



Section 5.5:

# Air Quality



## 5.5 AIR QUALITY

Information in this section is based primarily on the *CEQA Air Quality Handbook*, April 1993 (as revised through November 1993), prepared by the South Coast Air Quality Management District (SCAQMD), the *Final 2007 Air Quality Management Plan for the South Coast Air Basin* (June 2007), prepared by the SCAQMD, and Air Quality Data (California Air Resources Board [CARB], 2007 through 2009).

### 5.5.1 REGULATORY FRAMEWORK

#### FEDERAL

The U.S. Environmental Protection Agency (U.S. EPA) is responsible for implementing the Federal Clean Air Act (FCAA), which was first enacted in 1955 and amended numerous times after. The FCAA established Federal air quality standards known as the National Ambient Air Quality Standards (NAAQS). These standards identify levels of air quality for “criteria” pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare. The criteria pollutants addressed under the FCAA are ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>) (which is a form of nitrogen oxides [NO<sub>x</sub>]), sulfur dioxide (SO<sub>2</sub>) (which is a form of sulfur oxides [SO<sub>x</sub>]), particulate matter less than 10 and 2.5 microns in diameter (PM<sub>10</sub> and PM<sub>2.5</sub>, respectively) and lead (Pb); refer to *Table 5.5-1, National and California Ambient Air Quality Standards*.

#### STATE

The California Air Resources Board (CARB) administers the air quality policy in California. The California Ambient Air Quality Standards (CAAQS) were established in 1969 pursuant to the Mulford-Carrell Act. These standards, included with the NAAQS in *Table 5.5-1*, are generally more stringent and apply to more pollutants than the NAAQS. In addition to the criteria pollutants, CAAQS have been established for visibility reducing particulates, hydrogen sulfide, and sulfates. The California Clean Air Act (CCAA), which was approved in 1988, requires that each local air district prepare and maintain an Air Quality Management Plan (AQMP) to achieve compliance with CAAQS.



**Table 5.5-1  
National and California Ambient Air Quality Standards**

Pollutant	Averaging Time	California <sup>1</sup>		Federal <sup>2</sup>	
		Standard <sup>3</sup>	Attainment Status	Standards <sup>4</sup>	Attainment Status
Ozone (O <sub>3</sub> )	1 Hour	0.09 ppm (180 µg/m <sup>3</sup> )	<b>Nonattainment</b>	NA <sup>5</sup>	NA <sup>5</sup>
	8 Hours	0.07 ppm (137 µg/m <sup>3</sup> )	Unclassified	0.075 ppm (147 µg/m <sup>3</sup> )	<b>Nonattainment</b>
Particulate Matter (PM <sub>10</sub> )	24 Hours	50 µg/m <sup>3</sup>	<b>Nonattainment</b>	150 µg/m <sup>3</sup>	<b>Nonattainment</b>
	Annual Arithmetic Mean	20 µg/m <sup>3</sup>	<b>Nonattainment</b>	NA <sup>6</sup>	<b>Nonattainment</b>
Fine Particulate Matter (PM <sub>2.5</sub> )	24 Hours	No Separate State Standard		35 µg/m <sup>3</sup>	Unclassified
	Annual Arithmetic Mean	12 µg/m <sup>3</sup>	<b>Nonattainment</b>	15.0 µg/m <sup>3</sup>	<b>Nonattainment</b>
Carbon Monoxide (CO)	8 Hours	9.0 ppm (10 mg/m <sup>3</sup> )	Attainment	9 ppm (10 mg/m <sup>3</sup> )	Attainment
	1 Hour	20 ppm (23 mg/m <sup>3</sup> )	Attainment	35 ppm (40 mg/m <sup>3</sup> )	Attainment
Nitrogen Dioxide (NO <sub>2</sub> )	Annual Arithmetic Mean	0.030 ppm (57 µg/m <sup>3</sup> )	NA	0.053 ppm (100 µg/m <sup>3</sup> )	Attainment
	1 Hour	0.18 ppm (339 µg/m <sup>3</sup> )	Attainment	0.100 ppm	NA
Lead (Pb)	30 days average	1.5 µg/m <sup>3</sup>	Attainment	N/A	NA
	Calendar Quarter	N/A	NA	1.5 µg/m <sup>3</sup>	Attainment
Sulfur Dioxide (SO <sub>2</sub> )	Annual Arithmetic Mean	N/A	NA	0.03 ppm (80 µg/m <sup>3</sup> )	Attainment
	24 Hours	0.04 ppm (105 µg/m <sup>3</sup> )	Attainment	0.14 ppm (365 µg/m <sup>3</sup> )	Attainment
	3 Hours	N/A	NA	N/A	Attainment
	1 Hour	0.25 ppm (655 µg/m <sup>3</sup> )	Attainment	75 ppb	NA
Visibility-Reducing Particles	8 Hours (10 a.m. to 6 p.m., PST)	Extinction coefficient = 0.23 km@<70% RH	Unclassified	<b>No Federal Standards</b>	
Sulfates	24 Hour	25 µg/m <sup>3</sup>	Attainment		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m <sup>3</sup> )	Unclassified		
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m <sup>3</sup> )	Unclassified		

µg/m<sup>3</sup> = micrograms per cubic meter; ppm = parts per million; km = kilometer(s); RH = relative humidity; PST = Pacific Standard Time; N/A = Not Applicable.

Notes:

1 – California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, suspended particulate matter-PM<sub>10</sub> and visibility-reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations. In 1990, CARB identified vinyl chloride as a toxic air contaminant, but determined that there was not sufficient available scientific evidence to support the identification of a threshold exposure level. This action allows the implementation of health-protective control measures at levels below the 0.010 ppm ambient concentration specified in the 1978 standard.

2 – National standards (other than ozone, particulate matter and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. EPA also may designate an area as *attainment/unclassifiable*, if: (1) it has monitored air quality data that show that the area has not violated the ozone standard over a three-year period; or (2) there is not enough information to determine the air quality in the area. For PM<sub>10</sub>, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m<sup>3</sup> is equal to or less than one. For PM<sub>2.5</sub>, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

3 – Concentration is expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 mm of mercury. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 mm of mercury (1,013.2 millibar); 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 – The Federal 1-hour ozone standard was revoked on June 15, 2005 in all areas except the 14 8-hour ozone nonattainment Early Action Compact (EAC) areas.

6 – The Environmental Protection Agency revoked the annual PM<sub>10</sub> standard in 2006 (effective December 16, 2006).

Source: California Air Resources Board and United States Environmental Protection Agency, August 3, 2010.



Similar to the U.S. EPA, CARB also designates areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data shows that a state standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a state standard, and are not used as a basis for designating areas as nonattainment. Similar to the FCAA, all areas designated as nonattainment under the CCAA are required to prepare plans showing how the area would meet the CAAQS by its attainment dates. *Table 5.5-1* also illustrates the FCAA and CCAA attainment status for the South Coast Air Basin which the City of Murrieta is located in.

## REGIONAL

### South Coast Air Quality Management District

The South Coast Air Quality Management District (SCAQMD) is one of 35 air quality management districts that have prepared AQMPs to accomplish a five-percent annual reduction in emissions. The *2007 Air Quality Management Plan for the South Coast Air Basin (2007 AQMP)* relies on a multi-level partnership of governmental agencies at the Federal, State, regional, and local level. The *2007 AQMP* proposes policies and measures to achieve Federal and State standards for improved air quality in the Basin and those portions of the Salton Sea Air Basin (formerly named the Southeast Desert Air Basin) that are under SCAQMD jurisdiction. The *2007 AQMP* includes new information on key elements such as:

- Current air quality;
- Improved emission inventories, especially significant increase in mobile source emissions;
- An overall control strategy comprised of: Stationary and Mobile Source Control Measures, SCAQMD, State and Federal Stationary and Mobile Source Control Measures, and the Southern California Association of Governments Regional Transportation Strategy and Control Measures;
- New attainment demonstration for PM<sub>2.5</sub> and O<sub>3</sub>;
- Milestones to the Federal Reasonable Further Progress Plan; and
- Preliminary motor vehicle emission budgets for transportation conformity purposes.

### Southern California Association of Governments

The Southern California Association of Governments (SCAG) is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. SCAG serves as the Federally-designated Metropolitan Planning



Organization (MPO) for the Southern California region and is the largest Metropolitan Planning Organization in the United States. With respect to air quality planning, SCAG has prepared the *2008 Regional Comprehensive Plan: Helping Communities Achieve a Sustainable Future* (2008 RCP) for the region, which includes Growth Management and Regional Mobility chapters that form the basis for the land use and transportation control portions of the 2007 AQMP. SCAG is responsible under the FCAA for determining conformity of projects, plans, and programs within the SCAQMD.

### **Western Riverside Council of Governments**

The City of Murrieta is also a member of the Western Riverside Council of Governments (WRCOG). WRCOG is the regional planning agency whose purpose is to unify Western Riverside County. WRCOG has 16 member cities, which together with the Riverside County Board of Supervisors and the Eastern and Western Municipal Water Districts have seats on the WRCOG Executive Committee who sets policy for the organization. WRCOG has formed the Clean Cities Coalition and the Regional Air Quality Task Force, which draw members from local jurisdictions, industry, SCAQMD, and environmental groups who are dedicated to achieving air quality goals for the region.

## **5.5.2 ENVIRONMENTAL SETTING**

### **SOUTH COAST AIR BASIN**

#### **Geography**

The City of Murrieta is located in the South Coast Air Basin (Basin), a 10,743-square mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino and San Jacinto Mountains to the north and east. The Basin includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Gorgonio Pass area of Riverside County. The Basin's terrain and geographical location (i.e., a coastal plain with connecting broad valleys and low hills) determine its distinctive climate.

The general region lies in the semi-permanent high-pressure zone of the eastern Pacific. The climate is mild and tempered by cool sea breezes. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The extent and severity of the air pollution problem in the Basin is a function of the area's natural physical characteristics (weather and topography), as well as man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and/or dispersion of pollutants throughout the Basin.



