainment Status, above lists the state attainment status of the SDAB for the criteria pollutants.

California State Implementation Plan

The CAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as the SIP. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The SIP is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The EPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA. The most recent version of the SIP for San Diego County is the Eight-Hour Ozone Attainment Plan, adopted in May 2007, which provides plans for attaining and maintaining the 8-hour NAAQS for ozone. This plan accommodates emissions from all sources, including natural sources, through implementation of control measures, where feasible, on stationary sources to attain the standards. Mobile sources are regulated by the EPA and the CARB, and the emissions and reduction strategies related to mobile sources are considered in the SIP. The SIP does not address impacts from sources of PM₁₀ or PM_{2.5}, although it does include control measures (rules) to regulate stationary source emissions of those pollutants. Additionally, the 2004 Revisions to the California SIP for carbon monoxide were adopted on July 22, 2004. The original SIP for carbon monoxide was adopted in 1996. The SIP for carbon monoxide demonstrates how the SDAB would continue to maintain compliance with federal carbon monoxide standards.

New Source Review

Federal and state law requires that air districts in non-attainment areas conduct a New Source Review (NSR) prior to permitting “major” sources, or modifying existing “major” sources. The purpose of NSR is to allow continued industrial growth in non-attainment areas and, at the same time, ensure that new and modified sources do not aggravate existing air quality problems and/or negate emissions reductions from other sources. In the SDAB, the SIP requires non-major sources to undergo NSR. Under NSR, all existing and new stationary sources of emissions are required to conduct a best available control technology (BACT) analysis to evaluate the feasibility of implementing emission control devices. In some instances, new sources have to offset their own emission increases using Emission Reduction Credits (ERCs). In general, technological feasibility, economic, environmental, and energy issues must be taken into account when determining the applicable appropriate control technology.

Senate Bill 1889, Accidental Release Prevention Law/California Accidental Release Prevention Program

Senate Bill (SB) 1889 required California to implement a new federally-mandated program governing the accidental airborne release of chemicals promulgated under Section 112 of the Clean Air Act. Effective January 1, 1997, the California Accidental Release Prevention Law (CalARP) replaced the previous

California Risk Management and Prevention Program and incorporated the mandatory federal requirements. CalARP addresses facilities that contain specified hazardous materials, known as regulated substances, that if involved in an accidental release, could result in adverse offsite consequences. CalARP defines regulated substances as chemicals that pose a threat to public health and safety or the environment because they are highly toxic, flammable, or explosive.

4.3.2.3 Regional/Local

City of Escondido Environmental Quality Regulations

The Environmental Quality Regulations (EQR), as established in the City's Municipal Code Chapter 33 Article 47, implement CEQA and CEQA guidelines by applying the provisions and procedures contained in CEQA to development projects proposed within the City of Escondido. The EQRs establish screening thresholds to determine if additional analysis is required to determine whether a project would result in significant impacts. Section 33-924(G) pertains to air quality impacts. A project would require a technical study if it would exceed the thresholds identified below in Table 4.3-4, City of Escondido Daily Emission Screening Level Criteria. However, a project that exceeds these criteria does not necessarily have a significant impact on the environment. The EQRs for air quality only determine whether further analysis would be required to determine the potential significant impacts of the project. It was reasonably assumed that the proposed project would exceed the screening level criteria identified in the EQRs; therefore, a technical study has been prepared for the proposed project (see Appendix B, Air Quality Technical Study).

Table 4.3-4 City of Escondido Daily Emission Screening Level Criteria

Pollutant	Environmental Quality Ordinance Criteria (pounds/day)
Carbon monoxide	550
Volatile organic compounds	55
Oxides of nitrogen	55
Fine particulate matter	150
Sulfur oxide (SO _x)	250
Lead	3.2

Source: Article 47 of the City of Escondido Municipal Code

San Diego County Regional Air Quality Strategy

The SDAPCD is the local agency responsible for the administration and enforcement of air quality regulations for San Diego County. The SDAPCD regulates most air pollutant sources, except for motor vehicles, marine vessels, aircraft, and agricultural equipment, which are regulated by the CARB or the EPA. State and local government projects, as well as projects proposed by the private sector, are subject to SDAPCD requirements if the sources are regulated by the SDAPCD. Additionally, the SDAPCD, along with the CARB, maintains and operates ambient air quality monitoring stations at numerous locations throughout San Diego County, including one in Escondido. These stations are used to measure and monitor criteria and toxic air pollutant levels in the ambient air.

The SDAPCD and the San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the AAQS in the SDAB. The San Diego County Regional Air Quality Strategy (RAQS) was initially adopted in 1991, and is updated on a triennial basis. The RAQS was updated in 1995, 1998, 2001, 2004, and most recently in April 2009. The RAQS outlines the SDAPCD's plans and control measures designed to attain the state air quality standards for ozone. The SDAPCD has also developed the SDAB's input to the SIP, which is required under the Federal CAA for pollutants that are designated as being in non-attainment of NAAQS for the basin.

The RAQS relies on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth, to project future emissions and then establish the strategies necessary for the reduction of emissions through regulatory controls. The RAQS and SIP utilized the 2030 Regional Transportation Plan (RTP) prepared by SANDAG to project future growth in the SDAB. As such, projects that propose development that is consistent with the growth anticipated by the RTP would be consistent with the RAQS. In the event that a project would propose development which is less intensive than anticipated within the RAQS, the project would likewise be consistent with the RAQS. If a project proposes development that is greater than that anticipated in the growth projections, the project could be in conflict with the RAQS and SIP, and could have a potentially significant impact on air quality.

The SIP relies on the same information from SANDAG to develop emission inventories and emission reduction strategies that are included in the attainment demonstration for the air basin. The SIP also includes rules and regulations that have been adopted by the SDAPCD to control emissions from stationary sources. These SIP-approved rules may be used as a guideline to determine whether a project's emissions would have the potential to conflict with the SIP and thereby hinder attainment of the NAAQS for ozone.

Measures to Reduce Particulate Matter in San Diego County

In December 2005 the SDAPCD adopted the Measures to Reduce Particulate Matter in San Diego County. This document identifies fugitive dust as the major source of directly emitted particulate matter in the County, with mobile sources and residential wood combustion as minor contributors. Data on PM_{2.5} source apportionment indicates that the main contributors to PM_{2.5} in the County are combustion organic carbon, and ammonium sulfate and ammonium nitrate from combustion sources. The main contributors to PM₁₀ include resuspended soil and road dust from unpaved and paved roads, construction and demolition sites, and mineral extraction and processing. Based on the report's evaluation of control measures recommended by the CARB to reduce particulate matter emissions, the SDAPCD adopted Rule 55, the Fugitive Dust Rule, in June 2009. The SDAPCD requires that construction activities implement the measures listed in Rule 55 to minimize fugitive dust emissions. Rule 55 requires the following:

1. No person shall engage in construction or demolition activity in a manner that discharges visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than 3 minutes in any 60 minute period; and
2. Visible roadway dust as a result of active operations, spillage from transport trucks, erosion, or track-out/carry-out shall be minimized by the use of any of the equally effective track-out/carry-out and erosion control measures listed in Rule 55 that apply to the project or operation. These

measures include: track-out grates or gravel beds at each egress point; wheel-washing at each egress during muddy conditions; soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; watering for dust control; and using secured tarps or cargo covering, watering, or treating of transported material for outbound transport trucks. Erosion control measures must be removed at the conclusion of each work day when active operations cease, or every 24 hours for continuous operations.

Other SDAPCD Rules and Regulations

As discussed above is the discussion of the RAQS, state law provides that local air districts such as the SDAPCD have primary responsibility for controlling emissions from non-mobile (stationary) sources. The stationary source control measures identified in the RAQS and SIP have been developed by the SDAPCD into regulations through a formal rulemaking process. Rules are developed to set limits on the amount of emissions from various types of sources and/or by requiring specific emissions control technologies (ECTs). Following rule adoption, a permit system is used to impose controls on new and modified stationary sources and to ensure compliance with regulations by prescribing specific operating conditions or equipment on a source.

SDAPCD Regulation XIV (Title V Operating Permits) contains the requirements for implementing the Title V permit program. The Title V Operating Permit Program requires all major sources of criteria air contaminants, all major sources of hazardous air pollutants, all sources that emit more than 100 tons per year of any regulated air contaminant and certain other specified sources to obtain Title V permits. Permits are issued pursuant to Regulation XIV and incorporate state and local requirements that are contained in existing SDAPCD permits for these sources. Examples of operations that require permits are surface coating operations, adhesive materials application, automotive refinishing operations, dry cleaning operations, fiberglass or plastic product manufacturing, and gas stations (SDAPCD 2011).

The SDAPCD also implements NSR in the SDAB. Prior to the installation of new, modified, relocated, or replacement equipment which results in an increase of air pollution emissions, the SDAPCD requires that the equipment must obtain Authority to Construct and be evaluated in accordance with applicable NSR rules. A Permit to Operate from SDAPCD would be required to authorize operation or use of the equipment. If such equipment would exceed air pollutant thresholds, it must use the BACT to reduce emissions. BACT definitions and requirements are outlined in SDAPCD Rule 20.1, NSR – General Provisions (SDAPCD 2011).

It is difficult to ensure that new or modified sources do not interfere with attainment or maintenance of the established air quality standards for ozone. Since ozone is a secondary pollutant (i.e., ozone is not directly emitted, but results from complex chemical reactions in the atmosphere from precursor pollutants), control of the precursors is required. Therefore, control of emissions of VOCs and NO_x, the ozone precursors, is essential. The SDAPCD adopted Rule 67, Architectural Coatings, in December 2001, which establishes VOC content limits for architectural coatings.

Additionally, SDAPCD Rule 1210, Toxic Air Contaminant Public Health Risks – Public Notification and Risk Reduction, implements the public notification and risk reduction requirements of the State Air Toxics “Hot Spots” Act, and requires facilities to reduce risks to acceptable levels within five years. Rule 1200, Toxic Air Contaminants – New Source Review, establishes acceptable risk levels, and emission control requirements for new and modified facilities that may emit additional TACs. Rule 51, Nuisance, also prohibits nuisances, including objectionable odors.

