Section 5.5:

Air Quality

SECTION 5.5
AIR QUALITY

5.5.1 PURPOSE

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, 2008 through 2010).

5.5.2 EXISTING REGULATORY SETTING

FEDERAL REGULATIONS

The U.S. Environmental Protection Agency (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_3), carbon monoxide (CO), nitrogen dioxide (NO_2) (which is a form of nitrogen oxides [NO_X]), sulfur dioxide (SO_2) (which is a form of sulfur oxides [SO_x]), particulate matter less than 10 and 2.5 microns in diameter (PM_{10} and $PM_{2.5}$, 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.

Similar to the 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 Fullerton is located in.

Table 5.5-1
National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)	1 Hour	0.09 ppm (180 μg/m³)	Ultraviolet Photometry	--	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 μg/m³)		0.075 ppm (147 μg/m³)		
Respirable Particulate Matter (PM_{10})	24 Hour	50 μg/m³	Gravimetric or Beta Attenuation	150 μg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 μg/m³		--		
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	No Separate State Standard		35 μg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 μg/m³	Gravimetric or Beta Attenuation	15.0 μg/m³		
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m³)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m³)	None	Non-Dispersive Infrared Photometry (NDIR)
	1 Hour	20 ppm (23 mg/m³)		35 ppm (40 mg/m³)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m³)		--	--	==
Nitrogen Dioxide (NO_2)[8]	Annual Arithmetic Mean	0.030 ppm (57 μg/m³)	Gas Phase Chemiluminescence	53 ppb (100 μg/m³)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.18 ppm (339 μg/m³)		100 ppb (188 μg/m³)		
Sulfur Dioxide (SO_2)	24 Hour	0.04 ppm (105 μg/m³)	Ultraviolet Fluorescence	--	--	Spectrophotometry (Paraosaniline Method)
	3 Hour	--		--	0.5 ppm (1300 μg/m³)	
	1 Hour	0.25 ppm (655 μg/m³)		75 ppb (196 μg/m³)	--	--
Lead[9] (Pb)	30 Day Average	1.5 μg/m³	Atomic Absorption	--	--	--
	Calendar Quarter	--		1.5 μg/m³	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Average[10]	--		0.15 μg/m³		
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer – visibility of ten miles or more (0.07 – 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		**No Federal Standards**		
Sulfates	24 Hour	25 μg/m³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 μg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride[9]	24 Hour	0.01 ppm (26 μg/m³)	Gas Chromatography			

1 California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter – PM_{10}, $PM_{2.5}$, and visibility reducing particles, are values that are not to be exceeded. All other are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2 National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 μg/m³ is equal to or less than one. For $PM_{2.5}$, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact EPA for further clarification and current Federal policies.

3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4 Any equivalent procedure which can be shown to the satisfaction of CARB to give equivalent results at or near the level of the air quality standard may be used.

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

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

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

8 To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010).

9 CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

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

Source: California Air Resources Board, September 8, 2010.

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 South Coast Air Basin and those portions of the Salton Sea Air Basin (formerly named the Southeast Desert Air Basin) that are under the SCAQMD's jurisdiction. The *2007 AQMP* includes 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 $PM_{2.5}$ and O_3;
- 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.

5.5.3 EXISTING ENVIRONMENTAL SETTING

SOUTH COAST AIR BASIN

Geography

The City of Fullerton is located in the South Coast Air Basin (Basin), a 6,600-square mile area bound 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 Fullerton, the climate is typically warm during summer when temperatures tend to be in the 70's and cool during winter when temperatures tend to be in the 50's. The warmest month of the year is August with an average maximum temperature of 86º F, while the coldest month of the year is January with an average minimum temperature of 45º F. Temperature variations between night and day tend to be moderate during summer with a difference that can reach 23º F, and moderate during winter with an average difference of 24º F. The annual average precipitation in Fullerton is 11.23 inches. Rainfall in is fairly evenly distributed throughout the year. The wettest month of the year is February with an average rainfall of 2.86 inches.[1]

[1] The Weather Channel, *Average Weather for Fullerton, CA*, Accessed July 27, 2011. http://www.weather.com/outlook/events/weddings/wxclimatology/monthly/graph/USCA0408?from=36hr_bottomnav_wedding.

AMBIENT AIR QUALITY

The monitoring stations in the State are operated by CARB, local Air Pollution Control Districts or Air Quality Management Districts, by private contractors, and by the National Park Service. These entities operate more than 250 air monitoring stations in California. Air quality monitoring stations usually measure pollutant concentrations ten feet above ground level. 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 Fullerton is located in SRA 16 (North Orange County).

Pollutants Measured

The following air quality information briefly describes the various types of pollutants monitored at the Anaheim Monitoring Station. The Anaheim Monitoring Station is the nearest to the City within SRA 16. Air quality data from 2008 through 2010 is provided in Table 5.5-2, *Local Air Quality Levels*.

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_X are a family of highly reactive gases that are a primary precursor to the formation of ground-level O_3, and react in the atmosphere to form acid rain. NO_2 (often used interchangeably with NO_X) is a reddish-brown gas that can cause breathing difficulties at high levels. Peak readings of NO_2 occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries, and other industrial operations).

NO_2 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_2 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_2 may aggravate eyes and mucus membranes as well as cause pulmonary dysfunction.

Ozone. Ozone (O_3) 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_3 layer) extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays.

Table 5.5-2
Local Air Quality Levels

Pollutant	California Standard	Federal Standard	Year	Maximum[1] Concentration	Days (Samples) State/Federal Std. Exceeded
Ozone (O_3) (1-Hour) [2]	0.09 ppm for 1 hour	NA	2008 2009 2010	0.105 ppm 0.093 0.104	2/0 0/0 1/0
Ozone (O_3) (8-Hour)[2]	0.07 ppm for 8 hours	0.08 ppm for 8 hours	2008 2009 2010	0.086 ppm 0.077 0.088	10/5 2/1 1/1
Carbon Monoxide (CO) (1-Hour)[2]	20.0 ppm For 1 hour	35.0 ppm for 1 hour	2008 2009 2010	4.10 ppm 4.10 4.10	0/0 0/0 0/0
Carbon Monoxide (CO) (8-Hour)[2]	9.0 ppm for 8 hours	9.0 ppm for 8 hours	2008 2009 2010	3.44 ppm 2.73 1.91	0/0 0/0 0/0
Nitrogen Dioxide (NO_2) [2]	0.25 ppm for 1 hour	0.053 ppm annual average	2008 2009 2010	0.093 ppm 0.068 0.066	0/NA 0/NA 0/NA
Particulate Matter (PM_{10}) [2, 3,4]	50 µg/m^3 for 24 hours	150 µg/m^3 for 24 hours	2008 2009 2010	61.0 µg/m^3 63.0 43.0	3/0 1/0 0/0
Fine Particulate Matter ($PM_{2.5}$) [2,4]	No Separate State Standard	35 µg/m^3 for 24 hours	2008 2009 2010	67.8 µg/m^3 64.5 31.7	NA/5 NA/5 NA/0

ppm = parts per million; PM_{10} = particulate matter 10 microns in diameter or less; NM = not measured; µg/m^3 = micrograms per cubic meter; $PM_{2.5}$ = 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. Anaheim Monitoring Station located at 1630 Pampas Lane, California 92802.
3. PM_{10} exceedances are based on State thresholds established prior to amendments adopted on June 20, 2002.
4. PM_{10} and $PM_{2.5}$ exceedances are derived from the number of samples exceeded, not days.