## Climate

The climate in the Basin is characterized by moderate temperatures and comfortable humidity, with precipitation limited to a few storms during the winter season (November through April). The average annual temperature varies little throughout the Basin, averaging 75 degrees Fahrenheit (°F). However, with a less pronounced oceanic influence, the eastern inland portions of the Basin show greater variability in annual minimum and maximum temperatures. January is usually the coldest month at all locations, while July and August are usually the hottest months of the year. Although the Basin has a semi-arid climate, the air near the surface is moist due to the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the Basin by offshore winds, the ocean effect is dominant. Periods with heavy fog are frequent, and low stratus clouds, occasionally referred to as “high fog,” are a characteristic climate feature.

Annual average relative humidity is 70 percent at the coast and 57 percent in the eastern part of the Basin. Precipitation in the Basin is typically 9 to 14 inches annually and is rarely in the form of snow or hail due to typically warm weather. The frequency and amount of rainfall is greater in the coastal areas of the Basin.

In the City of Murrieta, the climate is typically warm during summer when temperatures tend to be in the 80s and cool during winter when temperatures tend to be in the 50s. The warmest month of the year is August with an average maximum temperature of 98°F, while the coldest month of the year is December with an average minimum temperature of 34°F. Temperature variations between night and day tend to be moderate during summer with a difference that can reach 23°F, and moderate during winter with an average difference of 24°F. The annual average precipitation at Murrieta is 11.4 inches. Rainfall is fairly evenly distributed throughout the year. The wettest month of the year is February with an average rainfall of 2.86 inches.<sup>1</sup>

## AMBIENT AIR QUALITY

The monitoring stations in the State are operated by CARB, local Air Pollution Control Districts (APCD) or Air Quality Management Districts (AQMD), by private contractors, and by the National Park Service (NPS). These entities operate more than 250 air monitoring stations in California. Air quality monitoring stations usually measure pollutant concentrations ten feet above. In the Basin, each monitoring station is located within a Source Receptor Area (SRA). The communities within an SRA are expected to have similar climatology and ambient air pollutant concentrations. The City of Murrieta is located in SRA 26 (Temecula Valley).

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<sup>1</sup> The Weather Channel, *Average Weather for Murrieta, CA*, <http://www.weather.com/weather/wxclimatology/monthly/graph/USCA0748>, accessed December 6, 2010.



## Pollutants Measured

The following air quality information briefly describes the various types of pollutants monitored at the Lake Elsinore, Perris, and Riverside-Magnolia Monitoring Stations. The Lake Elsinore Monitoring Station is the nearest to the City; however, for pollutants not measured at Lake Elsinore, the next closest station was used. Air quality data from 2007 through 2009 is provided in *Table 5.5-2, Local Air Quality Levels*.

**Table 5.5-2  
Local Air Quality Levels**

Pollutant	California Standard	Federal Standard	Year	Maximum <sup>1</sup> Concentration	Days (Samples) State/Federal Std. Exceeded
Ozone (O <sub>3</sub> ) (1-Hour) <sup>2</sup>	0.09 ppm for 1 hour	NA	2007 2008 2009	0.129 ppm 0.139 0.128	26/3 49/6 24/1
Ozone (O <sub>3</sub> ) (8-Hour) <sup>2</sup>	0.07 ppm for 8 hours	0.08 ppm for 8 hours	2007 2008 2009	0.109 ppm 0.119 0.106	56/35 91/69 65/35
Carbon Monoxide (CO) (1-Hour) <sup>2</sup>	20.0 ppm For 1 hour	35.0 ppm for 1 hour	2007 2008 2009	1.60 ppm 1.10 1.00	0/0 0/0 0/0
Carbon Monoxide (CO) (8-Hour) <sup>2</sup>	9.0 ppm for 8 hours	9.0 ppm for 8 hours	2007 2008 2009	1.40 ppm 0.84 0.73	0/0 0/0 0/0
Nitrogen Dioxide (NO <sub>2</sub> ) <sup>2</sup>	0.25 ppm for 1 hour	0.053 ppm annual average	2007 2008 2009	0.064 ppm 0.055 0.055	0/0 0/0 0/0
Particulate Matter (PM <sub>10</sub> ) <sup>2, 3, 5, 6</sup>	50 µg/m <sup>3</sup> for 24 hours	150 µg/m <sup>3</sup> for 24 hours	2007 2008 2009	1,212.0 µg/m <sup>3</sup> 125.4 75.2	25/2 NA/0 NA/0
Fine Particulate Matter (PM <sub>2.5</sub> ) <sup>2, 4, 6</sup>	No Separate State Standard	65 µg/m <sup>3</sup> for 24 hours	2007 2008 2009	68.5 µg/m <sup>3</sup> 41.1 34.2	NA/8 NA/2 NA/NA

ppm = parts per million; PM<sub>10</sub> = particulate matter 10 microns in diameter or less; NM = not measured; µg/m<sup>3</sup> = micrograms per cubic meter; PM<sub>2.5</sub> = particulate matter 2.5 microns in diameter or less; NA = not available.

Notes:

1. Maximum concentration is measured over the same period as the California Standards.
2. Lake Elsinore-West Flint Street Monitoring Station located at 506 West Flint Street, Lake Elsinore, California 92530.
3. Perris Monitoring Station located at 237 ½ North D Street, Perris, California 92570.
4. Riverside-Magnolia Monitoring Station located at 7002 Magnolia Avenue, Riverside, California 92506.
5. PM<sub>10</sub> exceedances are based on State thresholds established prior to amendments adopted on June 20, 2002.
6. PM<sub>10</sub> and PM<sub>2.5</sub> exceedances are derived from the number of samples exceeded, not days.

Source: Aerometric Data Analysis and Measurement System (ADAM), summaries from 2007 to 2009, <http://www.arb.ca.gov/adam>.



**Carbon Monoxide.** Carbon monoxide (CO) is an odorless, colorless toxic gas that is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions.

CO replaces oxygen in the body's red blood cells. Individuals with a deficient blood supply to the heart, patients with diseases involving heart and blood vessels, fetuses, and patients with chronic hypoxemia (oxygen deficiency, as seen in high altitudes) are most susceptible to the adverse effects of CO exposure. People with heart disease are also more susceptible to developing chest pains when exposed to low levels of CO. Exposure to high levels of CO can slow reflexes and cause drowsiness, as well as result in death in confined spaces at very high concentrations.

**Nitrogen Dioxide.** NO<sub>x</sub> are a family of highly reactive gases that are a primary precursor to the formation of ground-level O<sub>3</sub>, and react in the atmosphere to form acid rain. NO<sub>2</sub> (often used interchangeably with NO<sub>x</sub>) is a reddish-brown gas that can cause breathing difficulties at high levels. Peak readings of NO<sub>2</sub> occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries, and other industrial operations).

NO<sub>2</sub> can irritate and damage the lungs, and lower resistance to respiratory infections such as influenza. The health effects of short-term exposure are still unclear. However, continued or frequent exposure to NO<sub>2</sub> concentrations that are typically much higher than those normally found in the ambient air, may increase acute respiratory illnesses in children and increase the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO<sub>2</sub> may aggravate eyes and mucus membranes as well as cause pulmonary dysfunction.

**Ozone.** Ozone (O<sub>3</sub>) occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. The troposphere extends approximately 10 miles above ground level, where it meets the second layer, the stratosphere. The stratospheric (the "good" O<sub>3</sub> layer) extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays.

The "Bad" O<sub>3</sub> is a photochemical pollutant, and needs reactive organic compounds (ROGs), NO<sub>x</sub>, and sunlight to form; therefore, ROGs and NO<sub>x</sub> are O<sub>3</sub> precursors. To reduce O<sub>3</sub> concentrations, it is necessary to control the emissions of these O<sub>3</sub> precursors. Significant O<sub>3</sub> formation generally requires an adequate amount of precursors in the atmosphere and a period of several hours in a stable atmosphere with strong sunlight. High O<sub>3</sub> concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

While O<sub>3</sub> in the upper atmosphere (stratosphere) protects the earth from harmful ultraviolet radiation, high concentrations of ground-level O<sub>3</sub> (in the troposphere) can adversely affect the human respiratory system and other tissues. O<sub>3</sub> is a strong irritant that can constrict the airways, forcing the respiratory system to work hard to deliver oxygen. Individuals exercising outdoors,



children, and people with pre-existing lung disease such as asthma and chronic pulmonary lung disease are considered to be the most susceptible to the health effects of O<sub>3</sub>. Short-term exposure (lasting for a few hours) to O<sub>3</sub> at levels typically observed in Southern California can result in aggravated respiratory diseases such as emphysema, bronchitis and asthma, shortness of breath, increased susceptibility to infections, inflammation of the lung tissue, increased fatigue, as well as chest pain, dry throat, headache, and nausea.

**Coarse Particulate Matter (PM<sub>10</sub>).** PM<sub>10</sub> refers to suspended particulate matter which is smaller than 10 microns (or ten one-millionths) of a meter. PM<sub>10</sub> arises from sources such as road dust, diesel soot, combustion products, construction operations, and dust storms. PM<sub>10</sub> scatters light and significantly reduces visibility. In addition, these particulates penetrate in the lungs and can potentially damage the respiratory tract. On June 19, 2003, CARB adopted amendments to the statewide 24-hour particulate matter standards based upon requirements set forth in the Children's Environmental Health Protection Act (Senate Bill 25).

**Fine Particulate Matter (PM<sub>2.5</sub>).** Due to recent increased concerns over health impacts related to fine particulate matter (particulate matter 2.5 microns in diameter or less), both State and Federal PM<sub>2.5</sub> standards have been created. Particulate matter impacts primarily affect infants, children, the elderly, and those with pre-existing cardiopulmonary disease. In 1997, the U.S. EPA announced new PM<sub>2.5</sub> standards. Industry groups challenged the new standard in court and the implementation of the standard was blocked. However, upon appeal by the U.S. EPA, the U.S. Supreme Court reversed this decision and upheld the U.S. EPA's new standards.