4.3.3 Analysis of Project Impacts and Determination of Significance

4.3.3.1 Issue 1: Air Quality Plans

Guidelines for Determination of Significance

Based on Appendix G of the CEQA Guidelines and existing City policies and regulations, the proposed project would result in a significant impact if it would conflict with or obstruct implementation of the RAQS and applicable portions of the SIP.

Impact Analysis

The Downtown Specific Plan Update has been prepared in conjunction with the General Plan Update and the growth projections for the Downtown SPA are included in the growth projections for the General Plan Update. Therefore, growth under the proposed Downtown Specific Plan Update would be consistent with the growth identified for the General Plan Update. The E-CAP was prepared in conjunction with, and is intended to support, the General Plan Update land use designations. It does not propose any additional or different growth than what is identified in the Downtown Specific Plan Update or General Plan Update. Therefore, the following analysis pertains to the General Plan Update, the Downtown Specific Plan Update, and the E-CAP.

The SDAPCD relies on information from CARB and SANDAG, including projected growth, mobile, area and all other source emissions, in order to predict future emissions and develop appropriate strategies for the reduction of source emissions through regulatory controls. The CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the incorporated cities and the County of San Diego. As such, projects that propose development that is consistent with the growth anticipated by SANDAG would be consistent with the RAQS and the SIP.

The basis for these plans is the distribution of population in the region as projected by SANDAG. The RAQS and SIP utilized the 2030 RTP to project future growth in the SDAB. The RTP projected the City of Escondido would be developed with 53,087 dwelling units by the year 2030, or approximately 255 dwelling units per year between 2004 and 2030. Assuming this projected growth rate would continue, the RTP would estimate 54,632 dwelling units for the City by 2035. The General Plan boundary also includes the SOI and a portion of the unincorporated County. There are 6,450 existing dwelling units in this area, approximately four percent of the 172,443 dwelling units projected in the RTP for the unincorporated County in 2010. It is assumed that the number of homes projected in the RTP for the area within the General Plan Update planning area boundary would continue to represent four percent of total unincorporated housing or 9,434 dwelling units by the year 2030. Based on an assumed growth rate of 150 dwelling units per year, the RTP would project 10,184 dwelling units for the unincorporated areas within the General Plan Update boundary by 2035. Therefore, the RTP projects approximately 62,521 dwelling units for the General Plan Update planning area by 2030, and approximately 64,816 dwelling units in the General Plan Update planning area by 2035. The growth projections are summarized below in Table 4.3-5, Growth Projections for the General Plan Update Planning Area.

Table 4.3-5 Growth Projections for the General Plan Update Planning Area

	2030 Regional Transportation Plan		Proposed General Plan Update	
	2030	2035	2030	2035
City of Escondido	53,087	54,632 ⁽¹⁾	55,134 ⁽²⁾	57,008
Unincorporated Area Within General Plan Update Boundary	9,434 ⁽³⁾	10,184 ⁽⁴⁾	6,840 ⁽²⁾	6,950
Total Housing Units	62,521	64,816	61,974⁽²⁾	63,958

⁽¹⁾ Assumes a growth rate of 255 units per year between 2004 (46,467 units) and 2030 (53,087 units) would continue through 2035.

⁽²⁾ Assumes the same number of homes would be developed each year between 2010 and 2035. Based on the housing unit projections in Table 3-4, General Plan Update Buildout Conditions.

⁽³⁾ Assumes housing units within the General Plan Update boundary would account for 4% of unincorporated housing in 2030 (235,861 units), because the existing housing units (6,450 units), represent approximately 4% of the 2010 RTP projection for the unincorporated area (160,271 units).

⁽⁴⁾ Assumes the same number of homes (150 units) would be developed each year between 2010 and 2030 projections, and that the trend would continue through 2035.

Source: SANDAG 2007

The proposed General Plan Update would accommodate up to 63,958 dwelling units by 2035, the planning horizon year for the proposed project. There are 54,034 dwelling units in the General Plan boundary under existing (2010) conditions. Assuming an equal growth rate each year, the proposed General Plan Update would accommodate approximately 61,974 dwelling units by year 2030. Therefore, although the proposed General Plan Update would accommodate new growth in the planning area, the overall increase in housing units and corresponding population would be consistent with the projections identified for the City in the RTP, which are the SANDAG growth projections utilized for the applicable air quality plans. As such, the proposed General Plan Update would be consistent with the RAQS and SIP. The proposed project's impacts related to conflicts with the RAQS and SIP would be less than significant.

Federal, State, and Local Regulations and Existing Regulatory Processes

Future development occurring under the General Plan Update, including development in the Downtown SPA or that implements E-CAP measures, would be required to be consistent with the emission reduction strategies in the RAQS and SIP in order to comply with SDAPCD rules and regulations and obtain required SDAPCD permits. All future development projects under the General Plan Update would be required to demonstrate consistency with the RAQS and the SIP during the environmental review process and identify mitigation measures for any potentially significant conflicts in order for the project to be approved by the City.

In addition to the RAQS and SIP, development under the General Plan Update would be required to comply with local air quality regulations. Future construction projects would be required to comply with Rule 55, the Fugitive Dust Rule, which mandates control of fugitive dust emissions during construction. Rule 55 prohibits construction or demolition activity that would discharge visible dust emissions into the atmosphere beyond the property line for a period of more than 3 minutes in any 60-minute period. Rule 55 also requires minimization of visible roadway dust as a result of active operations that generate fugitive dust.

Proposed General Plan Update Policies

Quality of life standard #9 in the General Plan Update pertains to air quality. The standard states:

“The city shall establish a Climate Action Plan with feasible and appropriate local policies and measures aimed at reducing regional greenhouse gas emissions including, but not limited to, reducing the number of vehicular miles traveled, supporting public transportation, participating in the development of park-and-ride facilities, coordinating land-use approvals, accommodating facilities for alternative fuel vehicles, maintaining and updating the City’s traffic signal synchronization plan, promoting local agriculture, increasing landscaping standards, promoting landscaping programs, and encouraging non-polluting alternative energy systems.”

This quality of life standard is primarily dependent on the adoption of the proposed E-CAP, described below in the discussion of proposed E-CAP policies.

The General Plan Update Resource Conservation Element also includes Air Quality and Climate Protection Policy 7.1, which requires the City to participate in regional planning efforts and coordinate with the SDAPCD and SANDAG in their efforts to reduce air quality impacts and attain state and federal air quality standards.

Within the Land Use and Community Form Element, Environmental Review Policies 18.1 through 18.4 require project conformance with CEQA, the General Plan, facilities plans, and quality of life standards; mitigation of environmental impacts; and an update of environmental thresholds in sensitive areas.

Proposed Downtown Specific Plan Update Policies

The proposed Downtown Specific Plan Update does not include any policies related to compliance with air quality plans.

Proposed Escondido Climate Action Plan Reduction Measures

The E-CAP is aimed at reducing regional GHG emissions; however some of the measures included in the E-CAP to reduce GHG emissions would also reduce criteria pollutant emissions, including the following measures: R2-T1: Land Use Based Trips and VMT Reduction Policies; R2-T3: Transit Improvements; R2-T4: Transportation Demand Management; R2-E1: New Residential Energy Efficiency Requirements; R2-E2: New Commercial Energy Efficiency Requirements; R2-E5: Existing Residential Energy Retrofits; R2-E6: Existing Commercial Energy Retrofits; R2-A1: Electric Landscaping Equipment; and R2-C1: Construction Emissions Reductions. These policies are listed in Section 4.7, Greenhouse Gas Emissions. Reducing vehicle trips would reduce vehicular emissions of criteria air pollutants. Encouraging energy conservation and non-polluting energy systems would reduce area source criteria pollutant emissions. Minimizing the use of gas or diesel-powered construction equipment, reducing construction worker trips, and encouraging the use of emission control technology would also reduce construction criteria pollutant emissions.

Summary

The proposed General Plan Update includes land use designations that would accommodate new growth in the General Plan Update planning area boundary; however, the growth accommodated by the proposed project is consistent with the SANDAG projections accounted for in the RAQS and SIP. Future

development would be required to demonstrate compliance with the strategies and measures adopted as part of the RAQS and SIP during the City's environmental review process, as well as with the requirements of the City and/or SDAPCD to reduce emissions of particulate matter. Therefore, implementation of the proposed project would result in a less than significant impact associated with conflicts to applicable air quality plans.

4.3.3.2 Issue 2: Air Quality Violations

Guidelines for Determination of Significance

Based on Appendix G of the CEQA Guidelines, an impact is considered significant if implementation of the proposed project would violate any air quality standard or contribute substantially to an existing or projected air quality violation including pollutant emissions for which the region is in federal or state nonattainment.

As discussed under Regulatory Framework, the City has adopted screening level thresholds to determine whether an air quality technical report should be prepared for a project; however, the City has not adopted significance thresholds by which to evaluate the significance of air quality impacts once a report has been deemed necessary. In lieu of any set quantitative air quality significance thresholds, the SDAPCD's Regulation II, Rule 20.2, Table 20-2-1, "Air Quality Impact Analysis (AQIA) Trigger Levels" are used to determine the potential significance of air quality impacts. These AQIA trigger levels generally apply to new or modified stationary sources of air pollutants, which include only one source of air pollutant emissions. For CEQA purposes, the thresholds can be used to demonstrate that a project's total emissions from all sources would not result in a significant impact to air quality (County of San Diego 2007). For PM_{2.5}, the EPA "Proposed Rule to Implement the Fine Particle NAAQS" published in 2005, which quantifies significant emissions as 10 tons per year (55 pounds per day), is used as the significance threshold. The thresholds listed below in Table 4.3-6, SDAPCD Screening Level Thresholds and City Daily Emission Criteria, below are used in this analysis to determine whether the proposed project has the potential to violate an air quality standard or contribute substantially to an existing or projected air quality violation.