Source: Aerometric Data Analysis and Measurement System (ADAM), summaries from 2008 to 2010, http://www.arb.ca.gov/adam.

The "Bad" O_3 is a photochemical pollutant, and needs reactive organic compounds (ROGs), NO_X, and sunlight to form; therefore, ROGs and NO_X are O_3 precursors. To reduce O_3 concentrations, it is necessary to control the emissions of these O_3 precursors. Significant O_3 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_3 concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

While O_3 in the upper atmosphere (stratosphere) protects the earth from harmful ultraviolet radiation, high concentrations of ground-level O_3 (in the troposphere) can adversely affect the human respiratory system and other tissues. O_3 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_3.

Short-term exposure (lasting for a few hours) to O_3 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_{10}). PM_{10} refers to suspended particulate matter which is smaller than 10 microns (or ten one-millionths) of a meter. PM_{10} arises from sources such as road dust, diesel soot, combustion products, construction operations, and dust storms. PM_{10} 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 ($PM_{2.5}$). 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 $PM_{2.5}$ standards have been created. Particulate matter impacts primarily affect infants, children, the elderly, and those with pre-existing cardiopulmonary disease. In 1997, the EPA announced new $PM_{2.5}$ standards. Industry groups challenged the new standard in court and the implementation of the standard was blocked. However, upon appeal by the EPA, the U.S. Supreme Court reversed this decision and upheld the EPA's new standards.

On January 5, 2005, the EPA published a Final Rule in the Federal Register that designates the Orange County portion of the Basin as a nonattainment area for Federal $PM_{2.5}$ standards.[2] 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.[3]

Sulfur Dioxide. SO_2 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_X) and lead (Pb). Exposure of a few minutes to low levels of SO_2 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_2.

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.

[2] http://www.epa.gov/fedrgstr/EPA-AIR/2005/January/Day-05/a001.pdf

[3] 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.

PRIMARY SOURCES OF EMISSIONS

Air pollutants within the City of Fullerton 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 of Fullerton 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 Fullerton could contribute to regional incremental emissions of NO_X, VOC, CO, SO_X, and PM_{10}. The following is a listing of emissions that typically emanate from vehicular sources:

- Vehicle running exhaust (VOC, CO, NO_X, SO_X, and PM_{10});
- Vehicle tire wear particulates (PM_{10});
- Vehicle brake wear particulates (PM_{10});
- Vehicle variable starts (VOC, CO, NO_X);
- 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. State Route 57 (SR-57) and State Route 91 (SR-91) are the two freeways that pass through the City. Interstate 5 (I-5) also passes through the southwest corner of the City. Additionally, the primary arterials that serve the City are Harbor Boulevard, Euclid Street,

Orangethrope Avenue, Chapman Avenue, Commonwealth Avenue, Bastanchury Road, and Brea Boulevard.

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, trains, construction equipment, and landscape equipment. The Fullerton Municipal Airport is located within the City and the Los Alamitos Joint Forces Training Center is another primary source of air traffic from a nearby city. As a result, aircraft flying over the City of Fullerton can contribute off-road emissions. Additionally, Union Pacific and Burlington Northern and Santa Fe (BNSF) railroad tracks cross the City. These tracks serve Amtrack, Metrolink, and BNSF freight trains. Construction activities are typically temporary and intermittent and can be located at various locations within the City. Landscape equipment emissions would occur more regularly and would occur throughout the City, especially within residential areas.

Emissions from off-road sources include NO_X and diesel particulate matter, which contribute to public health problems. The EPA has set emission standards for the engines used in most construction, agricultural, and industrial equipment. The EPA has adopted off-road diesel fuel requirements to decrease the allowable levels of sulfur, which can damage advanced emission control technologies. Additionally in 2007, CARB adopted a regulation to reduce diesel particulate matter and NO_X emissions from in-use off-road heavy-duty diesel vehicles in California.

EMISSION INVENTORY

Orange County Emissions Inventory

Table 5.5-3, *2010 Estimated Emissions Inventory for Orange County*, summarizes the emissions of criteria air pollutants within Orange County for various source categories in 2010. According to Orange County's emissions inventory, vehicular sources are the largest contributor to the estimated annual average air pollutant levels for ROG, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$.

City of Fullerton Emissions Inventory

Table 5.5-4, *Summary of Estimated Existing Emissions Inventory for the City of Fullerton*, summarizes the emissions of criteria air pollutants within the City for area, energy, mobile, waste, and water categories. The emissions inventory is based on existing land use information and traffic behavior. The data used to calculate the emissions inventory for criteria pollutants is based on the City's Geographic Information Systems (GIS) data. According to the emissions inventory, mobile sources are the largest contributor to the estimated annual average air pollutant levels.

Table 5.5-3
2010 Estimated Emissions Inventory for Orange County

Source Type/Category	Estimated Annual Average Emissions (Tons/Day)[2]					
	ROG	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Stationary Sources						
Fuel Combustion	0.6	5.5	6.0	0.6	0.6	0.6
Waste Disposal	2.4	0.3	0.4	0.1	0.1	0.1
Cleaning and Surface Coating	9.3	0.0	0.0	-	0.1	0.1
Petroleum Production Marketing	5.6	0.0	0.2	0.0	0.0	0.0
Industrial Processes	3.5	0.0	0.1	0.0	2.0	1.0
Subtotal (Stationary Sources)[1]	**21.4**	**5.9**	**6.6**	**0.7**	**2.8**	**1.8**
Areawide Sources						
Solvent Evaporation	25.6	-	-	-	0.0	0.0
Miscellaneous Processes	1.5	14.5	4.5	0.1	43.0	9.7
Subtotal (Areawide Sources)[1]	**27.1**	**14.5**	**4.5**	**0.1**	**43.0**	**9.7**
Mobile Sources						
On-Road Mobile Sources	35.3	351.2	63.9	0.4	4.3	2.9
Other Mobile Sources	32.4	236.4	62.2	4.7	4.4	3.9
Subtotal (Mobile Sources)[1]	**67.7**	**587.6**	**126.2**	**5.1**	**8.7**	**6.8**
Total for Orange County	**116.2**	**608.0**	**137.3**	**6.0**	**54.5**	**18.3**

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, *2009 Almanac Emission Projection Data*, accessed at: http://www.arb.ca.gov/app/emsinv/emssumcat.php

Table 5.5-4
Summary of Estimated Existing Emissions Inventory for the City of Fullerton

Source Type/Category[2]	Estimated Annual Average Emissions (Tons/Year)[1]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Area (hearths, consumer products, architectural coatings, and landscape equipment)	714.65	12.74	1,035.00	0.50	48.92	48.90
Energy (building electricity and natural gas use)	11.36	99.38	58.16	0.62	7.85	7.85
Mobile (vehicle emissions)	1,313.44	3,079.44	13,338.25	15.32	1,661.40	126.23
Waste (emissions associated with landfill disposal)	--	--	--	--	0.00	0.00
Water (electricity associated with transport and treatment of water)	--	--	--	--	0.00	0.00
Total for the City of Fullerton	**2,039.45**	**3,191.56**	**14,431.41**	**16.44**	**1,718.17**	**182.98**

Notes:
1 – Emissions estimates calculated using CalEEMod.
2 – Emissions estimates calculated using the land use categories/intensities depicted in Section 5.1, Land Use.