On January 5, 2005, the U.S. EPA published a Final Rule in the Federal Register that designates the Orange County portion of the Basin as a nonattainment area for Federal PM<sub>2.5</sub> standards.<sup>2</sup> On June 20, 2002, CARB adopted amendments for statewide annual ambient particulate matter air quality standards. These standards were revised/established due to increasing concerns by CARB that previous standards were inadequate, as almost everyone in California is exposed to levels at or above the current State standards during some parts of the year, and the statewide potential for significant health impacts associated with particulate matter exposure was determined to be large and wide-ranging.<sup>3</sup>

**Sulfur Dioxide.** SO<sub>2</sub> is a colorless, irritating gas with a rotten egg smell. It is formed primarily by the combustion of sulfur-containing fossil fuels. Sulfur dioxide is often used interchangeably with sulfur oxides (SO<sub>x</sub>) and lead (Pb). Exposure of a few minutes to low levels of SO<sub>2</sub> can result in airway constriction in some asthmatics. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO<sub>2</sub>.

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<sup>2</sup> <http://www.epa.gov/fedrgstr/EPA-AIR/2005/January/Day-05/a001.pdf>

<sup>3</sup> California Environmental Protection Agency, Air Resources Board, *Staff Report: Public Hearing to Consider Amendments to the Ambient Air Quality Standards for Particulate Matter and Sulfates*, May 3, 2002.



**Reactive Organic Gases and Volatile Organic Compounds.** Hydrocarbons are organic gases that are formed solely of hydrogen and carbon that exist in the ambient air. There are several subsets of organic gases including reactive organic gases (ROGs) and volatile organic compounds (VOCs). ROGs contribute to the formation of smog and/or may be toxic themselves. ROGs often have an odor; some examples include gasoline, alcohol, and the solvents used in paints.

## PRIMARY SOURCES OF EMISSIONS

Air pollutants within the City are generated by stationary and mobile sources. These emission sources are described below.

### Stationary and Point Sources

Stationary source emissions refer to those that originate from a single place or object that does not move around. Typical stationary sources include buildings, power plants, mines, smokestacks, vents, incinerators, and other facilities using industrial combustion processes. Stationary point sources have one or more emission sources at a facility with an identified location and are usually associated with manufacturing and industrial projects.

The City also contains several point sources of air pollutants. A variety of pollutants, including reactive hydrocarbons from activities such as spray painting, are generated by smaller commercial and industrial uses. Industrial uses are generally located in the southern portion of the City. While each use might not represent a significant source of air pollution, the cumulative effects of development within the City could be significant. Although the number and nature of future additional air pollutant point sources is presently unknown, each individual source would be required to comply with rules and regulations established by the SCAQMD. These regulations require that sources of hazardous materials or criteria pollutants above threshold levels obtain permits prior to operation of the facility.

### Mobile Sources

Mobile sources of emissions refer to those moving objects that release pollution and include cars, trucks, busses, planes, trains, motorcycles, and gasoline-powered lawn mowers. Mobile source emissions may be classified as on- or off-road sources. Increased traffic volumes within the City of Murrieta could contribute to regional incremental emissions of NO<sub>x</sub>, VOC, CO, SO<sub>x</sub>, and PM<sub>10</sub>. The following is a listing of emissions that typically emanate from vehicular sources:

- Vehicle running exhaust (VOC, CO, NO<sub>x</sub>, SO<sub>x</sub>, and PM<sub>10</sub>);
- Vehicle tire wear particulates (PM<sub>10</sub>);
- Vehicle brake wear particulates (PM<sub>10</sub>);
- Vehicle variable starts (VOC, CO, NO<sub>x</sub>);



- Vehicle hot soaks (VOC);
- Vehicle diurnal (VOC);
- Vehicle resting losses (VOC); and
- Vehicle evaporative running losses (VOC).

## ON-ROAD SOURCES

These sources are considered to be a combination of emissions from automobiles, trucks, and indirect sources. Major sources of mobile emissions in the City include the local and regional roadway network. Interstate 15 (I-15) and Interstate 215 (I-215) are the two major regional access routes that pass through the City, as well as State Highway 79 (SR-79 or Winchester Road). In the City, 2004 daily traffic volumes reached 196,000 vehicles per day for I-15; 93,000 vehicles per day for I-215; and 33,500 vehicles per day for Highway 79.<sup>4</sup> Other heavily traveled roadways within the City that contribute to localized air quality emissions are Clinton Keith Road, Scott Road, Washington Avenue, California Oaks Road, Los Alamos Road, Murrieta Hot Springs Road, Jefferson Avenue, Jackson Street, and Antelope Road.

Indirect on-road sources of emissions are those that by themselves may not emit air contaminants; however, they indirectly cause the generation of air pollutants by attracting vehicle trips or by consuming energy. Examples of these indirect sources include an office complex or commercial center that generates trips and consumes energy resources.

## OFF-ROAD SOURCES

Off-road sources include aircraft, construction equipment, and landscape equipment. Primary sources of aircraft traffic within the City are from the French Valley Airport, located outside of the City's Sphere of Influence. As a result, aircraft flying over the City can contribute off-road emissions. There are currently no railroad tracks located within the City.

## EMISSION INVENTORY

### Riverside County Emissions Inventory

*Table 5.5-3, 2008 Estimated Emissions Inventory for Riverside County*, summarizes the emissions of criteria air pollutants within Riverside County for various source categories in 2008. According to Riverside County's emissions inventory, vehicular sources are the largest contributor to the estimated annual average air pollutant levels for ROG, CO, NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>.

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<sup>4</sup> California Department of Transportation, *Traffic and Vehicle Data Systems Unit*, 2008.



**Table 5.5-3  
2008 Estimated Emissions Inventory for Riverside County**

Source Type/Category	Estimated Annual Average Emissions (Tons/Day)					
	ROG	CO	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Stationary Sources</b>						
Fuel Combustion	0.41	2.20	4.33	0.46	0.28	0.28
Waste Disposal	1.17	0.04	0.11	0.02	0.18	0.04
Cleaning and Surface Coating	5.01	0.00	0.00	0.00	0.16	0.16
Petroleum Production Marketing	2.94	-	-	0.00	-	-
Industrial Processes	3.21	0.04	0.15	0.01	3.13	125
Subtotal (Stationary Sources) <sup>1</sup>	<b>12.75</b>	<b>2.29</b>	<b>4.59</b>	<b>0.49</b>	<b>3.75</b>	<b>1.72</b>
<b>Areawide Sources</b>						
Solvent Evaporation	17.55	-	-	-	0.00	0.00
Miscellaneous Processes	4.70	12.80	2.89	0.07	60.74	10.31
Subtotal (Areawide Sources) <sup>1</sup>	<b>22.26</b>	<b>12.80</b>	<b>2.89</b>	<b>0.07</b>	<b>60.75</b>	<b>10.31</b>
<b>Mobile Sources</b>						
On-Road Mobile Sources	32.20	334.48	111.49	0.35	5.80	4.49
Other Mobile Sources	17.81	97.26	34.33	0.31	2.10	1.88
Subtotal (Mobile Sources) <sup>1</sup>	<b>50.01</b>	<b>431.75</b>	<b>145.82</b>	<b>0.66</b>	<b>7.90</b>	<b>6.36</b>
<b>Grand Total for Riverside County<sup>2</sup></b>	<b>85.01</b>	<b>446.84</b>	<b>153.29</b>	<b>1.22</b>	<b>72.39</b>	<b>18.39</b>
Notes:						
1 – Totals may be slightly off due to rounding. Totals are derived from the inventory model, and are not specifically added by category.						
2 – This total excludes emissions from natural sources (i.e., biogenic, geogenic, and wildfire sources).						
Source: California Air Resources Board, California Emissions Facility Search Engine (CEFS), accessed at: <a href="http://www.arb.ca.gov/app/emsmv/emssumcat_query.php?F_DIV=-4&amp;F_DD=Y&amp;F_YR=2008&amp;F_SEASON=A&amp;SP=2009&amp;F_AREA=CO&amp;F_CO=33">http://www.arb.ca.gov/app/emsmv/emssumcat_query.php?F_DIV=-4&amp;F_DD=Y&amp;F_YR=2008&amp;F_SEASON=A&amp;SP=2009&amp;F_AREA=CO&amp;F_CO=33</a> .						

### City of Murrieta Emissions Inventory

*Table 5.5-4, Summary of Estimated Emissions Inventory for the City of Murrieta*, summarizes the emissions of criteria air pollutants within the City for area, mobile, and indirect source categories. The emissions inventory is based on existing land use information, vehicle miles traveled, City water consumption data, and energy consumption data. The data used to calculate the emissions inventory for criteria pollutants is based on the City’s GIS data. According to the emissions inventory, mobile sources are the largest contributor to the estimated annual average air pollutant levels.



**Table 5.5-4**  
**Summary of Estimated Emissions Inventory for the City of Murrieta**

Source Type/Category <sup>2</sup>	Estimated Annual Average Emissions (Tons/Year) <sup>1</sup>					
	ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Area Sources</b>						
Natural Gas Combustion	8.66	113.40	57.02	0.00	0.21	0.21
Landscaping Equipment	42.28	2.65	235.01	0.01	0.62	0.62
Consumer Products	305.56	-	-	-	-	-
Architectural Coatings	35.05	-	-	-	-	-
Subtotal (Area Sources) <sup>3</sup>	<b>391.55</b>	<b>116.05</b>	<b>292.03</b>	<b>0.01</b>	<b>0.83</b>	<b>0.83</b>
<b>Indirect Sources</b>						
Energy Consumption <sup>4</sup>	1.79	205.00	0.04	21.40	7.14	-
Water Conveyance <sup>6</sup>	0.86	9.87	1.72	1.03	0.34	-
Subtotal (Indirect Sources) <sup>3</sup>	<b>2.65</b>	<b>214.87</b>	<b>1.76</b>	<b>22.43</b>	<b>7.48</b>	<b>-</b>
<b>Mobile Sources (by land use category)</b>						
Single Family Housing	373.75	522.19	4472.77	5.06	872.06	169.80
Multifamily Housing	39.08	53.07	454.56	0.51	88.63	17.26
High School [civic/institutional]	24.49	35.60	293.82	0.34	59.37	11.54
City Park	5.01	5.01	41.17	0.05	8.34	1.62
Strip Mall [commercial]	377.53	575.54	4720.04	5.50	957.88	186.19
Professional Office	20.14	28.92	242.78	0.28	48.49	9.43
Office Park [business park]	34.30	49.30	417.31	0.48	82.92	16.13
General Light Industrial	9.91	13.71	116.13	0.13	23.06	4.49
Subtotal (Mobile Sources) <sup>3</sup>	<b>884.21</b>	<b>1,283.36</b>	<b>10,758.58</b>	<b>12.35</b>	<b>2,140.75</b>	<b>416.46</b>
<b>Grand Total for the City of Murrieta</b>	<b>1,278.41</b>	<b>1,614.28</b>	<b>11,052.37</b>	<b>34.79</b>	<b>2,149.06</b>	<b>417.29</b>
Notes:						
1 – Emissions estimates calculated using URBEMIS 2007 (version 9.2.4).						
2 – Emissions estimates calculated using the land use categories/intensities depicted in Section 5.1, Land Use.						
3 – Totals may be slightly off due to rounding.						
4 – Calculated utilizing the SCAQMD, CEQA Handbook, Table A9-11, April 1993 and the California Climate Action Registry.						
5 – The SCAQMD does not have emission factors for PM <sub>2.5</sub> from energy consumption.						
6 – Energy usage estimates calculated using factors from the California Energy Commission, Water Energy Use in California, June 2008.						