**Table 4.3-6 SDAPCD Screening Level Thresholds and City Daily Emission Criteria
(pounds/day)**

Pollutant	SDAPCD Threshold ⁽¹⁾
Carbon monoxide	550
Volatile organic compounds	75 ⁽¹⁾
Oxides of nitrogen	250
Fine particulate matter	55 ⁽²⁾
Respirable Particulate Matter	100
Sulfur oxide (SO _x)	250

⁽¹⁾ Threshold for VOCs based on the threshold of significance for VOCs from the South Coast Air Quality Management District for the Coachella Valley.

⁽²⁾ EPA "Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards" published September 2005.

Source: County of San Diego 2007

Impact Analysis

The Downtown Specific Plan Update has been prepared in conjunction with the General Plan Update and the growth projections for the Downtown SPA are included in the growth projections for the General Plan Update. Therefore, growth under the proposed Downtown Specific Plan Update would be consistent with the growth identified for the General Plan Update. The E-CAP was prepared in conjunction with, and is intended to support, the General Plan Update land use designations. It does not propose any additional or different growth than what is identified in the Downtown Specific Plan Update or General Plan Update. Therefore, the following analysis pertains to the General Plan Update, the Downtown Specific Plan Update, and the E-CAP.

Implementation of the proposed project would result in both construction and operational air pollutant emissions. Construction emissions include those associated with the construction of new land uses, demolition of old buildings and structures for redevelopment, and construction of infrastructure improvements to support new land uses. Operational emissions include those associated with traffic generated by new development and operation of land uses, including residential, commercial, office, and industrial development, that would be accommodated by the proposed plan.

Construction Emissions

Construction activities would result in temporary increases in air pollutant emissions. These emissions would be generated in the form of fugitive dust emissions from earth disturbance during site grading and building demolition, and exhaust emissions from operation of heavy equipment and vehicles during construction. Paving activities would emit VOCs during off-gassing.

Daily air pollutant emissions during construction were estimated using the assumed worst-case activity data and the emission factors included in the Urban Emissions (URBEMIS) 2007 model. Table 4.3-7, Annual Construction Assumptions for General Plan Update Development, below summarizes the 2035 planning horizon assumptions for construction activities associated with the General Plan Update. For the purposes of modeling a worst-case construction scenario, it was assumed that development associated with the General Plan Update would take place over a 25-year period between the 2010 baseline conditions and the 2035 planning horizon, with an equal amount of construction occurring each year. At 2035, a total of 9,924 new residential units and 13,650,000 sf of new non-residential development could be accommodated within the General Plan Update planning area boundary. Additionally, existing land uses would be demolished and redeveloped. To account for construction emissions from redevelopment as well as new development, a citywide average of approximately 15 percent of existing development is assumed to be demolished and reconstructed over the same time period. Some study areas would likely experience higher redevelopment intensity, while other areas outside of the study areas would remain relatively unchanged. Using this approach, it is assumed that 316 single family dwelling units, 405 multi-family units, 279,406 sf of commercial/retail development, 246,026 sf of office development, and 197,454 sf of industrial development would be constructed every year for 25 years between 2010 and 2035. Model defaults were used to estimate emissions associated with construction equipment. Construction emission estimates include site watering twice per day in compliance with SDAPCD Rule 55, Fugitive Dust Rule, and low VOC architectural coatings in compliance with SDAPCD Rule 67, Architectural Coatings.

Table 4.3-7 Annual Construction Assumptions for General Plan Update Development

Category	Assumption
Total New Development	9,924 residential units and 13,650,000 sf non-residential development
Total Redevelopment	8,105 residential units and 4,422,150 sf non-residential development
Phasing	25 years (2010-2035)
Annual New Construction per Phase	397 residential units and 546,000 sf non-residential development
Annual Redevelopment per Phase	324 residential units and 176,886 sf non-residential development
Percent of Existing Development to be Demolished	15%
Assumed Emissions Reduction Measures	SDAPCD Rule 55 (dust-minimizing practices) and Rule 67 (low-VOC coatings)

Source: Atkins 2011a

Table 4.3-8, Construction Daily Maximum Air Pollutant Emissions, below presents a summary of estimated maximum daily air pollutant emissions for each construction phase associated with estimated annual construction under the General Plan Update. It is assumed that each phase of construction would generally occur consecutively, with some overlap between the paving and coating phases.

Table 4.3-8 Construction Daily Maximum Air Pollutant Emissions

Construction Phase	Maximum Daily Emissions (pounds/day)					
	CO	VOC	NO _x	SO _x	PM ₁₀	PM _{2.5}
Demolition	38	8	79	0	63	15
Fine Grading ⁽¹⁾	81	17	188	0	416	93
Trenching	9	2	14	0	1	1
Building	143	9	49	0	3	3
Paving	14	6	24	0	2	2
Architectural Coating ⁽²⁾	7	608	0	0	0	0
Significance Threshold	550	75	250	250	100	55
Significant Impact?	No	Yes	No	No	Yes	No

⁽¹⁾ Includes watering twice daily in compliance with SDAPCD Rule 55. Assumes that the entire development acreage would be graded, and approximately 10 percent of the area would be excavated to a depth of 5 feet and exported off site.

⁽²⁾ Includes use of low VOC coatings.

Emission quantities are rounded to the nearest whole number. Exact values are provided in Appendix B, Air Quality Technical Report.

Source: URBEMIS 2007, version 9.2.4

The estimate of construction emissions indicates that development allowed under the General Plan Update would result in significant emissions of VOCs and PM₁₀ during construction. Therefore, a potentially significant impact would occur. However, it is useful to keep in mind that these results reflect the assumption of equal amounts of development occurring each year. Realistically, construction emissions for all pollutants may be greater or lower depending on how development is implemented.

Operational Emissions

Development under the General Plan Update, including development under the Downtown Specific Plan Update or development of facilities that implement E-CAP measures, would result in operational emissions of air pollutants from stationary and vehicular sources, as described below. Impacts associated with implementation of the proposed General Plan Update are based on the net increase in development between existing conditions (2010 baseline) and the 2035 planning horizon of the General Plan Update. Existing development within the General Plan Update boundary consists of 37,557 single family residences, 16,477 multi-family residences, 13,001,000 sf of commercial/retail development, 4,091,000 sf of office development, and 12,389,000 sf of industrial development. Existing operational emissions are shown below in Table 4.3-9, Operational Daily Maximum Air Pollutant Emissions – Existing (2010). The 2035 planning horizon of the General Plan Update would accommodate an additional 2,268 single family residences, 7,656 multi-family residences, 5,035,000 sf of commercial/retail development, 5,537,000 sf of office development, and 3,078,000 sf of industrial development. The CARB’s URBEMIS 2007 air quality model was used to estimate operational emissions associated with area and vehicular sources. Vehicular emissions associated with the General Plan Update are based on the Traffic Impact Analysis prepared by Linscott, Law and Greenspan Engineers (LLG 2011a). The net change in emissions was calculated by subtracting the emissions associated with existing development from the total emissions associated with the 2035 planning horizon of the General Plan Update. The estimated emissions for the 2035 planning horizon include implementation of proposed E-CAP measures, including reduced vehicle trips, reduced energy use, and requirements for landscape energy. The net increase in estimated operational air pollutant emissions from the 2035 planning horizon of the General Plan Update is shown below in Table 4.3-10, Operational Daily Maximum Air Pollutant Emissions – General Plan Update Planning Horizon (2035).

Table 4.3-9 Operational Daily Maximum Air Pollutant Emissions – Existing (2010)

Emission Source	Maximum Daily Emissions (pounds/day)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Area Sources						
Natural Gas	57	749	382	0	1	1
Landscape	304	19	1,683	0	4	4
Consumer Products	2,644	--	--	--	--	--
Architectural Coatings ⁽¹⁾	736	--	--	--	--	--
<i>Area Source Total</i>	<i>3,741</i>	<i>768</i>	<i>2,065</i>	<i>0</i>	<i>5</i>	<i>5</i>
Vehicular Sources	4,150	4,539	38,226	24	3,652	728
Total Existing	7,891	5,307	40,291	24	3,657	733

⁽¹⁾ Includes the use of low VOC coatings.

Emission quantities are rounded to the nearest whole number. Exact values are provided in Appendix B, Air Quality Technical Report.

Source: URBEMIS 2007, version 9.2.4

Table 4.3-10 Operational Daily Maximum Air Pollutant Emissions – General Plan Update Planning Horizon (2035)

Emission Source	Maximum Daily Emissions (pounds/day)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Area Sources						
Natural Gas	70	926	493	0	2	2
Landscape	322	20	1,784	0	5	5
Consumer Products	3,166	--	--	--	--	--
Architectural Coatings ⁽¹⁾	887	--	--	--	--	--
<i>Area Source Total</i>	<i>4,445</i>	<i>946</i>	<i>2,227</i>	<i>0</i>	<i>7</i>	<i>7</i>
Vehicular Sources ⁽²⁾	3,187	3,153	26,098	37	5,929	1,616
<i>E-CAP Measure Reductions⁽³⁾</i>	<i>-347</i>	<i>-597</i>	<i>-2,807</i>	<i>-4</i>	<i>-599</i>	<i>-164</i>
Total General Plan Update 2035 Planning Horizon	7,285	3,502	25,518	33	5,337	1,459
<i>Existing Conditions (2010 baseline)</i>	<i>7,891</i>	<i>5,307</i>	<i>40,291</i>	<i>24</i>	<i>3,657</i>	<i>733</i>
Net Change from Baseline	-606	-1,805	-14,773	9	1,680	726
Significance Threshold	75	250	550	250	100	55
Significant Impact?	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	Yes	Yes

⁽¹⁾ Includes the use of low VOC coatings.

⁽²⁾ Vehicular emissions would decrease over time due to increasingly stringent emissions requirements. A vehicle model year of 2020 was used for the analysis to average the near-term vehicular emissions that would be similar to existing conditions (2010) with the reduced vehicular emissions that would be anticipated in 2035.

⁽³⁾ Assumes an approximately 10 percent reduction in total vehicular emissions, a 30 percent reduction in net natural gas emissions, a 30 percent reduction in existing natural gas emissions, and a 1 percent reduction in total landscaping emissions. See Appendix B, Air Quality Technical Report, for individual measure reductions.

Emission quantities are rounded to the nearest whole number. Exact values are provided in Appendix B.