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 SR-57, SR-91, and I-5), schools, hospitals, churches, and parks.

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 Fullerton is closest to the Anaheim 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 SCAQMD *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning* (dated May 6, 2005) 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.

5.5.4 SIGNIFICANCE THRESHOLDS AND 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_X	CO	SO_X	PM_{10}	$PM_{2.5}$
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 Fullerton Plan 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 Fullerton Plan'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.

5.5.5 PROJECT IMPACTS AND MITIGATION MEASURES

SHORT-TERM CONSTRUCTION EMISSIONS

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

Impact Analysis: Implementation of The Fullerton Plan 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 Fullerton Plan 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 Fullerton Plan 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 Fullerton Plan, and that additional environmental review is conducted under *CEQA,* as needed.

Construction-related activities associated with implementation of The Fullerton Plan 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 Fullerton Plan 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 typically 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 Fullerton Plan 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 Fullerton Plan 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 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 Fullerton Plan Natural Environment Element (Air Quality and Climate Change Chapter) Policy P21.6 addresses construction related air quality impacts by supporting projects, programs, policies, and regulations to reduce impacts to air quality caused by private and public construction projects. Additionally, future development projects would be required to comply with applicable SCAQMD rules and regulations as well as other control measures to reduce construction emissions; refer to Mitigation Measure AQ-1 through AQ-8. However, The Fullerton Plan would facilitate future development and generate construction emissions that would potentially exceed SCAQMD thresholds. Thus, a significant unavoidable impact would occur.

Proposed General Plan Update Policies and Actions:

P21.6 ***Construction Impacts***
Support projects, programs, policies and regulations to reduce impacts to air quality caused by private and public construction projects.

Mitigation Measures:

AQ-1 Prior to issuance of any Grading Permit, the Community Development Director and the Building Official shall confirm that the Grading Plan, Building Plans, and specifications stipulate that, in compliance with SCAQMD Rule 403, excessive fugitive dust emissions shall be controlled by regular watering or other dust prevention measures, as specified in the SCAQMD's Rules and Regulations. In addition, SCAQMD Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site. Implementation

of the following measures would reduce short-term fugitive dust impacts on nearby sensitive receptors:

- All active portions of the construction site shall be watered twice daily to prevent excessive amounts of dust;
- Non-toxic soil stabilizers shall be applied to all inactive construction areas (previously graded areas inactive for 20 days or more, assuming no rain), according to manufacturers' specifications;
- All excavating and grading operations shall be suspended when wind gusts (as instantaneous gust) exceed 25 miles per hour;
- On-site vehicle speed shall be limited to 15 miles per hour;
- All on-site roads shall be paved as soon as feasible, watered twice daily, or chemically stabilized;
- Visible dust beyond the property line which emanates from the project shall be prevented to the maximum extent feasible;
- All material transported off-site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust prior to departing the job site;
- Track-out devices shall be used at all construction site access points;
- All delivery truck tires shall be watered down and/or scraped down prior to departing the job site;
- A construction relations officer shall be appointed to act as a community liaison concerning on-site construction activity including resolution of issues related to fugitive dust generation;
- Streets shall be swept at the end of the day if visible soil material is carried onto adjacent paved public roads and use of SCAQMD Rule 1186 and 1186.1 certified street sweepers or roadway; and
- Replace ground cover in disturbed areas as quickly as possible.

AQ-2 All trucks that are to haul excavated or graded material on-site shall comply with State Vehicle Code Section 23114 (Spilling Loads on Highways), with special attention to Sections 23114(b)(F), (e)(4) as amended, regarding the prevention of such material spilling onto public streets and roads. Prior to the issuance of grading permits, the Applicant shall demonstrate to the City of Fullerton how the project operations subject to that specification during hauling activities shall comply with the provisions set forth in Sections 23114(b)(F), (e)(4).

AQ-3 The following measures shall be implemented to reduce VOC emissions resulting from application of architectural coatings:

- Contractors shall use high-pressure-low-volume (HPLV) paint applicators with a minimum transfer efficiency of at least 50 percent;
- Use required coatings and solvents with a VOC content lower than required under Rule 1113;
- Construct/build with materials that do not require painting; and
- Use pre-painted construction materials.

AQ-4 Prior to issuance of any Grading Permit, the Community Development Director and the Building Official shall confirm that the Grading Plan, Building Plans and specifications stipulate that ozone precursor emissions from construction equipment vehicles shall be controlled by maintaining equipment engines in good condition and in proper tune per manufacturer's specifications, to the satisfaction of the City Engineer. Equipment maintenance records and equipment design specifications data sheets shall be kept on site during construction. The City Inspector shall be responsible for ensuring that contractors comply with this measure during construction.

AQ-5 Electricity from power poles shall be used instead of temporary diesel or gasoline-powered generators to reduce the associated emissions. Approval shall be required by the City of Fullerton Building and Safety Division prior to issuance of grading permits.

AQ-6 Each individual implementing development project shall submit a traffic control plan prior to the issuance of a grading permit. The traffic control plan shall describe in detail safe detours and provide temporary traffic control during construction activities for that project. To reduce traffic congestion, the plan shall include, as necessary, appropriate, and practicable, the following: temporary traffic controls such as a flag person during all phases of construction to maintain smooth traffic flow, dedicated turn lanes for movement of construction trucks and equipment on- and off-site, scheduling of construction activities that affect traffic flow on the arterial system to off-peak hour, consolidating truck deliveries, rerouting of construction trucks away from congested streets or sensitive receptors, and/or signal synchronization to improve traffic flow.

AQ-7 Building and grading permits shall include a restriction that limits idling of construction equipment on site to no more than five minutes.

AQ-8 Proposed development projects that are subject to CEQA shall have construction-related air quality impacts analyzed using the latest available air emissions model, or other analytical method determined in conjunction with the SCAQMD. The results of the construction-related air quality impacts analysis shall be included in the development project's CEQA documentation. To address potential localized impacts, the air quality analysis may incorporate SCAQMD's Localized Significance Threshold analysis or other appropriate analyses as determined in conjunction with SCAQMD. If such analyses identify potentially significant regional or local air quality impacts, the City shall require the incorporation of appropriate mitigation to reduce such impacts.

Level of Significance After Mitigation: Significant Unavoidable Impact.