## SENSITIVE RECEPTORS

Sensitive populations are more susceptible to the effects of air pollution than are the general population. Sensitive populations (sensitive receptors) that are in proximity to localized sources of toxics and CO are of particular concern. Land uses considered sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, churches, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. The majority of land uses located within the City that are sensitive to air pollution include residential uses (particularly those in the vicinity of I-15 and I-215), schools, hospitals (particularly the Rancho Springs Medical Center), churches, and parks. Most pollutant sources affecting sensitive receptors in the City include freeways and arterials.



## PUBLIC HEALTH

### SCAQMD Mates III Study

The Multiple Air Toxics Exposure Study III (MATES III) is a monitoring and evaluation study conducted by the SCAQMD. The MATES III study consists of a monitoring program, an updated emissions inventory of toxic air contaminants, and a modeling effort to characterize risk throughout the Basin. The study concentrates on the carcinogenic risk from exposure to air toxics. Ten monitoring locations measured toxic air contaminants (over 30 air pollutants) once every three days for two years. The monitoring locations were the same as the previous MATES II Study in order to provide comparisons. Additionally, five mobile monitoring platforms were used to determine if gradients existed between communities.

The carcinogenic risk from air toxics in the Basin, based on average concentrations at the fixed monitoring locations, is about 1,200 per million (as compared to the 1,400 per million in the MATES II Study). This risk refers to the expected number of additional cancers in a population of one million individuals that are exposed over a 70-year lifetime. Under the MATES III methodology, approximately 94 percent of the risk is attributed to mobile source emissions, and approximately six percent is attributed to stationary sources. The City of Murrieta is closest to the Rubidoux monitoring location, which had relatively moderate levels of risk. The Huntington Park and Inland Valley San Bernardino monitoring locations reported the highest levels of risk. However, as compared to previous studies of the presence of air toxics in the Basin, the MATES III Study found a decreasing risk for air toxics exposure. The study found an estimated Basin-wide population-weighted risk down by eight percent from the MATES II Study. Although the Basin has some areas with higher concentrations of air toxics, these concentrations are declining and conditions are improving. Ambient air toxics data from the ten fixed monitoring sites demonstrated a reduction in air toxic levels and risks. Although the model estimates an overall Basin-wide reduction, some areas (near the ports, eastern portions of the Basin, and in northern Los Angeles County) showed an increase in air toxics risk.

### General Plan Guidance

The SCAQMD has prepared the *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*, dated May 6, 2005. The SCAQMD has made this document available to local governments as a tool to assist in the development of their General Plans and other planning decisions. Implementation of the suggested strategies throughout the region will strengthen the local government partnership with the SCAQMD to achieve State and Federal clean air standards and demonstrate efforts taken to provide environmental equity and protect public health.

The involvement of local governments to establish public policies that support SCAQMD strategies is essential for this region to meet State and Federal air quality goals. Since the General Plan is the foundation for all local planning and development decisions, it is the most



important tool in the implementation of local government policies and programs necessary to achieve clean air standards. Local governments work with their Council of Governments and the SCAQMD to improve air quality through a variety of programs, including regulatory actions, policy making, and education programs. The City can address air quality issues through ordinances, local circulation systems, transportation services, energy, and land use. Design standards such as requirements for bicycle racks and bicycle paths may result in reduced motor vehicle trips and decreased levels of air pollutants. The *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning* suggests policies and strategies which are intended to guide local governments in developing approaches to reduce exposure to source-specific air pollution and lower health risk associated with cumulative air pollution impacts.

### 5.5.3 SIGNIFICANCE THRESHOLD CRITERIA

Under CEQA, the SCAQMD is an expert commenting agency on air quality within its jurisdiction or impacting its jurisdiction. The SCAQMD reviews projects to ensure that they would not: 1) cause or contribute to any new violation of any air quality standard; 2) increase the frequency or severity of any existing violation of any air quality standard; or 3) delay timely attainment of any air quality standard or any required interim emission reductions or other milestones of any Federal attainment plan.

The SCAQMD’s *CEQA Air Quality Handbook* provides significance thresholds for both construction and operation of projects within the SCAQMD jurisdictional boundaries; refer to *Table 5.5-5, South Coast Air Quality Management District Emission Thresholds*. If the SCAQMD thresholds are exceeded, a potentially significant impact could result. However, ultimately the lead agency determines the thresholds of significance for impacts.

**Table 5.5-5  
South Coast Air Quality Management District Emissions Thresholds**

Phase	Pollutant (lbs/day)					
	ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Construction	75	100	550	150	150	55
Operational	55	55	550	150	150	55

Source: South Coast Air Quality Management District, *CEQA Air Quality Handbook*, November 1993.

The issues presented in the Initial Study Environmental Checklist (Appendix G of the *CEQA Guidelines*) have been utilized as thresholds of significance in this Section. Accordingly, air quality impacts resulting from the implementation of the proposed General Plan 2035 may be considered significant if they would result in the following:



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

Based on these standards and significance thresholds and criteria, the proposed General Plan 2035's effects have been categorized as either "no impact," a "less than significant impact," or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant unavoidable impact.

## 5.5.4 PROJECT IMPACTS AND MITIGATION MEASURES

### SHORT-TERM CONSTRUCTION EMISSIONS

- **CITYWIDE CONSTRUCTION ACTIVITIES UNDER THE PROPOSED GENERAL PLAN 2035 COULD RESULT IN A CONSIDERABLE INCREASE OF CRITERIA POLLUTANTS, AND THUS, COULD VIOLATE AIR QUALITY STANDARDS.**

**Level of Significance Before Mitigation:** Potentially Significant Impact.

**Impact Analysis:** Implementation of the proposed General Plan 2035 would result in new emissions being generated from construction activities. The thresholds of significance recommended by the SCAQMD for construction emissions were developed for individual development projects. Construction-related emissions are described as short-term or temporary in duration and have the potential to represent a significant impact with respect to air quality. Implementation of the proposed General Plan 2035 is dependent on individual housing decisions, employment opportunities, provision of services for housing and supporting commercial uses, land use decisions by the City and other public agencies, regional transportation planning decisions, the decisions of financial institutions related to development projects, and other similar factors.



Buildout of the proposed General Plan 2035 would be reviewed in relation to residential uses, revenue-generating employment uses, housing affordability, provision and financing of infrastructure and public facilities, mechanisms for funding of ongoing service needs and overall coordination of improvements with future development projects. Subsequent implementation of future projects and plans would continue to define specific phasing at a detailed level and be reviewed by the City to ensure that development occurs in a logical manner consistent with policies in the proposed General Plan 2035, and that additional environmental review is conducted under *CEQA*, as needed.

Construction-related activities associated with implementation of the proposed General Plan 2035 would result in emissions of criteria air pollutants and precursors from site preparation (e.g., demolition, excavation, grading, and clearing); exhaust from off-road equipment, material delivery trucks, and worker commute vehicles; vehicle travel on roads; and other miscellaneous activities (e.g., building construction, asphalt paving, application of architectural coatings, and trenching for utility installation).

Construction activities occurring under the proposed General Plan 2035 could also generate airborne odors associated with the operation of construction vehicles (i.e., diesel exhaust) and the application of architectural coatings. However, these odors are not generally considered offensive. Emissions would occur during daytime hours only and would be isolated to the immediate vicinity of the construction site and activity. As such, these odors would not affect a substantial number of people and impacts would be limited to people living and working near the source. Due to the types of odors that would occur in the City and limited exposure, implementation of the proposed General Plan 2035 would not create construction-related objectionable odors affecting a substantial number of people; thus, impacts would be less than significant in this regard.

Because the proposed General Plan 2035 identifies future land uses and does not contain specific development proposals, construction-related emissions that may occur at any one time are speculative and cannot be accurately determined at this stage of the planning process. Assuming relatively robust economic conditions over the next 20 to 25 years, construction activities would occur throughout the City, but the rate of development cannot be anticipated. Construction-related emissions could lead to the violation of an applicable air quality standard or contribute substantially to an existing or projected air quality violation.

The proposed General Plan 2035 Air Quality Element Goal AQ-3 addresses the reduction of emissions during construction activities. Policies AQ-3.1 through AQ-3.3 would require construction activities to adhere to SCAQMD regulations, ensure best management practices are implemented, and require construction equipment to comply with CARB vehicle standards. Additionally, Policy AQ-3.4 requires projects to prepare and implement Construction Management Plans, which shall include dust control measures, vehicle emission standards, among other emission-reducing control measures. These policies would require construction-related emissions for individual projects to be reduced to a level below daily emissions standards established by the SCAQMD. Goal AQ-7 would also reduce fugitive dust emissions throughout



the City. Policies AQ-7.2 through AQ-7.4 would minimize fugitive dust from construction through collaborative efforts and would consider the suspension of all grading operations at project sites when the source represents a public nuisance or potential safety hazard. However, the proposed General Plan 2035 would facilitate future development and generate construction emissions that would potentially exceed SCAQMD thresholds. Thus, a significant unavoidable impact would occur.