Source: URBEMIS 2007, version 9.2.4

Area Sources

Area sources of air pollutant emissions associated with the 2035 planning horizon of the General Plan Update include fuel combustion emissions from space and water heating, fuel combustion emissions from landscape maintenance equipment, VOC emissions from periodic repainting of interior and exterior surfaces, and energy usage. It is assumed the architectural coatings such as paint would have a low VOC content, consistent with SDAPCD Rule 67, Architectural Coatings. Additionally, implementation of the following proposed E-CAP measures would reduce area source emissions for the 2035 planning horizon: R2-E1 and E2-2, which would reduce natural gas emissions from new development; R2-E5 and R2-E6, which would reduce natural gas emissions from existing development; and R2-A1, which would reduce electric landscaping equipment emissions. Emissions reductions are based on the emissions reduction calculations in the E-CAP and are provided in Appendix B, Air Quality Technical Report.

Vehicular Sources

Increased volumes of vehicles associated with the operation of the 2035 planning horizon of the General Plan Update would contribute to regional emissions of NO_x, VOC, CO, SO_x, PM_{2.5} and PM₁₀. Criteria pollutant emissions were calculated using URBEMIS 2007 model based on the traffic analysis data for

the General Plan Update and the VMT assumptions used in the E-CAP attributable to existing conditions and the 2035 planning horizon land uses. The traffic analysis data includes the reduction in vehicle trips attributable to the proposed E-CAP mitigation measure R2-T1. Additionally, implementation of the following proposed E-CAP measures would reduce vehicular source emissions: R2-T2: Bicycle Master Plan, R2-T3: Transit Improvements and R2-T4: Transportation Demand Management. Emission reductions are based on the emissions reduction calculations in the proposed E-CAP and are provided in Appendix B, Air Quality Technical Report. As shown above in Table 4.3-10, Operational Daily Maximum Air Pollutant Emissions – General Plan Update Planning Horizon (2035), the vehicular sources are the largest source of pollutant emissions.

Total Operational Emissions

As shown above in Table 4.3-10, Operational Daily Maximum Air Pollutant Emissions – General Plan Update Planning Horizon (2035), build-out of the General Plan Update would result in increased SO_x, PM₁₀ and PM_{2.5} emissions between 2010 and 2035. Area source emissions of VOCs, NO_x, and CO would also result from build-out of the plan. However, the combination of changes to land use type in conjunction with the E-CAP measures and the anticipated increases in vehicle efficiencies between 2010 and 2035 would result in a reduction in VOC, NO_x, and CO emissions from vehicles compared to existing conditions even though there is an overall increase in vehicle use and VMT. Land uses are proposed that would reduce vehicle trips and VMT by emphasizing smart growth principles, particularly in the downtown area, along East Valley Parkway and along South Escondido Boulevard. Smart growth principles include preserving urban centers, ensuring adequate infrastructure, establishing urban growth limits, encouraging mixed use, developing for “human scale,” encouraging high density development near transit, and protecting environmental resources. Smart growth seeks to expand transportation options to include walking, biking, and public transit in addition to driving. The Mobility and Infrastructure Element also incorporates goals and policies related to the concept of complete streets. Complete streets include streets equipped with facilities and designs that enable safe access for users (i.e. pedestrians, bicyclists, transit riders, and motorists) of all ages and abilities.

Implementation of the General Plan Update would not result in significant VOC, NO_x, CO, and SO₂ emissions because emissions of VOC, NO_x, and CO would be reduced at the 2035 planning horizon of the plan compared to existing conditions, and emissions of SO₂ would not exceed the significance threshold. However, at the 2035 planning horizon the proposed project would result in an increase in PM₁₀ and PM_{2.5} emissions that would exceed the significance thresholds. Currently, no information pertaining to the land use and overall size of individual projects under the General Plan Update is available. As such, individual operational emissions cannot be quantified at the planning level. Projects proposed under the General Plan Update would be required to determine whether an individual project would substantially increase particulate matter emissions to a level that would exceed the significance thresholds as part of the CEQA process. Therefore, impacts related to emissions of PM₁₀ and PM_{2.5} during project operation are potentially significant.

Federal, State and Local Regulations and Existing Regulatory Processes

The main contributor to criteria pollutant emissions for the General Plan Update is vehicular emissions. Implementation of programs to reduce emissions from vehicles is the responsibility of the CARB, and the CARB has implemented and continues to implement programs such as increasingly stringent emission standards and smog check programs. The CARB has also implemented programs such as the ATCM that restricts idling for greater than five minutes for heavy-duty vehicles. The SDAPCD has adopted Rule 67,

Architectural Coatings, which governs the VOC content of architectural coatings and requires coatings to meet increasingly stringent VOC levels, and Rule 55, Fugitive Dust Rule, which requires dust minimizing measures during project construction. All future development that would use architectural coatings would be required to comply with Rule 67. Future development that involves ground disturbing activities during construction would be required to comply with Rule 55.

Proposed General Plan Update Policies

The proposed General Plan Update includes goals and policies that would reduce emissions associated with future development. The Resource Conservation Element includes Air Quality and Climate Protection Goal 7, which is to improve air quality in the City and the region to maintain the community's health and reduce greenhouse gas emissions that contribute to climate change. This goal is supported by Air Quality and Climate Protection Policies 7.1 through 7.3 and 7.5 through 7.10. These policies require the City to participate in regional planning efforts to reduce air quality impacts and attain state and federal air quality standards; reduce regional greenhouse gas emissions through reducing vehicle trips and using non-polluting alternative energy; require that new development projects incorporate feasible measures that reduce construction and operational emissions; consider the development of park and ride facilities within the city in coordination with Caltrans; restrict the number and location of drive-through facilities in the City and require site layouts that reduce the amount of time vehicles wait for service; encourage businesses to alter local truck delivery schedules to occur during non-peak hours; encourage City employees to use public transit, carpool, and other alternate modes of transportation for their home to work commutes; require the City to purchase low-emission vehicles for the City's fleet and use clean fuel sources for trucks and heavy equipment; and require the City to educate the public about air quality, its effect on health, and efforts the public can make to improve air quality.

Within the Land Use and Community Form Element, Environmental Review Policies 18.1 through 18.4 require project conformance with CEQA, the General Plan, facilities plans, and quality of life standards; mitigation of environmental impacts; and an update of environmental thresholds in sensitive areas.

Proposed Downtown Specific Plan Update Policies

The proposed Downtown Specific Plan Update does not include any policies related to air quality violations.

Proposed Escondido Climate Action Plan Reduction Measures

As discussed above in Section 4.3.3.1, Issue 1: Air Quality Plans, some of the measures included in the proposed E-CAP to reduce GHG emissions would also reduce criteria pollutant emissions, including the following measures: R2-T1: Land Use Based Trips and VMT Reduction Policies; R2-T3: Transit Improvements; R2-T4: Transportation Demand Management; R2-E1: New Residential Energy Efficiency Requirements; R2-E2: New Commercial Energy Efficiency Requirements; R2-E5: Existing Residential Energy Retrofits; R2-E6: Existing Commercial Energy Retrofits; R2-A1: Electric Landscaping Equipment; and R2-C1: Construction Emissions Reductions. Reducing vehicle trips would reduce vehicular emissions of criteria pollutants and encouraging energy conservation and non-polluting energy systems would reduce area source criteria pollutant emissions. Minimizing the use of gas or diesel-powered construction equipment, reducing construction worker trips, and encouraging the use of emission control technology would reduce construction criteria pollutant emissions. Specifically, measure R2-C1 would reduce the emission of ozone precursors (NO_x and VOCs).

Summary

Estimated annual construction under the General Plan Update would result in significant emissions of VOCs and PM₁₀ during construction. This estimate assumes equal amounts of development occurring each year. Realistically, yearly construction emissions for all pollutants may be greater or lower depending on how development is implemented. Based on the conservative planning-level assumptions of this analysis, impacts related to construction emissions would be potentially significant.

Operational emissions of criteria pollutants associated with future development under the General Plan Update would exceed the significance thresholds for PM₁₀ and PM_{2.5}. Future development under the General Plan Update would be required to comply with CARB motor vehicle standards, SDAPCD regulations from stationary sources and architectural coatings, and the General Plan Update goals and policies. While the proposed General Plan Update goals and policies are intended to reduce impacts associated with air quality violations, these measures cannot guarantee that operational emissions would be reduced to a less than significant level. Therefore, the proposed project would result in a potentially significant impact associated with air quality violations during construction and operation.

4.3.3.3 Issue 3: Sensitive Receptors

Guidelines for Determination of Significance

Based on Appendix G of the CEQA Guidelines and existing City policies and regulations, the proposed project would result in a significant impact if it would directly impact a sensitive receptor and result in a cancer risk of greater than 1 in one million without implementation of Toxics Best Available Control Technology (T-BACT), 10 in one million with implementation of T-BACT, or a health hazard index of one or more, consistent with SDAPCD Rule 1210, Toxic Air Contaminant Public Health Risks – Public Notification and Risk Reduction.

Impact Analysis

Growth under the proposed Downtown Specific Plan Update would be consistent with the growth identified for the General Plan Update; therefore, the following analysis pertains to both the General Plan Update and the Downtown Specific Plan Update. Impacts related to implementation of the E-CAP are discussed separately below.

General Plan Update and Downtown Specific Plan Update

Sensitive receptors include day care centers, schools, retirement homes, hospitals, and medical patients in residential homes or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. The two primary emissions of concern regarding health effects for land development projects are carbon monoxide and TACs.

Carbon Monoxide Hot Spots

Areas with high vehicle density, such as congested intersections and parking garages, have the potential to create high concentrations of CO, known as CO hot spots. An air quality impact is considered significant if CO emissions create a hot spot where either the California one-hour standard of 20 ppm or the federal and state eight-hour standard of 9.0 ppm is exceeded. This typically occurs at severely congested intersections (level of service [LOS] E or worse).