LONG-TERM MOBILE AND STATIONARY SOURCE EMISSIONS

- **IMPLEMENTATION OF THE FULLERTON PLAN 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.**

Impact Analysis: Regional area- and mobile-source emissions of criteria air pollutants and ozone precursors were modeled using the California Emissions Estimator Model (CalEEMod), which is designed to estimate emissions for land use development projects. CalEEMod allows land use data entries that include project location specifics and trip generation rates, and accounts for emissions from the use of electricity, natural gas, and water, as well as mobile-source emissions associated with vehicle trip generation and emissions from waste generation. Regional emissions were modeled based on proposed land use types, the increase in trip generation, and default settings and parameters attributable to the analysis period and site location. Table 5.5-6, *Summary of 2030 Estimated Emissions Inventory*, presents the criteria air pollutant emissions within the City for area, energy, mobile, waste, and water 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 2030 Estimated Emissions Inventory

Source Type/Category[2]	Estimated Annual Average Emissions (Tons/Year)[1]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Area (hearths, consumer products, architectural coatings, and landscape equipment)	868.30	14.69	1,224.55	0.62	60.90	60.87
Energy (building electricity and natural gas use)	12.70	111.10	65.24	0.69	8.77	8.77
Mobile (vehicle emissions)	724.56	1,733.47	5,908.47	21.38	2,243.51	133.96
Waste (emissions associated with landfill disposal)	--	--	--	--	0.00	0.00
Water (electricity associated with transport and treatment of water)	--	--	--	--	0.00	0.00
Grand Total for the City of Fullerton	**1,605.46**	**1,859.26**	**7,198.26**	**22.69**	**2,313.18**	**203.60**

Notes:
1 – Emissions estimates calculated using CalEEMod.
2 – Emissions estimates calculated using the land use categories/intensities depicted in Section 5.1, Land Use.

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 Fullerton Plan would result in approximately 56,130 dwelling units and approximately 56.3 million square feet of non-residential land uses at buildout. Although the City anticipates future growth, overall emissions are anticipated to be lower than existing conditions for ROG, NO_X,

and CO (refer to Table 5.5-4). Area and energy source emissions are expected to increase from existing conditions. However, mobile source ROG, NO_X, and CO emissions would decrease despite a projected increase in vehicle trips. This can be attributed to improved vehicle emissions standards, improved fuel efficiency, and a newer model year vehicle fleet at buildout. It should be noted that mobile source SO_X, PM_{10}, and $PM_{2.5}$ emissions would increase from existing conditions.

Policies P21.1 through 21.3 of The Fullerton Plan Natural Environment Element (Air Quality and Climate Change Chapter) would improve air quality within the City through participation in regional and subregional efforts to improve housing and employment options to reduce commuting, promote a transportation system coordinated with air quality improvements, and implement programs that regulate pollution across jurisdictions. Policy P21.4 would support balanced land uses which would provide options to reduce vehicle trips and vehicle miles traveled (VMT). Policies P21.5 and P21.7 would reduce air quality impacts from the improper handling and disposal of commercial products and impacts caused by the design or operation of a site or use. Additionally, Actions A21.1 and A21.2 would accommodate the use of neighborhood electric vehicles and implement a car sharing pilot program which would reduce mobile source emissions.

Reducing vehicle trips in turn reduces mobile source air emissions. Therefore, Policies P5.1, P5.2, P5.11, P5.15, P6.2, and P6.11 of The Fullerton Plan Build Environment Element (Mobility and Bicycle Chapters) support regional and local efforts to coordinate multi-modal transportation needs and requirements which would support a reduction of single occupant vehicle trips. Policies P5.7 through P5.9 would help reduce emissions by implementation of complete streets, maximizing person trips, supporting programs to reduce motorized transport to and from schools, and supporting the use of easements as part of the multi-modal network throughout the City. Policies P5.12, P5.13, and P5.16, and Actions A5.1 and A5.3 would ensure that transit opportunities in the City are increased in order to reduce vehicle trips. Alternative fuel vehicles and associated infrastructure are encouraged by Policy P5.16. Policies P6.2 through P6.12 and Actions A5.5, A6.1, and A6.3 address the needs for an expanded bicycle network, bicycle safety, and bicycle parking and facilities.

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 Fullerton 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 Fullerton Plan 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 Fullerton Plan goals and policies would help to reduce the significance of impacts from these individual development projects.

Development projects allowed under The Fullerton Plan would increase regional pollutants over current conditions, specifically PM_{10} and $PM_{2.5}$. However, ozone precursor pollutants, reactive organic compounds and nitrogen oxides would decrease, due to improvements in vehicular technology for mobile source emissions. 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. Depending on the specific air quality impact, Mitigation Measures AQ-9 through AQ-14 would be required to reduce emissions of criteria pollutants. However, due to the magnitude of development and associated mobile and stationary source air quality impacts, impacts would be significant unavoidable in this regard.

Proposed General Plan Update Policies and Actions:

P21.1 ***Jobs-Housing Balance***
Support regional and subregional efforts to improve the alignment of housing options and employment opportunities to reduce commuting.

P21.2 ***Transportation System***
Support regional and subregional efforts to promote a transportation system coordinated with air quality improvements.

P21.3 ***Inter-Jurisdictional Regulation***
Support regional and subregional efforts to implement programs that regulate pollution across jurisdictions, particularly where the source is not under the City's authority.

P21.4 ***Balanced Land Use***
Support projects, programs, policies and regulations to promote a balance of residential, commercial, industrial, recreational, and institutional uses located to provide options to reduce vehicle trips and vehicle miles traveled.

P21.5 ***Product Handling and Disposal Impacts***
Support projects, programs, policies and regulations to reduce impacts to air quality from the improper handling and disposal of commercial products.

P21.7 ***Development Impacts***
Support projects, programs, policies and regulations to reduce impacts to air quality caused by the design or operation of a site or use.

A21.1 ***NEV Accommodation***
Accommodate the use of neighborhood electric vehicles through reduced parking requirements, modified parking spaces dimensions, or other Zoning Ordinance revisions, considered as a park of a comprehensive review of City parking standards.

A21.2 ***Car Sharing Pilot Program***
Explore the potential for a car sharing pilot program to be implemented in one or more of the City's Focus Areas.

P5.1 ***Circulation Between Cities***
Support regional and subregional efforts to implement programs that coordinate the multi-modal transportation needs and requirements across jurisdictions, including but not limited to the Master Plan of Arterial Highways, the Commuter Bikeways Strategic Plan, the Signal Synchronization Master Plan, the Orange County Congestion Management Plan, and the Growth Management Plan.

P5.2 ***Reduction of Single Occupant Vehicle Trips***
Support regional and subregional efforts to increase alternatives to and infrastructure supporting a reduction of single occupant vehicle trips.

P5.7 ***Complete Streets***
Support projects, programs, policies and regulations to maintain a balanced multi-modal transportation network that meets the needs of all users of the streets, roads, and highways – including bicyclists, children, persons with disabilities, motorists, movers of commercial goods, pedestrians, users of public transportation, and seniors – for safe and convenient travel in a manner that is suitable to the suburban and urban contexts within the City.