## Goals and Policies in the Proposed General Plan 2035:

### AIR QUALITY ELEMENT

**Goal AQ-3** Reduced emissions during construction activities.

#### Policies

AQ-3.1 Ensure that construction activities follow current South Coast Air Quality Management District (SCAQMD) rules, regulations, and thresholds.

AQ-3.2 Ensure all applicable best management practices are used in accordance with the South Coast Air Quality Management District (SCAQMD) to reduce emitting criteria pollutants during construction.

AQ-3.3 Require all construction equipment for public and private projects comply with California Air Resources Board's (CARB) vehicle standards. For projects that may exceed daily construction emissions established by the South Coast Air Quality Management District (SCAQMD), Best Available Control Measures will be incorporated to reduce construction emissions to below daily emission standards established by the SCAQMD.

AQ-3.4 Require project proponents to prepare and implement a Construction Management Plan, which will include Best Available Control Measures among others. Appropriate control measures will be determined on a project by project basis, and should be specific to the pollutant for which the daily threshold is exceeded. Such control measures may include but not be limited to:

- Minimizing simultaneous operation of multiple construction equipment units.
- Implementation of South Coast Air Quality Management District (SCAQMD) Rule 403, Fugitive Dust Control Measures.
- Watering the construction area to minimize fugitive dust.
- Require that off-road diesel powered vehicles used for construction shall be new low emission vehicles, or use retrofit emission control devices, such as



diesel oxidation catalysts and diesel particulate filters verified by California Air Resources Board (CARB).

- Minimizing idling time by construction vehicles.

**Goal AQ-7** Particulate matter and fugitive dust emissions are reduced throughout the City.

**Policies**

AQ-7.1 Adopt incentives, regulations, or procedures to reduce particulate matter.

AQ-7.2 Collaborate with transportation agencies, utilities, and developers to minimize fugitive dust and emissions from construction and maintenance activities.

AQ-7.3 Cooperate with local, regional, State, and Federal jurisdictions and/or agencies to better control fugitive dust from stationary, mobile, and area sources.

AQ-7.4 Consider the suspension of all grading operations, not including dust control actions, at construction projects when the source represents a public nuisance or potential safety hazard due to reduced visibility on streets surrounding the property.

**Mitigation Measures:** No mitigation measures beyond the goals and policies identified in the proposed General Plan 2035 are available.

**Level of Significance After Mitigation:** Significant Unavoidable Impact.

**LONG-TERM MOBILE AND STATIONARY SOURCE EMISSIONS**

■ **IMPLEMENTATION OF THE PROPOSED GENERAL PLAN 2035 COULD RESULT IN AN OVERALL INCREASE IN MOBILE AND STATIONARY SOURCE EMISSIONS WITHIN THE CITY, WHICH COULD EXCEED SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT AIR QUALITY STANDARDS.**

**Level of Significance Before Mitigation:** Potentially Significant Impact.

**Impact Analysis:** Regional area- and mobile-source emissions of criteria air pollutants and ozone precursors were modeled using URBEMIS (URBEMIS 2007, version 9.2.4), which is designed to estimate emissions for land use development projects. URBEMIS allows land use data entries that include project location specifics and trip generation rates, and accounts for area-source emissions from the use of natural gas, fireplaces, consumer products, as well as mobile-source emissions associated with vehicle trip generation. Regional area- and mobile-



source emissions were modeled based on proposed land use types, the increase in trip generation from the traffic analysis prepared for the proposed General Plan 2035, and default settings and parameters attributable to the analysis period and site location. *Table 5.5-6, Summary of 2035 Estimated Emissions Inventory*, presents the criteria air pollutant emissions within the City for area and mobile source categories at buildout. According to the emissions inventory, mobile sources are the largest contributor to the estimated annual average air pollutant levels.

**Table 5.5-6  
Summary of 2035 Estimated Emissions Inventory**

Source Type/Category <sup>2</sup>	Estimated Annual Average Emissions (Tons/Year) <sup>1</sup>					
	ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Area Sources</b>						
Natural Gas Combustion	14.23	188.52	109.40	0.00	0.35	0.35
Landscaping Equipment	48.10	3.02	267.22	0.01	0.71	0.70
Consumer Products	416.47	-	-	-	-	-
Architectural Coatings	78.67	-	-	-	-	-
Subtotal (Area Sources) <sup>3</sup>	<b>557.47</b>	<b>191.54</b>	<b>376.62</b>	<b>0.01</b>	<b>1.06</b>	<b>1.05</b>
<b>Indirect Sources</b>						
Energy Consumption <sup>4</sup>	4.47	514.00	0.09	53.70	17.90	-
Water Conveyance <sup>6</sup>	0.11	12.60	2.20	1.32	0.44	-
Subtotal (Indirect Sources) <sup>3</sup>	<b>4.58</b>	<b>526.60</b>	<b>2.29</b>	<b>55.02</b>	<b>18.34</b>	<b>-</b>
<b>Mobile Sources (by land use category)</b>						
Single Family Housing	425.40	594.36	5,090.88	5.76	992.57	193.26
Multifamily Housing	115.60	156.97	1,344.52	1.52	262.14	51.04
High School [civic/institutional]	18.14	26.37	217.64	0.25	43.98	8.55
City Park	8.81	8.80	72.34	0.08	14.66	2.85
Strip Mall [commercial]	918.75	1,400.62	11,486.63	13.38	2,331.08	453.11
Professional Office	246.53	354.02	2,972.14	3.43	593.68	115.48
Office Park [business park]	180.87	560.13	2,200.81	2.53	437.33	85.09
General Light Industrial	15.17	21.00	177.83	0.20	35.31	6.87
Subtotal (Mobile Sources) <sup>3</sup>	<b>1,929.27</b>	<b>2,822.27</b>	<b>23,562.79</b>	<b>27.15</b>	<b>4,710.75</b>	<b>916.25</b>
<b>Grand Total for the City of Murrieta</b>	<b>2,491.32</b>	<b>3,540.41</b>	<b>23,941.70</b>	<b>82.18</b>	<b>4,730.15</b>	<b>917.30</b>
Notes:						
1 – Emissions estimates calculated using URBEMIS 2007 (version 9.2.4).						
2 – Emissions estimates calculated using the land use categories/intensities depicted in Section 5.1, Land Use.						
3 – Totals may be slightly off due to rounding.						
4 – Calculated utilizing the SCAQMD, CEQA Handbook, Table A9-11, April 1993 and the California Climate Action Registry.						
5 – The SCAQMD does not have emission factors for PM <sub>2.5</sub> from energy consumption.						
6 – Energy usage estimates calculated using factors from the California Energy Commission, Water Energy Use in California, June 2008.						

The City’s stationary source emissions primarily consist of industrial, residential, and commercial uses. Indirect sources consist of electricity usage including the energy usage associated with water consumption. Mobile source emissions are produced by each trip generating land use within the City (e.g., residential, schools, retail, office, industrial, etc.). The anticipated 2035 development potential of the proposed General Plan 2035 includes 44,484 dwelling units, 18,683,477 square feet of commercial uses, 16,465,371 square feet of office uses,



11,403,714 square feet of business park uses, 1,498,300 square feet of industrial uses, 1,168,369 square feet of civic/institutional uses, 853,913 square feet of mixed use, and 16,508 square feet of parks and open space.

Goal AQ-1 of the proposed General Plan 2035 Air Quality Element would improve air quality within the City through participation in regional and local efforts. Policies AQ-1.1 through AQ-1.5 would achieve this goal by updating City regulations, working with local, regional, State, and Federal agencies (including SCAG), reviewing and updating City regulations and requirements based on new technology, helping implement SB 375, and providing public education on clean products. Additionally, Goal AQ-2 addresses land use and air quality relationships. Specifically, Policies AQ-2.1 through AQ-2.5 consider the location of sensitive receptors near pollution sources and freeways, and considering these impacts when making siting decisions, and consult the CARB handbook for siting sensitive uses at safe distances from polluters. Goal AQ-6 aims to minimize stationary source pollution. Policies AQ-6.1 through AQ-6.4 would ensure that industrial and commercial uses adhere to SCAQMD rules and regulations, encourage the use of new technology, and promote smart land use planning to ensure sensitive receptors are not subject to harmful emissions. Policies AQ-6.5 through AQ-6.7 would also ensure indoor air quality is improved for residential uses near high levels of pollution and would employ strategies to mitigate air quality impacts.

Mobile source emissions are based on trip generation and traffic data provided by Iteris, and encompass vehicular emissions for all trips captured or generated within the City limits. Proposed General Plan 2035 traffic forecasts were based on the proposed land use changes for the Focus Areas (areas of land use and policy change in the proposed General Plan 2035), as well as other growth in the City outside of the Focus Areas. As previously noted, mobile source emissions are the largest emissions source in the City. The goals and policies identified within the proposed General Plan 2035 would reduce mobile source emissions. Goal AQ-4 and Policies AQ-4.1 through AQ-4.4 would reduce vehicle miles traveled (VMT) and associated mobile source emissions through job creation and the improvement of the jobs/housing balance within the City, as well as the encouragement of a mix of housing types located near job opportunities. Goal AQ-5 aims to improve air quality through an efficient circulation system, reduced traffic congestion, and reduced VMT. Policy AQ-5.1 encourages employers to implement transportation demand management (TDM) measures (i.e., transit subsidies, bicycle facilities, telecommuting, etc.). Policies CIR-5.9 through CIR-5.12, and CIR-6.1 through CIR-6.12 of the proposed General Plan 2035 Circulation Element promote mass transit, high-speed rail, and non-motorized transit facilities. Policies AQ-5.4 through AQ-5.7 encourage the reduction of air emissions through the use of low emission technology, trip reduction plans, and reduced emission equipment and vehicles. Circulation and Land Use Element Policies CIR-1.4, LU-8.1 (Land Use Element), and LU-8.2 would improve signal coordination at major intersections, encourage mixed-use development, and promote non-motorized transportation options (i.e., bicycle and pedestrian).