The Traffic Impact Analysis (LLG 2011a) prepared for the proposed project evaluated the intersections in the General Plan Update boundary that would carry the majority of project traffic. These intersections were evaluated under existing conditions and 2035 future conditions. To estimate the most conservative and congested condition for the hot spot analysis, CO concentrations were analyzed at the four intersections that would experience the greatest amount of delay under future conditions. These four intersections are:

- Escondido Boulevard/Felicita Road
- Centre City Parkway/Felicita Road
- I-15 Southbound Ramp/Via Rancho Parkway/Del Lago
- El Norte Parkway/Centre City Parkway

The California Line Source (CALINE 4) model was used to estimate the potential CO impact at the above intersections during the most congested peak hour, as specified by Caltrans CO modeling protocol (Caltrans 1997). Receptor locations were set 30 feet from the roadway centerline at the intersection, although actual receptor locations would generally be at a greater distance. Carbon monoxide emission factors were generated using the EMFAC 2007 model. An ambient CO concentration of 3.24 ppm was used to reflect ambient conditions, based on the data gathered at the Escondido air quality monitoring station. Table 4.3-11, Estimated Carbon Monoxide Concentrations, below displays the estimated CO concentrations at the affected intersections.

Table 4.3-11 Estimated Carbon Monoxide Concentrations

Intersection	1-Hour CO Concentration (ppm)	8-Hour CO Concentration (ppm) ⁽¹⁾	Impact?
Escondido Boulevard/Felicita Road	8.14	5.7	No
Centre City Parkway/Felicita Road	8.04	5.6	No
I-15 Southbound Ramp/Via Rancho Parkway/Del Lago	7.84	5.5	No
El Norte Parkway/Centre City Parkway	7.94	5.6	No
Significance Threshold	20.0 (State)/35.0 (Federal)	9.0 (State and Federal)	

⁽¹⁾ The 8-Hour concentration is based on a persistence factor of 0.7 for urban uses (Caltrans 1997).

Source: CALINE 4

The highest estimated 1-hour carbon monoxide concentration is 8.14 ppm at the Escondido Boulevard/Felicita Road intersection. This would not exceed the state 1-hour standard of 20 ppm or the federal 1-hour standard of 35 ppm. Based on an urban persistence factor of 0.7 (for an urban area), the maximum cumulative 8-hour carbon monoxide concentration at this intersection would be 5.7 ppm, which is below the 9 ppm state and federal 8-hour standards. Therefore, potential carbon monoxide impacts would be less than significant.

Toxic Air Contaminants

According to the San Diego County Guidelines for Determining Significance – Air Quality (County of San Diego 2007), for typical land use projects that do not propose stationary sources of emissions regulated by SDAPCD, DPM is the primary TAC of concern. The CARB's Air Quality and Land Use Handbook lists several potential sources of substantial DPM emissions that currently exist or may be developed under

the General Plan Update including: 1) freeways or urban roads with 100,000 vehicles per day; 2) commercial facilities that require heavy-truck deliveries or include drive-through facilities; 3) extraction operations or cement manufacturing; 4) power plants; 5) recycling and garbage transfer stations; 6) industrial land uses that require heavy-truck trips; and 7) farming operations. The General Plan Update would also accommodate new sources of other TACs such as industrial land uses, and may accommodate new sensitive receptors in areas with existing sources of TACs. TACs from industrial uses vary between individual operations, but generally include metals, solvents, dioxin, benzene, or formaldehyde. Sources of other TACs currently found in the General Plan boundary or that may be accommodated by the General Plan Update include dry cleaning facilities using perchloroethylene, gas stations, industrial processes, automotive repair shops, waste water treatment plants, medical facilities, medical and other laboratory research and development operations, and agricultural operations.

Three carcinogenic TACs constitute the majority of known health risks from vehicular traffic. These include DPM from trucks, and benzene and 1,3-butadiene from passenger vehicles. According to the traffic volumes provided in the Traffic Impact Analysis (LLG 2011a), none of the roadways within the General Plan Update boundary would exceed 100,000 trips per day. However, Interstate 15 (I-15) traverses the entire plan area from north to south, and State Route (SR) 78 is a major highway through the western portion of the City, from west of I-15 east to North Broadway. According to the Air Quality and Land Use Handbook, sensitive receptors should not be located within 500 feet of a freeway. Areas along I-15 and SR-78 are currently developed with commercial, industrial, and residential land uses, and similar land use designations are proposed in the General Plan Update. Therefore, sensitive receptors may be accommodated in close proximity to a freeway. The Transit Station Target Area is located near the intersection of I-15 and SR-78 and would accommodate a maximum of 640 new multi-family units by 2035. The Nutmeg Street Study Area is located adjacent to I-15 and would accommodate 50 new multi-family units by 2035. Therefore, implementation of the General Plan Update would have the potential to locate new residences within 500 feet of a freeway, which would result in a potentially significant impact.

The Palomar Energy Center power plant is currently located in the industrialized area of Escondido's Research and Technology Center (ERTC) North SPA. Air pollutants of concern from power plants include benzene, formaldehyde, and particulate matter. Under the General Plan Update, the ERTC North SPA would be developed with new commercial, office, and industrial uses. The General Plan Update proposes to decrease the amount of existing housing in the ERTC study area. Therefore, the General Plan Update does not propose new sensitive land uses in close proximity to the Palomar Energy Center. Additionally, according to SDG&E, the power plant's air permit is very strict and has some of the lowest emission limits in the state and nation (SDG&E 2011).

Recycling and garbage transfer stations are sources of DPM due to the frequency of truck trips to these facilities. Escondido Disposal, Inc. currently operates a transfer station in the City at 1044 West Washington Avenue in an existing industrial area. This area is the Transit Station Target Area under the General Plan Update and is proposed for new mixed use development, including multi-family residences, commercial land use, offices, and industrial land use. Residential uses are proposed to be part of regional commercial attraction and would likely be sited away from industrial uses, including the transfer facility. However, the General Plan Update would accommodate new sensitive receptors in a planning area that contains an existing source of TAC emissions. This impact would be potentially significant.

Dry cleaning facilities, gas stations, and automotive repair facilities are currently located throughout the General Plan Update boundary, and would continue to be accommodated in commercial and retail areas under the General Plan Update. Many dry cleaning facilities use perchloroethylene (Perc), the most common solvent used in the industry. Perc dry cleaners are required to comply with CARB and SDAPCD regulations, but some emissions still occur (CARB 2005). Refueling at gas stations releases benzene, a potent carcinogen, into the air. Automotive repair shops are a source of solvents that are potential TACs. The Air Quality and Land Use Handbook recommends that new sensitive receptors be located more than 300 feet from any dry cleaning operations, and more the 500 feet from operations using more than one machine. The vast majority of dry cleaners in California have only one machine (CARB 2005). Sensitive land uses should not be sited in the same building as a dry cleaning facility. These siting distances apply only to facilities where clothes are cleaned. They do not apply to storefronts or other facilities that serve as pick-up or drop-off locations for offsite cleaning facilities. A 50-foot separation between the nearest sensitive receptor and a gas station is recommended for typical gas dispensing facilities, but a separation of 300 feet is recommended for large gas stations with a throughput of 3.6 million gallons per year or greater. The handbook does not recommend a separation distance for automotive repair facilities. Potential impacts would need to be addressed on a case-by-case basis. The smart growth principles of the General Plan Update emphasize residential land uses in close proximity to neighborhood-serving retail and commercial uses, which could include dry cleaning facilities, gas stations, and automotive repair facilities. Therefore, sensitive receptors would potentially be located in close proximity to dry cleaning facilities, gas stations, and automotive repair facilities and vice versa. A potentially significant impact could occur.

The major medical facility in the General Plan Update boundary is the Palomar Medical Center in the Downtown Specific Plan Area (SPA). Its replacement, Palomar Medical Center West, is currently under construction south of the ERTC North SPA. Medical and laboratory uses can generate TACs. The General Plan Update would accommodate new research and development land uses in the Transit Station Target Area, South Quince Street Target Area, I-15/Felicita Road Corporate Office Target Area, Imperial Oaks SPA, and the ERTC North SPA. The Downtown SPA and Transit Station Target Area would accommodate new multi-family residential development as well as non-residential land uses. The South Quince Street Target Area would accommodate new single family and multi-family development. Residential land uses in these areas may be incompatible with existing and proposed medical, research and development and laboratory uses. The existing and future medical and laboratory land uses would be required to comply with all applicable regulations pertaining to the handling of hazardous materials and may require permitting by the SDAPCD if the facility would be a source of TAC emissions (CARB 2005). However, potential risks to existing sensitive receptors and the siting of future land uses would need to be determined on a case-by-case basis. Impacts related to medical and research and development facilities in residential areas would be potentially significant. The ERTC North SPA, I-15/Felicita Road Corporate Office Target Area, and Imperial Oaks SPA would accommodate new non-residential land uses. These areas are not proposed to accommodate new sensitive receptors and would not result in the exposure of new sensitive receptors to potential TAC emissions from Palomar Medical Center West.

Industrial land uses generate DPM from truck trips for supply delivery and product distribution. Individual industrial and manufacturing processes may involve chemical solvents, machinery, or other sources of TACs. Industrial land uses are currently found throughout the core of the City. New industrial land uses would be accommodated in the Downtown SPA, Transit Station Target Area, South Quince Street Target Area, Imperial Oaks SPA, ERTC North SPA, ERTC South SPA, and outside of the target area boundaries. The Downtown SPA, Transit Station Target Area, South Quince Street Target Area, and

areas outside of the study areas would accommodate new residential development which may be incompatible with existing and proposed industrial land uses. Industrial and manufacturing land uses that would result in TACs require permitting from the SDAPCD; however, permitting may not eliminate health risks to nearby sensitive receptors. Additionally, permitting would not cover DPM from truck trips. The TACs and number of truck trips would vary between individual industrial developments; therefore, potential risks to existing sensitive land uses and the siting of future sensitive receptors would need to be determined on a case-by-case basis. Impacts related to industrial land uses would be potentially significant.