P5.8 ***Maximization of Person-Trips***
Support programs, policies and regulations to plan for and implement an efficient transportation network that maximizes capacity for person-trips, not just vehicle-trips.

P5.9 ***Coordination with Schools***
Support projects, programs, policies and regulations to improve – in coordination with the school districts – alternatives to the motorized transport of students by parents to and from school.

P5.10 ***Easements and Rights-Of-Way***
Support projects, programs, policies and regulations to use public easements and rights-of-way along flood control channels and/or inactive railroads as part of the multi-modal network.

P5.11 ***Integrated Land Use and Transportation***
Support projects, programs, policies and regulations to integrate land use and transportation planning and implementation.

P5.12 ***Multi-Modal Traffic Analysis***
Support programs, policies and regulations to analyze and evaluate urban streets using an integrated approach from the points of view of automobile drivers, transit passengers, bicyclists, and pedestrians rather than auto-centric thresholds which conflict with other policies of The Fullerton Plan – including better environments for walking and bicycling, safer streets, increased transit use, cost-effective infrastructure investments, reduced greenhouse gas emissions, and the preservation of open space.

P5.13 ***Development-Oriented Transit***
Support projects, programs, policies and regulations to encourage transit improvements that incentivize investment and link neighborhoods while fitting the scale and traffic patterns of the surrounding area.

P5.15 ***Neighborhood and Focus Area Connections***
Support projects, programs, policies and regulations to connect neighborhoods via a multi-modal network to each other and to the City's Focus Areas.

P5.16 ***Infrastructure for Low and Zero Emission Vehicles***
Support projects, programs, policies and regulations to encourage the development of private and/or public infrastructure facilitating the use of alternative fuel vehicles.

P6.2 ***Inter-Jurisdiction Connections***
Support efforts to maintain, expand and create new connections between the Fullerton bicycle network and the bicycle networks of adjacent cities, Orange County, and the region.

P6.4 ***Bicyclist Use on All Streets***
Support projects, programs, policies and regulations to recognize that every street in Fullerton is a street that a bicyclist can use.

P6.5 ***Bicycling Safety and Convenience***
Support projects, programs, policies and regulations that make bicycling safer and more convenient for all types of bicyclists.

P6.7 ***Development Projects***
Support projects, programs, policies, and regulations to reduce negative impacts to and increase opportunities for bicycle users and the bicycle network in private and public development projects.

P6.11 ***Neighborhood and Focus Area Connections***
Support projects, programs, policies and regulations to connect neighborhoods via a multi-modal network to each other, and to and through the City's Focus Areas.

P6.12 ***Bicycle Parking and Facilities***
Support projects, programs, policies, and regulations to provide convenient bicycle parking and other bicycle facilities in existing and potential high demand locations within the City, such as educational institutions, parks, business districts, transit stops, retail, commercial and employment centers.

A5.1 ***Improved Transit Service***
Work with OCTA to improve the coverage of transit service in Fullerton, by providing transit routes that more directly serve residential neighborhoods and enhancing regional transit connections in Fullerton through additional routes and increased service frequency.

A5.2 ***Signal Coordination***
Collaborate with Caltrans, OCTA, and neighboring cities to achieve multi-jurisdictional traffic signal coordination across city boundaries.

A5.3 ***Rail and Rapid Transit***
Participate in the planning efforts for regional and inter-state rail and rapid transit projects to represent the interests of the City.

A5.4 ***Alternative Parking Solutions***
Evaluate and revise the Zoning Ordinance related to parking requirements for individual projects to consider the urban context and proximity to multi-modal transportation infrastructure; consider Parking Management Districts for shared parking and other opportunities to reduce the parking requirements of individual projects.

A5.5 ***Dedications for Right-of-Way***
Establish by local ordinance the ability to require a dedication or irrevocable offer of dedication of real property for streets, alleys, and additional land as may be necessary to provide bicycle paths and/or local transit facilities, consistent with the provisions of the Subdivision Map Act or as otherwise allowed under State law.

A6.1 ***Development of Multi-Tiered Network of Bikeways***
Work with the Bicycle Users Subcommittee and the community to further develop the current bicycle network into a multi-tiered network of on- and off-street bicycle travel options.

A6.3 ***Collaboration with North Orange County Cities and Agencies***
Collaborate with North Orange County cities and other agencies as appropriate on short- and long-term strategies to integrate bicycle routes and networks across jurisdictional boundaries.

Mitigation Measures:

AQ-9 Proposed developments within the City of Fullerton shall include, to the extent feasible, as a part of construction and building management contracts, the following measures:

- All residential and commercial structures shall be required to incorporate high efficiency/low polluting heating, air conditioning, appliances, and water heaters.
- All residential and commercial structures shall be required to incorporate thermal pane windows and weather-stripping.
- All residential, commercial, and industrial structures shall be required to incorporate light colored roofing materials.

AQ-10 Future development projects within the City that include employers with 250 employees or more shall comply with SCAQMD Rule 2202, which requires the implementation of employee commute reduction programs.

AQ-11 To identify potential implementing development project-specific impacts resulting from operational activities, proposed development projects that are subject to CEQA shall have long-term operational-related air quality impacts analyzed using the latest available air emissions model, or other analytical method determined in conjunction with the SCAQMD (only for projects that are subject to a discretionary action and that require a General Plan amendment and/or Zone Change). The results of the operational-related air quality impacts analysis shall be included in the development project's CEQA documentation. To address potential localized impacts, the air quality analysis may incorporate SCAQMD's Localized Significance Threshold analysis, CO Hot Spot analysis or other appropriate analyses as determined in conjunction with SCAQMD. If such analyses identify potentially significant regional or local air quality impacts, the City shall require the incorporation of appropriate mitigation to reduce such impacts.

AQ-12 Signage shall be posted at loading docks and all entrances to loading areas prohibiting all on-site truck idling in excess of five minutes.

AQ-13 New sensitive land uses such as a hospital, medical offices, day care facilities, and fire stations to be located within the City of Fullerton shall not be located closer than 500 feet to the I-5, SR-91, or SR-57 freeways, pursuant to the recommendations set forth in the CARB *Air Quality and Land Use Handbook*. If new sensitive land uses cannot meet this setback, they shall be designed and conditioned to include mechanical ventilation systems with fresh air filtration. For operable windows or other sources of ambient air filtration, installation of a central heating, ventilation, and air conditioning (HVAC) system that includes high efficiency filters for particulates (Minimum Efficiency Reporting Value [MERV] 13 or higher) or other similarly effective systems shall be required.

AQ-14 New sensitive land uses such as residential, a hospital, medical offices, day care facilities, and fire stations shall not be located closer than 1,000 feet from any existing or proposed distribution center/warehouse facility which generates a minimum of 100 truck trips per day, or 40 truck trips with transport refrigeration units (TRUs) per day, or TRU operations exceeding 300 hours per week, pursuant to the recommendations set forth in the CARB *Air Quality and Land Use Handbook*. If new sensitive land uses cannot meet this setback, they shall be designed and conditioned to include mechanical ventilation systems with fresh air filtration. For operable windows or other sources of ambient air filtration, installation of a central heating, ventilation, and air conditioning (HVAC) system that includes high efficiency filters for particulates (Minimum Efficiency Reporting Value [MERV] 13 or higher) or other similarly effective systems shall be required.