## Impact Conclusion

The thresholds of significance that have been recommended by the SCAQMD were established for individual development projects and are based on the SCAQMD's New Source Review emissions standards for individual sources of new emissions, such as boilers and generators. They do not apply to cumulative development or multiple projects. Air quality impacts would be regional and not confined to the Murrieta City limits. The destinations of motor vehicles, which are the primary contributors to air pollution, vary widely and cross many jurisdictional boundaries. As stated above, the proposed General Plan 2035 establishes the City's mobility goals by providing improved local and regional transit services as well as a connected, balanced, and integrated transportation system of bicycle and pedestrian networks. Such alternatives to automotive transportation can be greatly utilized to reduce mobile source emissions. Future site-specific development proposals would be evaluated for potential air emissions once development details have been determined and are available. Individual projects may not result in significant air quality emissions. Although individual development projects have the potential to exceed SCAQMD thresholds, the proposed General Plan 2035 goals and policies would reduce help to reduce the significance of impacts from these individual development projects.

Development projects allowed under the General Plan 2035 would increase regional ozone precursor pollutants over current conditions, specifically reactive organic compounds and nitrogen oxides. CEQA review of individual development projects would include an evaluation to determine whether potential air pollutant emissions generated from growth could result in a significant impact to air quality. The significance level of these impacts would be determined during review and appropriate mitigation measures would be developed. However, due to the magnitude of development and associated mobile and stationary source air quality impacts, impacts would be significant unavoidable in this regard.

## Goals and Policies in the Proposed General Plan 2035:

### AIR QUALITY ELEMENT

**Goal AQ-1** Improved air quality through participation in regional and local efforts.

#### Policies

- AQ-1.1 Continue to work with the Western Riverside Council of Governments (WRCOG) Regional Air Quality Task Force to implement regional and local programs designed to meet federal, state, and regional air quality planning requirements.
- AQ-1.2 Review and update City regulations and/or requirements, as needed, based on improved technology and new regulations including updates to the Air Quality Management Plan (AQMP), rules and regulations from South Coast Air Quality



Management District (SCAQMD), and revisions to SCAQMD’s CEQA Guidelines.

AQ-1.3 Cooperate with local, regional, State, and Federal agencies to achieve better transportation facility planning and development.

AQ-1.4 Cooperate with the State and Southern California Association of Governments (SCAG) in the implementation of SB 375 – Regional Transportation Planning, Housing, CEQA and Global Warming Emission Reduction Strategies.

AQ-1.5 Provide public education and/or materials to educate and encourage residents and business owners to purchase/use low toxicity household cleaning products.

**Goal AQ-2** The relationship between land use and air quality is considered in policy decisions in order to protect public health and improve air quality.

**Policies**

AQ-2.1 Locate sensitive receptors (i.e. residences, schools, playgrounds, childcare centers, athletic facilities, churches, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes) away from significant pollution sources to the maximum extent feasible.

AQ-2.2 Avoid locating new homes, schools, childcare and elder care facilities, and health care facilities within 500 feet of freeways.

AQ-2.3 Consider air quality impacts from both existing and new development when making siting decisions.

AQ-2.4 Consult the California Air Resources Board’s (CARB) Land Use and Air Quality Handbook and current environmental health research for the safe distances to sensitive land uses including schools, hospitals, elder and childcare facilities, or residences when new or expanded industrial land uses or other stationary sources of pollution are proposed, such as gas stations or auto body shops.

AQ-2.5 Work with developers and/or builders of the any sensitive land uses, such as hospitals, to determine compliance with California Air Resources Board (CARB) standards and to ensure any future plans or expansions are in compliance, and encourage retrofits to the facility such as plantings or air filters to improve indoor air quality, if necessary.

**Goal AQ-4** Mobile source emissions are reduced by providing a balance of jobs and housing that serve the needs of the community.



**Policies**

- AQ-4.1 Cooperate with local, regional, State, and Federal agencies to reduce vehicle miles traveled (VMT) and consequent emissions through job creation.
- AQ-4.2 Improve jobs/housing balance by encouraging the development, expansion, and retention of business.
- AQ-4.3 Improve access of businesses to local institutions that provide education and job training to prepare local residents to fill the jobs local industries create.
- AQ-4.4 Encourage a mix of housing types that are affordable to all segments of the population and are near job opportunities to further reduce vehicle trips.
- Goal AQ-5** Air quality is improved through an efficient circulation system, reduced traffic congestion, and reduced vehicle miles traveled.

**Policies**

- AQ-5.1 Encourage employers to implement transportation demand management (TDM) measures, such as the following programs to reduce trips and vehicle miles traveled:
- Transit subsidies
  - Bicycle facilities
  - Alternative work schedules
  - Ridesharing
  - Telecommuting and work-at-home programs
  - Employee education
  - Preferential parking for carpools/vanpools
- AQ-5.2 Re-designate truck routes away from sensitive land uses including schools, hospitals, elder and childcare facilities, or residences, where feasible.
- AQ-5.3 Promote use of fuel-efficient and low-emissions vehicles, including Neighborhood Electric Vehicles.
- AQ-5.4 Encourage the use of lowest emission technology buses in public transit fleets.
- AQ-5.5 Provide a preference to contractors using reduced emission equipment for City construction projects as well as for City contracts for services (e.g., garbage collection).



AQ-5.6 Manage the municipal vehicle fleet to achieve the highest possible number of fuel-efficient and low emissions vehicles commercially available.

AQ-5.7 Reduce industrial truck idling by enforcing California’s five (5) minute maximum law, requiring warehouse and distribution facilities to provide adequate on site truck parking, and requiring refrigerated warehouses to provide generators for refrigerated trucks.

**Goal AQ-6** Stationary source pollution (point source and area source) are minimized through existing and future regulations and new technology.

**Policies**

AQ-6.1 The City shall continue to minimize stationary source pollution through the following:

- Ensure that industrial and commercial land uses are meeting existing South Coast Air Quality Management District (SCAQMD) air quality thresholds by adhering to established rules and regulations.
- Encourage the use of new technology to neutralize harmful criteria pollutants from stationary sources.
- Reduce exposure of the City’s sensitive receptors to poor air quality nodes through smart land use decisions.

AQ-6.3 Encourage non-polluting industry and clean green technology companies to locate to the City.

AQ-6.4 Work with the industrial business community to improve outdoor air quality through improved operations and practices.

AQ-6.5 New multi-family residential buildings and other sensitive land uses in areas with high levels of localized air pollution should be designed to achieve good indoor air quality through landscaping, ventilation systems, or other measures.

AQ-6.6 Encourage green building techniques that improve indoor air quality, energy efficiency and conservation in buildings, and utilization of renewable energy sources.

AQ-6.7 During the design review process, encourage the use of measures to reduce indoor air quality impacts (i.e., air filtration systems, kitchen range top exhaust fans, and low-VOC paint and carpet) for new developments near busy roadways with significant volumes of heavy truck traffic.



**Goal AQ-7** Particulate matter and fugitive dust emissions are reduced throughout the City.

**Policies**

AQ-7.1 Adopt incentives, regulations, or procedures to reduce particulate matter.

AQ-7.3 Cooperate with local, regional, State, and Federal jurisdictions and/or agencies to better control fugitive dust from stationary, mobile, and area sources.

**Goal LU-8** A community that provides opportunities for mixed use and/or transit-oriented development.

**Policies**

LU-8.1 Encourage integrated development that incorporates a mix of uses (residential, commercial, office) in mixed use or transit-oriented development areas.

LU-8.2 Encourage workplace development in close proximity to residences in mixed use or transit-oriented development areas.

**CIRCULATION ELEMENT**

**Goal CIR-1** A circulation system that serves the internal circulation needs of the City, while also addressing the inter-community or through travel needs.

**Policies**

CIR-1.4 Continue to improve signal coordination and advanced traffic management systems at major intersections and along roadway corridors in order to optimize traffic flow through the City and reduce traffic queuing.

**Goal CIR-5** A supported regional transportation system that serves existing and future travel between Murrieta and other population and employment centers within southwest Riverside County and the larger region, and that accommodates the regional travel needs of developing areas outside the City.

**Policies**

CIR-5.9 Coordinate with Western Riverside Council of Governments, Riverside County, and Riverside County Transportation Commission to identify, protect, and pursue opportunities for public transit along major transportation corridors, and future high speed rail service, which connect Murrieta to other population centers.



- CIR-5.10 Support the siting and development of a Metrolink Station(s) within Murrieta along the I-15 and/or I-215 corridors.
- CIR-5.11 Coordinate with California High Speed Rail Authority, Riverside Transit Authority, and City of Temecula on the siting and development of a California High Speed Rail Intermodal Transit Center.
- CIR-5.12 Continue to work with public transportation agencies to provide adequate levels of service to Murrieta citizens.
- Goal CIR-6** Alternative travel modes and facilities are available to serve residents and employers/employees and reduce vehicle miles traveled.

**Policies**

- CIR-6.1 Encourage alternatives to single-occupancy vehicle transportation such as public transit, paratransit, walking, cycling, and ridesharing.
- CIR-6.2 Support a variety of transit vehicle types and technologies to serve different transportation needs.
- CIR-6.3 Work with the Riverside Transit Agency, Murrieta Chamber of Commerce, and/or the City’s Economic Development Department to conduct a travel/commute survey with the intent of creating vanpools, carpools, and employment center shuttles to reduce single occupant vehicles.
- CIR-6.4 Seek opportunities to redirect money that goes to automobile travel to support alternative forms of transportation.
- CIR-6.5 Support the dedication and/or construction of appropriate facilities in support of a public transportation system.
- CIR-6.6 Identify opportunities to implement the Western Riverside County Non-Motorized Transportation Plan within key activity centers of the City through the development of non-motorized transportation corridors and facilities (i.e., neighborhood electric vehicle routes, bikeways, pedestrian paths, sidewalks/paths).
- CIR-6.7 Coordinate with the Riverside Transit Agency to provide fixed route transit service along transportation corridors connecting to employment and commercial areas, schools, health care facilities, and major recreation areas.
- CIR-6.8 Support the construction of bus turnouts with shelters adjacent to new developments where transit demand levels may be sufficient in the future to



warrant such accommodations to maintain traffic flow and provide safe loading/unloading for bus passengers.