Current and proposed agricultural zoning allows for agricultural operations along the outskirts of the General Plan Update boundary. Existing agricultural operations are located outside of the City boundary in the unincorporated County or at the edge of the City boundary, generally along SR-78 to the east of the City, along Harmony Grove Road to the west, and along I-15 to the north. Major crop categories for the General Plan Update area include nursery and flower crops, eggs and egg products, citrus, and vegetable crops. Agricultural operations are a potential source of DPM from truck trips and TACs from pesticide use. However, the farms found within the General Plan Update boundary are not large-scale commercial agricultural operations that generate substantial truck traffic or a disproportionate amount of pesticide use. Additionally, the General Plan Update would continue to designate low density rural and estate development in the areas that allow agricultural operations. Low density development would provide space between agricultural uses and the closest receptors so that TACs or particulate matter would settle out and reduce pollutant concentrations at sensitive receptors. Therefore, impacts related to agricultural operations would be less than significant.

The commercial and retail developments proposed within the General Plan Update would not attract a disproportionate amount of diesel trucks that would be considered a source of substantial TAC emissions. Additionally, in 2004, the CARB adopted an ATCM to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to DPM and other TACs and their pollutants. The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. The measure does not allow diesel fueled commercial vehicles to idle for more than five minutes at any given time. Potential localized air toxic impacts from onsite sources of DPM would be minimal since heavy-duty trucks would take multiple routes throughout the City, and the trucks that would frequent the area would not idle for extended periods of time. Therefore, impacts related to commercial and retail land uses would be less than significant.

Transit buses would be used throughout the General Plan Update area, and use of mass transit is encouraged as part of the General Plan's incorporation of smart growth principles. The buses in the General Plan Update planning area are operated by the North County Transit District (NCTD) (the "BreezeBREEZE" transit line). According to NCTD, more than half of the BreezeBREEZE bus fleet is fueled with compressed natural gas (CNG), and therefore would not contribute to DPM emissions (NCTD 2009). Similar to trucks delivering to commercial facilities, buses would also be subject to the ATCM and would not idle for extended periods of time. Due to the limited number of diesel-fueled buses and limited idling time, impacts related to buses would be less than significant.

Another source of DPM is construction equipment. Construction would occur temporarily throughout the project planning area as buildout of the General Plan Update and Downtown Specific Plan Update occurs. As shown above in Table 4.3-8, Construction Daily Maximum Air Pollutant Emissions,

implementation of the proposed project would result in potentially significant PM₁₀ emissions during construction. However, DPM are considered to have long-term health effects and construction would be a short-term event. Construction would be spread out throughout the planning area and the same receptors would not be continually exposed to DPM from construction. Therefore, construction emissions would not result in a significant long-term health risk to nearby sensitive receptors.

Escondido Climate Action Plan

Some reduction measures identified in the E-CAP encourage the construction or expansion of roadway or transit facilities, including Measure R2-T2, Bicycle Master Plan, and Measure R2-T3, Transit Improvements. New bicycle facilities would not result in a source of DPM or TACs. Transit facilities are addressed under General Plan Update and Downtown Specific Plan Update impacts. As discussed above, transit busses would not result in significant impacts to sensitive receptors. The E-CAP policies do not encourage any project features that would result in emissions of TACs. Therefore, implementation of the E-CAP measures would not result in a significant impact related to sensitive receptors.

Federal, State and Local Regulations and Existing Regulatory Processes

The California Air Toxics “Hot Spots” Information and Assessment Act (AB 2588) requires facilities that exceed recommended OEHHA levels to reduce risks to acceptable levels. In the SDAB, SDAPCD Rule 1210, Toxic Air Contaminant Public Health Risks – Public Notification and Risk Reduction, implements this program. Facilities that have emissions above levels recommended by OEHHA would be required to develop and implement plans to reduce risks below these levels. Additionally, the CARB has implemented an ongoing program to study the potential health effects of diesel particulate matter, to identify sources of DPM, and to develop programs to reduce emissions, such as the ATCM. These programs include development and implementation of control strategies for off-road, on-road, and marine vessel diesel sources. These sources are already regulated by the EPA and operation of diesel engines must comply with these standards. As discussed above under impacts related to TACs, the CARB presents its recommendations for the siting of new sensitive land uses in the Air Quality and Land Use Handbook (CARB 2005). The Handbook makes specific recommendations for a number of source types such as freeways, gas stations, and dry cleaners.

Proposed General Plan Update Policies

The General Plan Update Resource Conservation Element includes Air Quality and Climate Protection Policy 7.4, which would locate uses and facilities/operations that may produce toxic or hazardous air pollutants an adequate distance from each other and sensitive uses such as housing and schools, consistent with CARB recommendations. Policy 7.4 would require compliance with the siting recommendations set forth in Table 1-1 of the CARB’s Land Use and Air Quality Handbook (CARB 2005). Implementation of these recommendations would ensure that sensitive land uses such as residences, schools, day care centers, playgrounds, and medical facilities are sited appropriately to minimize exposure to emissions of TACs. Specific recommendations include the following:

1. Avoid siting new sensitive land uses within 500 feet of a freeway.
2. Avoid siting new sensitive uses within 300 feet of any dry cleaning operation that uses perchloroethylene. For operations with two or more machines, provide at least 500 feet of separation from sensitive uses. For operations with three or more machines, consult the

SDAPCD for guidance on acceptable separation distances. Do not site new sensitive land uses in the same building with perchloroethylene dry cleaning operations.

3. Avoid siting new sensitive uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50 foot separation distance is acceptable between sensitive uses and standard gas dispensing facilities.

Within the Land Use and Community Form Element, Environmental Review Policies 18.1 through 18.4 require project conformance with CEQA, the General Plan, facilities plans, and quality of life standards; mitigation of environmental impacts; and an update of environmental thresholds in sensitive areas.

Proposed Downtown Specific Plan Update Policies

The proposed Downtown Specific Plan Update does not include any policies related to sensitive receptors.

Proposed Escondido Climate Action Plan Reduction Measures

The proposed E-CAP does not include any reduction measures related to sensitive receptors.

Summary

Future development consistent with the proposed project would result in potentially significant emissions of DPM and other TACs. Land development projects are required to comply with AB 2588, SDAPCD Rule 1210, Toxic Air Contaminant Public Health Risks – Public Notification and Risk Reduction, and CARB standards for diesel engines. The General Plan Update Air Quality and Climate Protection Element requires future land uses to be sited according to CARB recommendations. Therefore, impacts related to TACs from freeways, dry cleaning facilities, and gas stations would be less than significant. However, CARB does not make specific recommendations for other potential sources of TACs in the project planning area, including waste transfer, industrial, medical, and research and development facilities. Therefore, the proposed project would result in a potentially significant impact to sensitive receptors.

4.3.3.4 Issue 4: Objectionable Odors

Guidelines for Determination of Significance

Based on Appendix G of the CEQA Guidelines and existing City policies and regulations, the proposed project would result in a significant impact if it would result in the emission of any material which causes a nuisance to a considerable number of persons or endangers the comfort, health or safety of any person. A land use which would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of offsite receptors.

Impact Analysis

Growth under the proposed Downtown Specific Plan Update would be consistent with the growth identified for the General Plan Update; therefore, the following analysis pertains to both the General Plan Update and the Downtown Specific Plan Update. Impacts related to implementation of the E-CAP are discussed separately below.

General Plan Update and Downtown Specific Plan Update

Construction associated with implementation of the General Plan Update could result in minor amounts of odor compounds associated with diesel heavy equipment exhaust; however, because the construction equipment would be operating at various locations throughout the General Plan Update boundary, construction would not take place all at once, and because any operations near existing receptors would be temporary, impacts associated with odors during construction are not considered significant.

The CARB's Air Quality and Land Use Handbook includes a list of the most common sources of odor complaints received by local air districts. Typical sources of odor complaints include facilities such as sewage treatment plants, landfills, recycling facilities, waste transfer stations, petroleum refineries, biomass operations, automobile body shops, coating operations, fiberglass manufacturing, foundries, rendering plants, and livestock operations. The General Plan Update accommodates the construction of commercial, retail, office, and residential land uses that do not typically result in a source of nuisance odors associated with operation. However, the General Plan Update would also accommodate new industrial land uses that would have the potential to produce objectionable odors during industrial processes and manufacturing. New automobile body shops may also be accommodated in the proposed commercial and retail areas. In addition, the City is currently developed with one wastewater treatment plant and waste transfer facility. The CARB does not recommend separation distances for sources of odor; however, the Ventura County Air Pollution Control District (VCAPCD) has established screening level distances for typical odor sources. The VCAPCD also determined that the land uses most sensitive to odor are schools, day care centers, playgrounds, retirement homes, convalescent homes, hospitals, and job sites. Development in close proximity to these uses would have the potential to expose offsite receptors to objectionable odors.

One wastewater treatment plant is located in the General Plan Update boundary: the Hale Avenue Resource Recovery Facility (HARRF), located at 1521 South Hale Avenue. The area surrounding the facility is developed and the facility is located outside of the 15 study areas proposed for substantial new growth. The General Plan Update designates the area surrounding the HARRF for industrial land uses, which would be the land use least sensitive to odors. Additionally, the HARRF currently implements odor control measures such as clarifiers and chemical additives to control odors (City 2011). Therefore, implementation of the General Plan Update would not result in the exposure of a substantial number of new receptors to odors from the HARRF.

As discussed above in Section 4.3.3.3, Issue 3: Sensitive Receptors, Escondido Disposal, Inc. currently operates a waste transfer station in the City at 1044 West Washington Avenue in an existing industrial area. This area is the Transit Station Target Area as identified in the General Plan Update and is proposed for new mixed use development, including multi-family residential, commercial, office, and industrial land uses. The VCAPCD screening level distance for waste transfer facilities is one mile. Within this study area, residential uses are proposed to be part of regional commercial attraction and would likely be sited away from industrial uses, including the transfer facility. However, the General Plan Update would have the potential accommodate new high-density residential development and other potentially odor sensitive land uses near a waste transfer facility. This impact would be potentially significant.