Level of Significance After Mitigation: Significant Unavoidable Impact.

ODOR IMPACTS

- **IMPLEMENTATION OF THE FULLERTON PLAN COULD RESULT IN AN OVERALL INCREASE IN ODORS WITHIN THE CITY.**

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 (*Municipal Code* Section 5.14.050) and Orange County Health Department regulations, and be emptied on a regular basis, before potentially substantial odors have developed. The Fullerton Plan accommodates the development of residential, commercial, industrial, public/religious, and open space/parks/recreation uses. These uses are not identified by the SCAQMD as significant odor generators. Additionally, the policies included as part of The Fullerton Plan (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 increased transit behavior. Consequently, implementation of The Fullerton Plan 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.

Proposed General Plan Update Policies and Actions: The Fullerton Plan does not include policies or actions regarding odors.

Mitigation Measures: No mitigation measures are required.

Level of Significance After Mitigation: Not Applicable.

CARBON MONOXIDE HOTSPOTS

- **IMPLEMENTATION OF THE FULLERTON PLAN 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.**

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 Basin 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 Fullerton Plan. Additionally, The Fullerton Plan Built Environment Element (Mobility Chapter) Action A5.2 would ensure local and regional signal coordination which would optimize traffic flow through the City and reduce traffic queuing. Therefore, impacts would be less than significant in this regard.

Proposed General Plan Update Policies and Actions:

A5.2 ***Signal Coordination***
Collaborate with Caltrans, OCTA, and neighboring cities to achieve multi-jurisdictional traffic signal coordination across city boundaries.

Mitigation Measures: No mitigation measures beyond the goals and policies identified in The Fullerton Plan are required.

Level of Significance After Mitigation: Less Than Significant Impact.

CONSISTENCY WITH REGIONAL PLANS

- **THE FULLERTON PLAN 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.**

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 Fullerton Plan would reduce the significance of air quality impacts.

The Fullerton Plan 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 Fullerton Plan 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 Fullerton Plan. Additionally, The Fullerton Plan includes goals and policies within the Natural Environment and Built Environment Elements that would reduce air quality impacts of future developments within the City. Development projects occurring under The Fullerton Plan would be required to comply with The Fullerton Plan 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. Fullerton Plan does not propose any land use changes, with the exception of minor changes to existing parcels, which are necessary to

resolve inconsistencies between the current General Plan land use designation and current zoning district. Although the City's projected population, housing, and employment growth would be greater than SCAG what was projected by SCAG, project implementation would not conflict with SCAG's forecasts. The Fullerton Plan accounts for the population growth and establishes Goals and Policies to reduce potential growth-related impacts. As described in Section 5.2, Population, Housing, and Employment, these impacts would be less than significant. As a result the proposed project would not change the land uses that the 2007 AQMP was based upon, and The Fullerton Plan would be consistent with the 2007 AQMP assumptions. Therefore, impacts are considered to be less than significant. It is noted that the next AQMP will also account for any updated growth forecasts for the City. 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 Fullerton Plan's consistency with these regional plans. The Fullerton Plan includes relevant goals and policies that reflect and respond to SCAG's regional goals. As indicated in Table 5.1-5 of Section 5.1, The Fullerton Plan would be consistent with SCAG's regional planning efforts of the RTP. The Fullerton Plan includes several goals and policies within the Natural Environment and Built Environment Elements pertaining to regional mobility, reduced vehicle trips, energy efficiency, smart growth and land use patterns, 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 Fullerton Plan would be consistent with regional goals and principles and impacts in this regard are less than significant.

Proposed General Plan Update Policies and Actions: Refer to the Policies and Actions cited above.

Mitigation Measures: No mitigation measures beyond the goals and policies identified in The Fullerton Plan are required.

Level of Significance After Mitigation: Less Than Significant Impact.

5.5.6 CUMULATIVE IMPACTS

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

Impact Analysis: The geographic context for air quality impacts for the City of Fullerton is SRA 16 (North Orange County) 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 Fullerton Plan 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 Fullerton Plan goals and policies. Construction of future development projects under The Fullerton Plan would be required to comply with the applicable SCAQMD rules and regulations as well as other emissions control measures; refer to Mitigation Measure AQ-1 through AQ-8. 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 and 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_3 and PM_{10}, and $PM_{2.5}$ standards in the Basin. An emissions inventory for the City in year 2030 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 2030. With regard to the contribution of The Fullerton Plan, 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 Fullerton Plan could be cumulatively considerable despite the implementation of Mitigation Measures AQ-9 through AQ-14. 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 Fullerton Plan would be substantially below National and State standards. These future predictions consider cumulative development that would occur in SRA 16 (North Orange County). 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 Fullerton would include residential and commercial uses, and could include restaurants. Odors resulting from the construction of projects that would occur with implementation of The Fullerton Plan 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* Section 5.14.050), and restaurants are typically required to have ventilation systems that avoid substantial adverse odor impacts. Cumulative odor impacts would thus be less than significant.

Proposed General Plan Update Policies and Actions: Refer to the Policies and Actions cited above.

Mitigation Measures: No mitigation measures beyond the goals and policies identified in The Fullerton Plan 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.

5.5.7 SIGNIFICANT UNAVOIDABLE IMPACTS

The Fullerton Plan 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 despite the implementation of Mitigation Measures AQ-1 through AQ-8.

- ***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 despite the implementation of Mitigation Measures AQ-9 through AQ-14.

- ***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 Fullerton Plan goals and policies. Emissions from operations of future development associated with implementation of The Fullerton Plan 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 Fullerton Plan would be less than significant by adherence to and/or compliance with goals, policies, and actions in The Fullerton Plan.

If the City of Fullerton approves The Fullerton Plan, 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.

5.5.8 SOURCES CITED

California Air Resources Board, *Aerometric Data Analysis and Measurement System (ADAM), summaries from 2008 to 2010*, http://www.arb.ca.gov/adam.

City of Fullerton, *City of Fullerton General Plan,* 1997.

City of Fullerton Municipal Code.

RBF Consulting, *The Fullerton Plan Draft*, August 2011.

South Coast Air Quality Management District, *2007 Air Quality Management Plan, South Coast Air Basin,* 2007.

South Coast Air Quality Management District, *California Emissions Estimator Model*, 2011.

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

South Coast Air Quality Management District, *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*, May 6, 2005.

South Coast Air Quality Management District, *Multiple Air Toxics Exposure Study in the South Coast Air Basin, MATES-III*, July 2008.

Southern California Association of Governments, *Regional Comprehensive Plan and Guide: Helping Communities Achieve a Sustainable Future*, adopted 2008.

Southern California Association of Governments, *2008 Regional Transportation Plan: Making the Connections*, adopted May 2008.

Southern California Association of Governments, *2011 Federal Transportation Improvement Program*, adopted 2010.

The Weather Channel, *Average Weather for Fullerton, CA*, Accessed July 27, 2011.