- CIR-6.9 Work with the Riverside Transit Agency to evaluate bus stops locations and amenities. Encourage the incorporation of transit amenities such as bus shelters and benches into existing and new bus stop locations.
- CIR-6.10 Provide for express transit service through implementation of park-and-ride facilities along regional transportation corridors.
- CIR-6.11 Encourage employer-based incentive programs for use of public transit and improve awareness of such programs.
- CIR-6.12 Increase public education about public transit options.

### LAND USE ELEMENT

**Goal LU-8** A community that provides opportunities for mixed use and/or transit-oriented development.

#### Policies

- LU-8.1 Encourage integrated development that incorporates a mix of uses (residential, commercial, office) in mixed use or transit-oriented development areas.
- LU-8.2 Encourage workplace development in close proximity to residences in mixed use or transit-oriented development areas.

**Mitigation Measures:** No mitigation measures beyond the goals and policies identified in the proposed General Plan 2035 are available.

**Level of Significance After Mitigation:** Significant Unavoidable Impact.

### ODOR IMPACTS

■ **IMPLEMENTATION OF THE PROPOSED GENERAL PLAN 2035 COULD RESULT IN AN OVERALL INCREASE IN ODORS WITHIN THE CITY.**

**Level of Significance Before Mitigation:** Less Than Significant Impact.

**Impact Analysis:** Potential operational airborne odors could be created by cooking activities associated with the residential and commercial (i.e., food service) uses within the City. These



odors would be similar to existing residential and food service uses throughout the City and would be confined to the immediate vicinity of the new buildings. Restaurants are also typically required to provide ventilation systems that avoid substantial adverse odor impacts. The other potential source of odors would be new waste receptacles within the community. The receptacles would be stored in areas and in containers, as required by City and Riverside County Health Department regulations, and be emptied on a regular basis, before potentially substantial odors have developed. The proposed General Plan 2035 accommodates the development of residential, commercial, industrial, office, business park, civic/institutional, and park uses. These uses are not identified by the SCAQMD as significant odor generators. Additionally, the policies included as part of the proposed General Plan 2035 (described above) would reduce mobile and stationary source emissions and odors associated with diesel fuel by focusing on land use patterns that improve air quality, reduce air pollution from stationary sources, and encourage/enable transit behavior. Consequently, implementation of the proposed General Plan 2035 would not create operational-related objectionable odors affecting a substantial number of people within the City. Impacts would be less than significant in this regard.

## **Goals and Policies in the Proposed General Plan 2035:**

### **AIR QUALITY ELEMENT**

**Goal AQ-2** The relationship between land use and air quality in order to protect public health and improve air quality is considered in policy decisions.

#### **Policies**

AQ-2.1 Locate sensitive receptors (i.e. residences, schools, playgrounds, childcare centers, athletic facilities, churches, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes) away from significant pollution sources to the maximum extent feasible.

AQ-2.2 Avoid locating new homes, schools, childcare and elder care facilities, and health care facilities within 500 feet of freeways.

AQ-2.3 Consider air quality impacts from both existing and new development when making siting decisions.

AQ-2.4 Consult the California Air Resources Board’s (CARB) Land Use and Air Quality Handbook and current environmental health research for the safe distances to sensitive land uses including schools, hospitals, elder and childcare facilities, or residences when new or expanded industrial land uses or other stationary sources of pollution are proposed, such as gas stations or auto body shops.

AQ-2.5 Work with developers and/or builders of the any sensitive land uses, such as hospitals, to determine compliance with California Air Resources Board (CARB)



standards and to ensure any future plans or expansions are in compliance, and encourage retrofits to the facility such as plantings or air filters to improve indoor air quality, if necessary.

**Goal AQ-6** Stationary source pollution (point source and area source) are minimized through existing and future regulations and new technology.

### Policies

AQ-6.1 The City shall continue to minimize stationary source pollution through the following:

- Ensure that industrial and commercial land uses are meeting existing South Coast Air Quality Management District (SCAQMD) air quality thresholds by adhering to established rules and regulations.
- Encourage the use of new technology to neutralize harmful criteria pollutants from stationary sources.
- Reduce exposure of the City's sensitive receptors to poor air quality nodes through smart land use decisions.

**Mitigation Measures:** No mitigation measures beyond the goals and policies identified in the proposed General Plan 2035 are required.

**Level of Significance After Mitigation:** Not Applicable.

### CARBON MONOXIDE HOTSPOTS

■ **IMPLEMENTATION OF THE PROPOSED GENERAL PLAN 2035 COULD RESULT IN AN OVERALL INCREASE IN CARBON MONOXIDE HOTSPOT EMISSIONS WITHIN THE CITY, WHICH COULD EXCEED SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT AIR QUALITY STANDARDS.**

**Level of Significance Before Mitigation:** Less Than Significant Impact.

**Impact Analysis:** Carbon monoxide (CO) emissions are a function of vehicle idling time, meteorological conditions and traffic flow. Under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthy levels (i.e., adversely affect residents, school children, hospital patients, the elderly, etc.). To identify CO hotspots, the SCAQMD requires a CO microscale hotspot analysis when a project increases the volume-to-capacity ratio (also called the intersection capacity utilization) by 0.02 (two percent) for any intersection with an existing level of service (LOS) D or worse. Because traffic congestion is highest at intersections where vehicles queue and are subject to reduced speeds,



these hot spots are typically produced at intersection locations. However, projected intersection capacity/queuing analyses are unknown, as no specific development proposals have yet been formulated.

The City is located in the South Coast Air Basin (Basin), which is designated as an attainment area for State and Federal CO standards. There has been a decline in CO emissions even though VMT on U.S. urban and rural roads have increased. On-road mobile source CO emissions have declined 24 percent between 1989 and 1998, despite a 23 percent rise in motor vehicle miles traveled over the same 10 years. California trends have been consistent with national trends; CO emissions declined 20 percent in California from 1985 through 1997, while VMT increased 18 percent in the 1990s. Three major control programs have contributed to the reduced per-vehicle CO emissions: exhaust standards, cleaner burning fuels, and motor vehicle inspection/maintenance programs.

A detailed CO analysis was conducted in the Federal Attainment Plan for Carbon Monoxide (CO Plan) for the SCAQMD’s 2003 Air Quality Management Plan. The locations selected for microscale modeling in the CO Plan are worst-case intersections in the Basin, and would likely experience the highest CO concentrations. Of these locations, the Wilshire Boulevard/Veteran Avenue intersection experienced the highest CO concentration (4.6 ppm), which is well below the 35-ppm 1-hr CO Federal standard. The Wilshire Boulevard/Veteran Avenue intersection is one of the most congested intersections in Southern California with an average daily traffic (ADT) volume of approximately 100,000 vehicles per day. As the CO hotspots were not experienced at the Wilshire Boulevard/Veteran Avenue intersection, it can be reasonably inferred that CO hotspots would not be experienced at any locations within the City due to the volume of traffic that would occur as a result of future development associated with implementation of the proposed General Plan 2035. Additionally, proposed General Plan 2035 Circulation Element Policies CIR-1.2, CIR-1.4, CIR-1.6, and CIR-1.8 would ensure intersections would be of adequate Level of Service and would optimize traffic flow through the City and reduce traffic queuing. Therefore, impacts would be less than significant in this regard.

## Goals and Policies in the Proposed General Plan 2035:

### CIRCULATION ELEMENT

**Goal CIR-1** A circulation system that serves the internal circulation needs of the City, while also addressing the inter-community or through travel needs.

#### Policies

**CIR-1.2** Maintain a Level of Service “D” or better at all intersections during peak hours. Maintain a Level of Service “E” or better at freeway interchanges during peak hours.



- CIR-1.4 Continue to improve signal coordination and advanced traffic management systems at major intersections and along roadway corridors in order to optimize traffic flow through the City and reduce traffic queuing.
- CIR-1.6 Coordinate with Caltrans to implement necessary improvements at intersections where the agencies have joint jurisdiction.
- CIR-1.8 Identify and evaluate the major intersections requiring special design treatment to increase their vehicular capacity.

**Mitigation Measures:** No mitigation measures beyond the goals and policies identified in the proposed General Plan 2035 are required.

**Level of Significance After Mitigation:** Not Applicable.

## CONSISTENCY WITH REGIONAL PLANS

- **THE PROPOSED GENERAL PLAN 2035 MAY CONFLICT WITH OR HINDER IMPLEMENTATION OF THE SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENT'S REGIONAL COMPREHENSIVE PLAN GUIDELINES AND THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT'S AIR QUALITY MANAGEMENT PLAN.**

**Level of Significance Before Mitigation:** Less Than Significant Impact.

**Impact Analysis:** According to the *CEQA Air Quality Handbook*, in order to determine consistency with the 2007 South Coast Air Quality Management District (SCAQMD) Air Quality Management Plan (2007 AQMP) two main criteria must be addressed.

### Criterion 1

With respect to the first criterion, SCAQMD methodologies require that an air quality analysis for a project include forecasts of project emissions in relation to contributing to air quality violations and delay of attainment. All future development projects would be required to comply with existing SCAQMD regulations and permitting requirements. Compliance with regulations and permit requirements would ensure that new uses reduce emissions to the maximum extent feasible. Additionally, based on the short-term construction and long-term operations impact analyses above, the goals and policies in the proposed General Plan 2035 would reduce the significance of air quality impacts.

The proposed General Plan 2035 includes provisions for improved local and regional transit services as well as a connected, balanced, and integrated transportation system of bicycle and



pedestrian networks. However, the program-level analysis of emissions associated with the future development in the City associated with implementation of the proposed General Plan 2035 would exceed SCAQMD thresholds. It is noted that the SCAQMD thresholds are intended to evaluate the air quality impacts from individual development projects, and do not apply to plan-level projects such as the proposed General Plan 2035. Additionally, the proposed General Plan 2035 includes goals and policies within the Air Quality Element that would reduce air quality impacts of future developments within the City. Development projects occurring under the proposed General Plan 2035 would be required to comply with General Plan 2035 goals and policies and SCAQMD regulations, and would incorporate mitigation measures, as feasible, to reduce air quality impacts.