As discussed above in Section 4.3.3.3, Issue 3: Sensitive Receptors, automotive repair facilities are currently located throughout the General Plan Update boundary, and would continue to be

accommodated in commercial and retail areas under the General Plan Update. The smart growth principles in the General Plan Update emphasize residential land uses in close proximity to neighborhood-serving retail and commercial uses, which could include automotive repair facilities. The VCAPCD does not establish an odor screening level distance for automobile body repair shops; however, one mile is the typical distance for industrial operations and is assumed to be a conservative screening level for automobile body repair shops. The General Plan Update would have the potential to result in new odor sensitive land uses within one mile of an automobile body repair shop; therefore, impacts would be potentially significant.

As discussed above in Section 4.3.3.3, Issue 3: Sensitive Receptors, industrial land uses are currently found throughout the core of the City. New industrial land uses would be accommodated in the Downtown SPA, Transit Station Target Area, South Quince Street Target Area, Imperial Oakes SPA, ERTC North SPA, ERTC South SPA, and in locations outside of the study area boundaries. The Downtown SPA, Transit Station Target Area, South Quince Street Target Area, and areas outside of the study areas would accommodate new residential development, which could be susceptible to odors if sited near an industrial use. However, not all industrial land uses produce objectionable odors. Industrial uses of concern include fiberglass operations and coating operations. It is currently unknown what new industrial processes would be proposed under the General Plan Update, or what existing industrial process would be near future proposed odor sensitive development. Industrial and manufacturing land uses that would result in air emissions generally require permitting from the SDAPCD. However, permitting would generally cover emissions that present health risks and may not eliminate odors. The screening level distance for industrial processes with the potential to generate odors is one mile. The General Plan Update would have the potential result in new odor sensitive receptors within one mile of industrial land uses. Therefore, impacts related to industrial land uses would be potentially significant.

Escondido Climate Action Plan

In general, the E-CAP measures do not encourage any project features that would result in obnoxious odors. Some reduction measures identified in the E-CAP encourage the construction or expansion of roadway or transit facilities, including Measure R2-T2, Bicycle Master Plan, and Measure R2-T3, Transit Improvements. Bicycle and transit facilities are not a typical source of odor complaints. Therefore, implementation of the E-CAP measures would not result in a significant impact related to odors.

Federal, State, and Local Regulations and Existing Regulatory Processes

The sources of odors discussed above are subject to SDAPCD Rule 51, Nuisance, regarding odor control and are not permitted to allow nuisance odors to affect nearby receptors. Facilities that cause nuisance odors are subject to enforcement action by the SDAPCD. The SDAPCD responds to odor complaints by investigating the complaint and determining whether the odor violates SDAPCD Rule 51. The inspector will take enforcement action if the source is not in compliance with the SDAPCD rules and regulations and will inform the complainant of investigation results (SDAPCD 2010). In the event of enforcement action, odor-causing impacts must be mitigated by appropriate means to reduce the impacts to sensitive receptors to less than significant. Such means include shutdown of odor sources or requirements to control odors using add-on equipment.

Proposed General Plan Update Policies

The General Plan Update Mobility and Infrastructure Element includes Wastewater System Policy 13.13, which requires the City to maintain a buffer zone around the HARRF limiting the amount of new

residential development, and permit compatible non-residential development to minimize public exposure to odors and health risks. Additionally, the Land Use and Community Form Element includes Public Facility Overlay Policy 13.3 which requires the City to maintain a buffer zone around the HARRF and restrict development in order to minimize public exposure to odors and public health risks; limit the amount of new residential development within this zone and permit non-residential uses that would not adversely impact existing residences; and encourage development to incorporate site planning and architectural layout techniques that minimize exposure to odors.

Figure II-6, General Plan Land Use Designations, in the Land Use and Community Form Element includes a general description and recommended urban form characteristics for each land use designation. The general description for the vertical mixed use land use designation prohibits commercial uses characterized by odors or other activities in mixed use structures that would adversely impact onsite residential units. The recommended urban form characteristics for all mixed use development include the requirement for adequate provisions to ensure compatibility with issues related to odors and trash. Additionally, within the Land Use and Community Form Element, Environmental Review Policies 18.1 through 18.4 require project conformance with CEQA, the General Plan, facilities plans, and quality of life standards; mitigation of environmental impacts; and an update of environmental thresholds in sensitive areas.

Proposed Downtown Specific Plan Update Policies

The proposed Downtown Specific Plan Update does not include any policies related to objectionable odors.

Proposed Escondido Climate Action Plan Reduction Measures

The proposed E-CAP does not include any reduction measures related to objectionable odors.

Summary

While odor sources are present within the General Plan Update and Downtown Specific Plan planning areas, such as the HARRF and waste transfer facility, SDAPCD Rule 51, Nuisance, prohibits nuisance odors that adversely affect nearby receptors. Development of land uses consistent with the General Plan Update that would have the potential to result in nuisance odors, such as new industrial facilities, would be required to comply with SDAPCD regulations related to odor. The General Plan Update land use designations prohibit the siting and construction of land uses in mixed use development that are incompatible due to odors. Compliance and SDAPCD Rule 51 and the General Plan Update would ensure that a substantial number of sensitive receptors would not be exposed to objectionable odors. Therefore, the proposed project's impacts associated with objectionable odors would be less than significant.

4.3.4 Cumulative Impacts

The geographic scope of cumulative impact analysis for air quality is the SDAB.

Issue 1: Air Quality Plans

Cumulative projects located in the San Diego region would have the potential to result in a cumulative impact to air quality plans if, in combination, they would conflict with or obstruct implementation of the RAQS and/or applicable portions of the SIP. Projects that are inconsistent with the regional planning documents that the RAQS and SIP are based on would have the potential to result in cumulative impacts if they would include development beyond regional projections. Cumulative projects located in adjacent jurisdictions would generally be consistent with the SIP and the RAQS because projects would be required to be consistent with adopted general plans or other planning documents accounted for in the RAQS growth projections. The proposed project would ultimately be used as the basis for future updates to applicable air quality plans. As discussed above in Section 4.3.3.1, Issue 1: Air Quality Plans, growth consistent with the General Plan Update would not exceed the growth projections in the RAQS or SIP. Development in the City would be required to comply with the General Plan Update or would not be approved. Additionally, cumulative projects not included in the proposed General Plan Update would be required to show compliance with applicable air quality plans or would not be approved. Therefore, the proposed project, in combination with the cumulative projects in the SDAB, would result in a less than significant cumulative impact associated with conflicts with air quality plans.

Issue 2: Air Quality Violations

The SDAB is presently designated as a basic non-attainment area for the federal (NAAQS) ozone standard. The SDAB is also a non-attainment area for the state (CAAQS) standards for ozone, PM₁₀ and PM_{2.5}. This means that the SDAB has not met the federal and/or state standards for these air pollutants. Therefore, a cumulative impact exists for these pollutants. As such, the highest concern involving criteria pollutants is whether the proposed project would result in a cumulatively considerable net increase of PM₁₀, PM_{2.5}, or exceed screening-level criteria thresholds of ozone precursors (NO_x and VOCs).

A localized pollutant concentration analysis is applicable to the analysis of cumulative impacts of construction emissions because construction emissions would be temporary. Pollutant emissions would disperse or settle out following construction and would not contribute to long-term concentrations of emissions in the SDAB. Neither the City nor the SDAPCD has established screening thresholds for localized impacts. In lieu of any set quantitative air quality significance thresholds for localized impacts for cumulative analysis, the Localized Significance Thresholds (LST) established by the SCAQMD (SCAQMD 2009) are used to determine potential cumulative impacts. Based on the LSTs, NO_x emissions decrease approximately 95 percent beyond a distance of approximately 4,270 feet. Therefore, cumulative projects separated by more than 4,270 feet would not result in a cumulative NO_x impact. According to the LSTs, PM₁₀ decreases approximately 95 percent beyond a distance of 1,300 feet, and PM_{2.5} decreases approximately 95 percent beyond a distance of 1,430 feet. SCAQMD has not established an LST for VOCs. However, because VOCs disperse quickly (California Indoor Air Quality 2011), it is assumed conservatively that VOC emissions would decrease by 95 percent beyond a distance of 1,300 feet, similar to PM₁₀. Therefore, cumulative projects separated by more than 1,300 feet would not result in cumulative PM₁₀ and VOCs impacts, and projects separated by more than 1,430 feet would not result in cumulative PM_{2.5} impacts.

It is unlikely that construction projects associated with the General Plan Update and those associated with cumulative projects would take place in close proximity to each other and at the same time. However, the potential exists for future construction projects to be located within the cumulative

impact screening distances of each other, particularly in the 15 project study areas when the greatest amount of growth and redevelopment would occur. As shown above in the Table 4.3-8, Construction Daily Maximum Air Pollutant Emissions, the emissions of VOCs and PM₁₀ during construction under the General Plan Update would potentially exceed the threshold of significance. Therefore, a potentially significant cumulative impact would occur. Implementation of mitigation measures Air-1 and Air-2, discussed below in Section 4.3.6, Mitigation, would reduce construction emissions, but it cannot be guaranteed that these measures would reduce impacts to below a significant level. Therefore, project construction could result in a cumulatively considerable and unavoidable contribution to a significant cumulative impact.

Operation of the proposed project would emit NO_x, VOCs, and particulate matter. The RAQS and SIP are the applicable planning documents for the SDAB. The purpose of these documents is to reduce regional cumulative emissions of criteria air pollutants to below the NAAQS and CAAQS. A cumulative project would result in a cumulatively considerable contribution to regional emissions if it would not conform to the RAQS or SIP, or have a significant direct impact to air quality by exceeding the significance thresholds listed above in Table 4.3-6, SDAPCD Screening Level Thresholds and City Daily Emission Criteria, which would hinder the region's ability to meet the RAQS and SIP reduction targets. As discussed above in Section 4.3.3.1, Issue 1: Air Quality Plans, the General Plan Update would conform to the SIP and RAQS; however, operation of future development under the General Plan Update would have the potential to result in significant direct impacts to air quality from particulate matter emissions from vehicular sources. Therefore, the project's contribution to the regional air quality impacts related to particulate matter emissions would be cumulatively considerable. However, the proposed project is anticipated to result in less than significant direct emissions of VOCs and NO_x due to increasingly stringent vehicular emission standards.