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SECTION 5.5
AIR QUALITY

5.5.1 PURPOSE

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, 2008 through 2010).

5.5.2 EXISTING REGULATORY SETTING

FEDERAL REGULATIONS

The U.S. Environmental Protection Agency (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_3), carbon monoxide (CO), nitrogen dioxide (NO_2) (which is a form of nitrogen oxides [NO_X]), sulfur dioxide (SO_2) (which is a form of sulfur oxides [SO_x]), particulate matter less than 10 and 2.5 microns in diameter (PM_{10} and $PM_{2.5}$, 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.

Similar to the 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 Fullerton is located in.

Table 5.5-1
National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)	1 Hour	0.09 ppm (180 μg/m³)	Ultraviolet Photometry	--	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 μg/m³)		0.075 ppm (147 μg/m³)		
Respirable Particulate Matter (PM_{10})	24 Hour	50 μg/m³	Gravimetric or Beta Attenuation	150 μg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 μg/m³		--		
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	No Separate State Standard		35 μg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 μg/m³	Gravimetric or Beta Attenuation	15.0 μg/m³		
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m³)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m³)	None	Non-Dispersive Infrared Photometry (NDIR)
	1 Hour	20 ppm (23 mg/m³)		35 ppm (40 mg/m³)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m³)		--	--	==
Nitrogen Dioxide (NO_2)[8]	Annual Arithmetic Mean	0.030 ppm (57 μg/m³)	Gas Phase Chemiluminescence	53 ppb (100 μg/m³)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.18 ppm (339 μg/m³)		100 ppb (188 μg/m³)		
Sulfur Dioxide (SO_2)	24 Hour	0.04 ppm (105 μg/m³)	Ultraviolet Fluorescence	--	--	Spectrophotometry (Paraosaniline Method)
	3 Hour	--		--	0.5 ppm (1300 μg/m³)	
	1 Hour	0.25 ppm (655 μg/m³)		75 ppb (196 μg/m³)	--	--
Lead[9] (Pb)	30 Day Average	1.5 μg/m³	Atomic Absorption	--	--	--
	Calendar Quarter	--		1.5 μg/m³	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Average[10]	--		0.15 μg/m³		
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer – visibility of ten miles or more (0.07 – 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		**No Federal Standards**		
Sulfates	24 Hour	25 μg/m³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 μg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride[9]	24 Hour	0.01 ppm (26 μg/m³)	Gas Chromatography			

1 California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter – PM_{10}, $PM_{2.5}$, and visibility reducing particles, are values that are not to be exceeded. All other are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2 National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 μg/m³ is equal to or less than one. For $PM_{2.5}$, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact EPA for further clarification and current Federal policies.

3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4 Any equivalent procedure which can be shown to the satisfaction of CARB to give equivalent results at or near the level of the air quality standard may be used.

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

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

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

8 To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010).

9 CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

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

Source: California Air Resources Board, September 8, 2010.

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 South Coast Air Basin and those portions of the Salton Sea Air Basin (formerly named the Southeast Desert Air Basin) that are under the SCAQMD's jurisdiction. The *2007 AQMP* includes 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 $PM_{2.5}$ and O_3;
- 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.

5.5.3 EXISTING ENVIRONMENTAL SETTING

SOUTH COAST AIR BASIN

Geography

The City of Fullerton is located in the South Coast Air Basin (Basin), a 6,600-square mile area bound 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 Fullerton, the climate is typically warm during summer when temperatures tend to be in the 70's and cool during winter when temperatures tend to be in the 50's. The warmest month of the year is August with an average maximum temperature of 86º F, while the coldest month of the year is January with an average minimum temperature of 45º F. Temperature variations between night and day tend to be moderate during summer with a difference that can reach 23º F, and moderate during winter with an average difference of 24º F. The annual average precipitation in Fullerton is 11.23 inches. Rainfall in is fairly evenly distributed throughout the year. The wettest month of the year is February with an average rainfall of 2.86 inches.[1]

[1] The Weather Channel, *Average Weather for Fullerton, CA*, Accessed July 27, 2011. http://www.weather.com/outlook/events/weddings/wxclimatology/monthly/graph/USCA0408?from=36hr_bottomnav_wedding.

AMBIENT AIR QUALITY

The monitoring stations in the State are operated by CARB, local Air Pollution Control Districts or Air Quality Management Districts, by private contractors, and by the National Park Service. These entities operate more than 250 air monitoring stations in California. Air quality monitoring stations usually measure pollutant concentrations ten feet above ground level. 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 Fullerton is located in SRA 16 (North Orange County).

Pollutants Measured

The following air quality information briefly describes the various types of pollutants monitored at the Anaheim Monitoring Station. The Anaheim Monitoring Station is the nearest to the City within SRA 16. Air quality data from 2008 through 2010 is provided in Table 5.5-2, *Local Air Quality Levels*.

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_X are a family of highly reactive gases that are a primary precursor to the formation of ground-level O_3, and react in the atmosphere to form acid rain. NO_2 (often used interchangeably with NO_X) is a reddish-brown gas that can cause breathing difficulties at high levels. Peak readings of NO_2 occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries, and other industrial operations).

NO_2 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_2 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_2 may aggravate eyes and mucus membranes as well as cause pulmonary dysfunction.

Ozone. Ozone (O_3) 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_3 layer) extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays.

Table 5.5-2
Local Air Quality Levels

Pollutant	California Standard	Federal Standard	Year	Maximum[1] Concentration	Days (Samples) State/Federal Std. Exceeded
Ozone (O_3) (1-Hour) [2]	0.09 ppm for 1 hour	NA	2008 2009 2010	0.105 ppm 0.093 0.104	2/0 0/0 1/0
Ozone (O_3) (8-Hour)[2]	0.07 ppm for 8 hours	0.08 ppm for 8 hours	2008 2009 2010	0.086 ppm 0.077 0.088	10/5 2/1 1/1
Carbon Monoxide (CO) (1-Hour)[2]	20.0 ppm For 1 hour	35.0 ppm for 1 hour	2008 2009 2010	4.10 ppm 4.10 4.10	0/0 0/0 0/0
Carbon Monoxide (CO) (8-Hour)[2]	9.0 ppm for 8 hours	9.0 ppm for 8 hours	2008 2009 2010	3.44 ppm 2.73 1.91	0/0 0/0 0/0
Nitrogen Dioxide (NO_2) [2]	0.25 ppm for 1 hour	0.053 ppm annual average	2008 2009 2010	0.093 ppm 0.068 0.066	0/NA 0/NA 0/NA
Particulate Matter (PM_{10}) [2, 3,4]	50 µg/m^3 for 24 hours	150 µg/m^3 for 24 hours	2008 2009 2010	61.0 µg/m^3 63.0 43.0	3/0 1/0 0/0
Fine Particulate Matter ($PM_{2.5}$) [2,4]	No Separate State Standard	35 µg/m^3 for 24 hours	2008 2009 2010	67.8 µg/m^3 64.5 31.7	NA/5 NA/5 NA/0

ppm = parts per million; PM_{10} = particulate matter 10 microns in diameter or less; NM = not measured; µg/m^3 = micrograms per cubic meter; $PM_{2.5}$ = 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. Anaheim Monitoring Station located at 1630 Pampas Lane, California 92802.
3. PM_{10} exceedances are based on State thresholds established prior to amendments adopted on June 20, 2002.
4. PM_{10} and $PM_{2.5}$ exceedances are derived from the number of samples exceeded, not days.