## **Criterion 2**

With respect to the second criterion for determining consistency with SCAQMD and SCAG air quality policies, it is important to recognize that air quality planning within the Basin focuses on attainment of ambient air quality standards at the earliest feasible date. Projections for achieving air quality goals are based on assumptions regarding population, housing, and growth trends. Thus, the SCAQMD’s second criterion for determining project consistency focuses on whether the proposed project exceeds the assumptions utilized in preparing the forecasts presented in the 2007 AQMP. Determining whether a project exceeds the assumptions reflected in the 2007 AQMP involves the evaluation of whether the project is consistent with its growth projections and land use planning strategies.

The 2007 AQMP was prepared to accommodate growth, to reduce the high levels of pollutants within the areas under the jurisdiction of SCAQMD, to return clean air to the region, and to minimize the impact on the economy. Projects that are considered consistent with the 2007 AQMP would not interfere with attainment, because this growth is included in the projections utilized in the formulation of the 2007 AQMP. Therefore, projects, uses, and activities that are consistent with the applicable assumptions used in the development of the 2007 AQMP would not jeopardize attainment of the identified air quality levels, even if they exceed the SCAQMD’s recommended daily emissions thresholds. As the proposed project includes the update of the existing General Plan upon which the 2007 AQMP was based upon, the Focus Area land use changes would result in an inconsistency between the proposed General Plan 2035 and the 2007 AQMP assumptions. However, the focus of the proposed General Plan 2035 is economic development and an increased jobs/housing balance. The City plans to attract new job-generating businesses that would allow Murrieta residents to live and work in the same community. Therefore, the amount of VMT would be substantially reduced, which correlates directly to a reduction in transportation emissions (largest emissions category). Further, the City has prepared a Climate Action Plan (CAP) as part of the proposed General Plan 2035. The CAP includes several strategies and measures aimed at reducing VMT and energy consumption. These measures would reduce both greenhouse gas (GHG) emissions and criteria air pollutants within the City and throughout the Basin. Although the proposed General Plan 2035 is inconsistent with the assumptions of the 2007 AQMP, impacts are considered to be less than significant, as emissions are anticipated to be less than those assumed in the 2007 AQMP. It is



noted that the next AQMP will account for updated growth forecasts contained within the proposed General Plan 2035. The SCAQMD updates the AQMP every few years; although at this time it is unknown when the next update will occur.

Projects that are consistent with the population and employment forecasts identified in the Growth Management Chapter of SCAG's Regional Comprehensive Plan and Guide (RCPG) are considered consistent with the 2007 AQMP, since the Growth Management Chapter forms the basis of the land use and transportation control portions of the 2007 AQMP. Additionally, consistency with other SCAG regional planning documents would be required, including the Regional Transportation Plan (RTP), and SCAG's Compass Growth Visioning Regional Growth Principles. Section 5.1, Land Use evaluates the proposed General Plan 2035's consistency with these regional plans. The proposed General Plan 2035 includes relevant goals and policies that reflect and respond to SCAG's regional goals. Section 5.1 concludes that the proposed General Plan 2035 is consistent with the goals of the RTP. The proposed General Plan 2035 includes several goals and policies within the Circulation, Land Use, Air Quality, Conservation, and Safety Elements pertaining to regional mobility, reduced vehicle trips, energy efficiency, smart land use patterns, and emergency management, which are consistent with SCAG's RTP goals and Compass Growth Visioning Regional Growth Principles. Additionally, the Housing Element identifies goals, policies, and programs to provide housing consistent with the Regional Housing Needs Assessment (RHNA), which includes a variety of housing types to meet the housing needs of all income levels. Therefore, the proposed General Plan 2035 would be consistent with regional goals and principles and impacts in this regard are less than significant.

**Goals and Policies in the Proposed General Plan 2035:** Refer to the goals and policies referenced above in this Section 5.5.

**Mitigation Measures:** No mitigation measures beyond the goals and policies identified in the proposed General Plan 2035 are required.

**Level of Significance After Mitigation:** Not Applicable.

## 5.5.5 CUMULATIVE IMPACTS AND MITIGATION MEASURES

- **REGIONAL AIR QUALITY EMISSIONS RESULTING FROM OPERATIONAL BUILDOUT OF THE PROPOSED GENERAL PLAN 2035 COULD IMPACT REGIONAL AIR QUALITY LEVELS ON A CUMULATIVELY CONSIDERABLE BASIS.**

**Level of Significance Before Mitigation:** Potentially Significant Impact.



**Impact Analysis:** The geographic context for air quality impacts for the City of Murrieta is SRA 26 (Temecula Valley) of the Basin. The analysis accounts for all anticipated cumulative growth within this geographic area. However, the significance of cumulative air quality impacts is typically determined according to the project methodology employed by the SCAQMD, as the regional body with authority in this area, which has taken regional growth projections into consideration.

## Construction

SCAQMD thresholds for criteria pollutants are established for individual development projects, and it is assumed that some of the projects that would be implemented under the proposed General Plan 2035 could individually exceed the SCAQMD thresholds. Based on the programmatic-level construction analysis above, construction-related emissions associated with future development projects in the City, Sphere of Influence, and surrounding cities may be “cumulatively considerable,” even with implementation of the proposed General Plan 2035 goals and policies. Construction of future development projects under the proposed General Plan 2035 would be required to comply with the applicable SCAQMD rules and regulations. These measures call for the maintenance of construction equipment, the use of non-polluting and non-toxic building equipment, and minimizing fugitive dust. This cumulative impact is considered to be significant unavoidable.

## Regional Air Quality Impacts

With regard to daily operational emissions and the cumulative net increase of any criteria pollutant for which the region is nonattainment, this is considered to be a potentially significant cumulative impact, due to nonattainment of O<sub>3</sub> and PM<sub>10</sub>, and PM<sub>2.5</sub> standards in the Basin. An emissions inventory for the City in year 2035 was presented in [Table 5.5-6](#). This inventory includes the existing emissions within the City as well as emissions associated with the anticipated future development. As a result, [Table 5.5-6](#) represents the cumulative condition within the City for 2035. With regard to the contribution of the proposed General Plan 2035, the SCAQMD has recommended methods to determine the cumulative significance of new land use projects. The SCAQMD’s methods are based on performance standards and emission reduction targets necessary to attain Federal and State air quality standards as predicted in the 2007 AQMP. As previously discussed, the contribution of daily operational emissions from the growth associated with implementation of the proposed General Plan 2035 could be cumulatively considerable. This cumulative impact is considered to be significant unavoidable.

## Localized Air Quality

Cumulative development is not expected to expose sensitive receptors to substantial pollutant concentrations. Thus, this is considered to be a less than significant cumulative impact. Future ambient CO concentrations resulting from the proposed General Plan 2035 would be substantially below National and State standards. These future predictions consider cumulative



development that would occur in SRA 26 (Temecula Valley). Therefore, the project's contribution to the impact is considered less than cumulatively considerable, and the cumulative impact would be less than significant.

## Odor Impacts

Cumulative development would not have a potentially significant impact in terms of the creation of objectionable odors affecting a substantial number of people. Thus, this is considered to be a less than significant cumulative impact. Development anticipated within the City of Murrieta would include residential and commercial uses, and could include restaurants. Odors resulting from the construction of projects that would occur with implementation of the proposed General Plan 2035 are not likely to affect a substantial number of people, since construction activities occur in a limited area and do not usually emit odors that are considered offensive. Other odor impacts resulting from these projects are also not expected to affect a substantial amount of people, as solid waste from these projects would be stored in areas and in containers as required by City regulations (*Municipal Code* Chapter 8.28 and Section 16.18.150), and restaurants are typically required to have ventilation systems that avoid substantial adverse odor impacts. Cumulative odor impacts would thus be less than significant.

**Goals and Policies in the Proposed General Plan 2035:** Refer to the goals and policies referenced above in this Section 5.5.

**Mitigation Measures:** No mitigation measures beyond the goals and policies identified in the proposed General Plan 2035 are available.

**Level of Significance After Mitigation:** Significant Unavoidable for construction and regional air quality impacts. Less Than Significant for localized air quality and cumulative odor impacts.

## 5.5.6 SIGNIFICANT UNAVOIDABLE IMPACTS

The proposed General Plan 2035 would result in a significant unavoidable impact for the following areas:

- **Short-Term Construction Emissions.** As project-related emissions (associated with future development and infrastructure projects facilitated by the project) are anticipated to exceed SCAQMD thresholds, construction-related emissions are considered significant unavoidable.
- **Long-Term Mobile and Stationary Source Emissions.** During the operational phase, potential development within the project area would result in a net increase in regional criteria pollutants from the operation of both stationary and mobile sources. CEQA



review of individual development projects would include an evaluation to determine whether potential air pollutant emissions generated from growth could result in a significant impact to air quality. The significance level of these impacts would be determined during review and appropriate mitigation measures would be developed. However, due to the magnitude of development and associated mobile and stationary source air quality impacts, impacts in this regard would be significant unavoidable.

- **Cumulative Short-Term Construction and Long-Term Mobile and Stationary Source Emissions Impacts.** Construction of future potential development projects in the City, Sphere of Influence, and surrounding cities may be “cumulatively considerable,” even with implementation of the proposed General Plan 2035 goals and policies. Emissions from operations of future development associated with implementation of the proposed General Plan 2035 would potentially exceed the SCAQMD thresholds for criteria pollutants, resulting in a significant impact. In accordance with SCAQMD methodology, any project that cannot be mitigated to a level of less than significant is also significant on a cumulative basis.

All other air quality impacts associated with implementation of the proposed General Plan 2035 would be less than significant by adherence to and/or compliance with goals and policies in the proposed General Plan 2035.

If the City of Murrieta approves the proposed General Plan 2035, the City shall be required to cite their findings in accordance with *CEQA Guidelines* Section 15091 and prepare a Statement of Overriding Considerations in accordance with *CEQA Guidelines* Section 15093.

## 5.6.7 SOURCES CITED

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