Issue 3: Sensitive Receptors

Carbon Monoxide

A cumulative impact related to CO hotspots would occur if the CO emissions from traffic generated by cumulative project development in the region would combine to create a CO hotspot. The Traffic Impact Analysis (LLG 2011a) prepared for the proposed project analyzed potential traffic impacts associated with buildout of the General Plan Update by the 2035 planning horizon and cumulative growth in the region by year 2035. Table 4.3-11, Estimated Carbon Monoxide Concentrations, above shows the maximum carbon monoxide concentration that would result from the most congested intersections in the planning area in year 2035 with implementation of the proposed project and cumulative growth in the region. As shown in this table, a CO hotspot would not occur at the most congested intersections that would operate at LOS F with implementation of the proposed project in combination with cumulative growth. Therefore, a significant cumulative impact associated with CO hotspots would not occur, and the proposed project's cumulative contribution would be less than significant.

Toxic Air Contaminants

Cumulative projects located in the SDAB would have the potential to result in a significant cumulative impact associated with sensitive receptors if, in combination, they would expose sensitive receptors to a substantial concentration of TACs or HAPs that would significantly increase cancer risk. Impacts would generally be localized and not cumulative in nature because impacts related to a particular source of TACs would be limited to the proximity of the source. However, implementation of cumulative projects

would have the potential to generate diesel particulate matter from truck trips, which would not be limited to the close proximity of the individual project. Cumulative projects with the potential to generate substantial pollutant concentrations would be required to comply with the federal NESHAPS program and well and the CARB program to reduce diesel emissions. Similar to the proposed project, cumulative projects located in adjacent jurisdictions would be required to comply with the CARB's recommendations for siting new sensitive receptors and requirements for reducing diesel emissions. Stationary sources in the SDAB would be required to obtain operating permits from the SDAPCD and comply with emission thresholds for TACs or HAPs. Therefore, the proposed project, in combination with other cumulative projects in the region would result in a less significant cumulative impact associated with sensitive receptors.

Issue 4: Objectionable Odors

Odor impacts are localized in nature and cumulative projects would not combine to result in a cumulative odor impact because odors are limited to the area immediately surrounding its source. Similar to the proposed project, cumulative projects would be required to comply with SDAPCD's rules and regulations regarding odor control. Therefore, the proposed project, in combination with other cumulative projects, would result in a less than significant cumulative impact associated with objectionable odors.

4.3.5 Significance of Impact Prior to Mitigation

The proposed project would result in potentially significant direct and cumulative impacts associated with air quality violations and sensitive receptors. The proposed project would result in a less than significant direct impact associated with air quality plans and objectionable odors.

4.3.6 Mitigation

Issue 1: Air Quality Plans

The proposed project would not conflict with or obstruct the implementation of the RAQS or SIP. Therefore, no mitigation is necessary.

Issue 2: Air Quality Violations

Implementation of the following mitigation measures would be required to reduce construction and operational emissions associated with the proposed project. Mitigation measure Air-1 requires implementation of best management practices to reduce construction emissions. Mitigation measure Air-2 requires the preparation of an air quality impact assessment for projects with the potential to generate significant air pollutant emissions during construction or operation. While implementation of these measures would reduce air pollutant emissions, they cannot guarantee that construction or operational emissions would be lessened to below a level of significance. Therefore, even with implementation of mitigation, impacts from operation of the proposed project would remain significant and unavoidable.

Air-1 Construction Dust Control Measures. During grading activities for any future development within the General Plan Update planning area boundary, the onsite construction superintendent

shall ensure implementation of standard best management practices to reduce the emissions of fugitive dust, including but not limited to the following actions:

- i. Water any exposed soil areas a minimum of twice per day, or as allowed under any imposed drought restrictions. On windy days or when fugitive dust can be observed leaving the construction site, additional water will be applied at a frequency to be determined by the onsite construction superintendent.
- ii. Temporary hydroseeding with irrigation will be implemented on all graded areas on slopes, and areas of cleared vegetation will be revegetated as soon as possible following grading activities in areas that will remain in a disturbed condition (but will not be subject to further construction activities) for a period greater than three months during the construction phase.
- iii. Operate all vehicles on the construction site at speeds less than 15 miles per hour.
- iv. Cover all stockpiles that will not be utilized within three days with plastic or equivalent material, to be determined by the onsite construction superintendent, or spray them with a non-toxic chemical stabilizer.
- v. If a street sweeper is used to remove any track-out/carry-out, only PM₁₀-efficient street sweepers certified to meet the most current South Coast Air Quality Management District Rule 1186 requirements shall be used. The use of blowers for removal of track-out/carry-out is prohibited under any circumstances.

Air-2 Air Quality Impact Assessment. An Air Quality Impact Analysis shall be prepared for projects within the General Plan Update boundary that exceed one of the air quality study trigger criteria in Table 4.3-12, Air Quality Impact Analysis Trigger Criteria.

Table 4.3-12 Air Quality Impact Analysis Trigger Criteria

Land Use	Project Size that would Trigger an AQIA ⁽³⁾	Single Family Dwelling Unit Equivalent ⁽⁴⁾
Single Family Residential ⁽¹⁾	300 du	1 du/1 du
Apartments: 6-20 du/acre ⁽¹⁾	370 du	1 du/1.23 du
Apartments: > 20 du/acre ⁽¹⁾	420 du	1 du/1.4 du
Condominiums ⁽¹⁾	370 du	1 du/1.23 du
Mobile Home Park ⁽¹⁾	400 du	1 du/1.33 du
Supermarket ⁽²⁾	25,000 sf	1 du/83.33 sf
Restaurant, Fast Food w/drive through ⁽²⁾	6,500 sf	1 du/21.67 sf
Restaurant, Quality Sit Down ⁽²⁾	43,000 sf	1 du/143.33 sf
Neighborhood/County Park (undeveloped) ⁽²⁾	880 acres	1 du/2.93 acre
Motel ⁽²⁾	480 rooms	1 du/1.6 room
Standard Commercial Office (<100,000 sf per office site) ⁽²⁾	190,000 sf	1 du/633.33 sf
Neighborhood shopping center ⁽²⁾	35,000 sf	1 du/116.67 sf

⁽¹⁾ Limited by VOC emissions; for these residential units it is assumed that 5 percent of the units have active fireplaces burning 0.25 cord of wood over a period of 82 days and 10 percent of the units have active natural gas fireplaces that are used for 3 hours per day over a period of 90 days (note: hours per day and days per year are the URBEMIS defaults).

⁽²⁾ Limited by CO emissions

⁽³⁾ du = dwelling unit, sf = square feet, du/acre = dwelling units per acre

⁽⁴⁾ Single family units per land use unit of measure

Source: County of San Diego 2007b

Issue 3: Sensitive Receptors

Implementation of the following measures would reduce potential impacts associated with exposure of sensitive receptors to TACs to a less than significant level.

Air-3 Siting Sensitive Receptors near Waste Transfer Facility. A Health Risk Assessment (HRA) shall be prepared by a qualified air quality professional for development of new sensitive receptors proposed in the General Plan Update planning area within 500 feet of a waste transfer facility. Sensitive receptors include day care centers, schools, retirement homes, hospitals, medical patients in residential homes, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. The project shall not be considered for approval until an HRA has been completed and approved by the City. The methodology for the HRA shall follow the Office of Environmental Health Hazard Assessment and SDAPCD guidelines for the preparation of HRAs. If a potentially significant health risk is identified, the HRA shall identify appropriate measures to reduce the potential health risk to below a significant level or the sensitive receptor shall be sited in another location.

Air-4 Siting Sensitive Receptors near Industrial, Medical, or Research and Development Facilities. A Health Risk Assessment (HRA) shall be prepared by a qualified air quality professional for development of new sensitive receptors in the General Plan Update planning area proposed within one mile of industrial land uses, medical facilities, or research and development facilities that generate a potential source of TACs. Sensitive receptors include day care centers, schools, retirement homes, hospitals, medical patients in residential homes, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. An HRA shall also be required for such facilities proposed within one mile of a sensitive receptor. The project shall not be considered for approval until an HRA has been completed and approved by the City. The methodology for the HRA shall follow the Office of Environmental Health Hazard Assessment and SDAPCD guidelines for the preparation of HRAs. If a potentially significant health risk is identified, the HRA shall identify appropriate measures to reduce the potential health risk to below a significant level, or the sensitive receptor or proposed facility shall be sited in another location.

Issue 4: Objectionable Odors

The proposed project would not result in a significant direct or cumulative impact associated with objectionable odors. Therefore, no mitigation is necessary.

4.3.7 Conclusion

The discussion below provides a synopsis of the conclusion reached in each of the above impact analyses, and the level of impact that would occur after mitigation measures are implemented.

Issue 1: Air Quality Plans

The proposed project would not conflict with or obstruct implementation of the RAQS or SIP. Therefore, impacts would be less than significant. Additionally, the proposed project would not contribute to a significant cumulative impact.

Issue 2: Air Quality Violations

The proposed project would result in significant impacts associated with the construction and operational emissions of criteria pollutants including VOCs, PM₁₀, and PM_{2.5}. Mitigation measures Air-1 and Air-2 listed above in Section 4.3.6, Mitigation, would lessen construction and operational emissions of criteria pollutants; however, it cannot be guaranteed that these measures would reduce impacts to below a level of significance. Therefore, emissions would be significant and unavoidable. Additionally, the proposed project would contribute to a significant cumulative impact. Mitigation measures Air-1 and Air-2 that would reduce this impact are discussed in Chapter 6, Project Alternatives.

Issue 3: Sensitive Receptors

The proposed project would have the potential to result in the exposure of sensitive receptors to substantial amounts of TACs that could increase cancer risks. Impacts would be potentially significant. Mitigation measures Air-3 and Air-4 would reduce direct cumulative impacts to sensitive receptors to below a significant level. Due to existing regulations and the localized nature of impacts to sensitive receptors, the proposed project would not result in a significant cumulative impact to sensitive receptors.

Issue 4: Objectionable Odors

The proposed project would comply with SDAPCD regulations that require odor sources to reduce impacts to nearby sensitive receptors. Therefore, impacts would be less than significant. Additionally, the proposed project would not contribute to a significant cumulative odor impact.

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