Source: Aerometric Data Analysis and Measurement System (ADAM), summaries from 2008 to 2010, http://www.arb.ca.gov/adam.

The "Bad" O_3 is a photochemical pollutant, and needs reactive organic compounds (ROGs), NO_X, and sunlight to form; therefore, ROGs and NO_X are O_3 precursors. To reduce O_3 concentrations, it is necessary to control the emissions of these O_3 precursors. Significant O_3 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_3 concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

While O_3 in the upper atmosphere (stratosphere) protects the earth from harmful ultraviolet radiation, high concentrations of ground-level O_3 (in the troposphere) can adversely affect the human respiratory system and other tissues. O_3 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_3.

Short-term exposure (lasting for a few hours) to O_3 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_{10}). PM_{10} refers to suspended particulate matter which is smaller than 10 microns (or ten one-millionths) of a meter. PM_{10} arises from sources such as road dust, diesel soot, combustion products, construction operations, and dust storms. PM_{10} 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 ($PM_{2.5}$). 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 $PM_{2.5}$ standards have been created. Particulate matter impacts primarily affect infants, children, the elderly, and those with pre-existing cardiopulmonary disease. In 1997, the EPA announced new $PM_{2.5}$ standards. Industry groups challenged the new standard in court and the implementation of the standard was blocked. However, upon appeal by the EPA, the U.S. Supreme Court reversed this decision and upheld the EPA's new standards.

On January 5, 2005, the EPA published a Final Rule in the Federal Register that designates the Orange County portion of the Basin as a nonattainment area for Federal $PM_{2.5}$ standards.[2] 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.[3]

Sulfur Dioxide. SO_2 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_X) and lead (Pb). Exposure of a few minutes to low levels of SO_2 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_2.

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.

[2] http://www.epa.gov/fedrgstr/EPA-AIR/2005/January/Day-05/a001.pdf

[3] 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.

PRIMARY SOURCES OF EMISSIONS

Air pollutants within the City of Fullerton 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 of Fullerton 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 Fullerton could contribute to regional incremental emissions of NO_X, VOC, CO, SO_X, and PM_{10}. The following is a listing of emissions that typically emanate from vehicular sources:

- Vehicle running exhaust (VOC, CO, NO_X, SO_X, and PM_{10});
- Vehicle tire wear particulates (PM_{10});
- Vehicle brake wear particulates (PM_{10});
- Vehicle variable starts (VOC, CO, NO_X);
- 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. State Route 57 (SR-57) and State Route 91 (SR-91) are the two freeways that pass through the City. Interstate 5 (I-5) also passes through the southwest corner of the City. Additionally, the primary arterials that serve the City are Harbor Boulevard, Euclid Street,

Orangethrope Avenue, Chapman Avenue, Commonwealth Avenue, Bastanchury Road, and Brea Boulevard.

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, trains, construction equipment, and landscape equipment. The Fullerton Municipal Airport is located within the City and the Los Alamitos Joint Forces Training Center is another primary source of air traffic from a nearby city. As a result, aircraft flying over the City of Fullerton can contribute off-road emissions. Additionally, Union Pacific and Burlington Northern and Santa Fe (BNSF) railroad tracks cross the City. These tracks serve Amtrack, Metrolink, and BNSF freight trains. Construction activities are typically temporary and intermittent and can be located at various locations within the City. Landscape equipment emissions would occur more regularly and would occur throughout the City, especially within residential areas.

Emissions from off-road sources include NO_X and diesel particulate matter, which contribute to public health problems. The EPA has set emission standards for the engines used in most construction, agricultural, and industrial equipment. The EPA has adopted off-road diesel fuel requirements to decrease the allowable levels of sulfur, which can damage advanced emission control technologies. Additionally in 2007, CARB adopted a regulation to reduce diesel particulate matter and NO_X emissions from in-use off-road heavy-duty diesel vehicles in California.

EMISSION INVENTORY

Orange County Emissions Inventory

Table 5.5-3, *2010 Estimated Emissions Inventory for Orange County*, summarizes the emissions of criteria air pollutants within Orange County for various source categories in 2010. According to Orange County's emissions inventory, vehicular sources are the largest contributor to the estimated annual average air pollutant levels for ROG, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$.

City of Fullerton Emissions Inventory

Table 5.5-4, *Summary of Estimated Existing Emissions Inventory for the City of Fullerton*, summarizes the emissions of criteria air pollutants within the City for area, energy, mobile, waste, and water categories. The emissions inventory is based on existing land use information and traffic behavior. The data used to calculate the emissions inventory for criteria pollutants is based on the City's Geographic Information Systems (GIS) data. According to the emissions inventory, mobile sources are the largest contributor to the estimated annual average air pollutant levels.

Table 5.5-3
2010 Estimated Emissions Inventory for Orange County

Source Type/Category	Estimated Annual Average Emissions (Tons/Day)[2]					
	ROG	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Stationary Sources						
Fuel Combustion	0.6	5.5	6.0	0.6	0.6	0.6
Waste Disposal	2.4	0.3	0.4	0.1	0.1	0.1
Cleaning and Surface Coating	9.3	0.0	0.0	-	0.1	0.1
Petroleum Production Marketing	5.6	0.0	0.2	0.0	0.0	0.0
Industrial Processes	3.5	0.0	0.1	0.0	2.0	1.0
Subtotal (Stationary Sources)[1]	**21.4**	**5.9**	**6.6**	**0.7**	**2.8**	**1.8**
Areawide Sources						
Solvent Evaporation	25.6	-	-	-	0.0	0.0
Miscellaneous Processes	1.5	14.5	4.5	0.1	43.0	9.7
Subtotal (Areawide Sources)[1]	**27.1**	**14.5**	**4.5**	**0.1**	**43.0**	**9.7**
Mobile Sources						
On-Road Mobile Sources	35.3	351.2	63.9	0.4	4.3	2.9
Other Mobile Sources	32.4	236.4	62.2	4.7	4.4	3.9
Subtotal (Mobile Sources)[1]	**67.7**	**587.6**	**126.2**	**5.1**	**8.7**	**6.8**
Total for Orange County	**116.2**	**608.0**	**137.3**	**6.0**	**54.5**	**18.3**

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, *2009 Almanac Emission Projection Data*, accessed at: http://www.arb.ca.gov/app/emsinv/emssumcat.php

Table 5.5-4
Summary of Estimated Existing Emissions Inventory for the City of Fullerton

Source Type/Category[2]	Estimated Annual Average Emissions (Tons/Year)[1]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Area (hearths, consumer products, architectural coatings, and landscape equipment)	714.65	12.74	1,035.00	0.50	48.92	48.90
Energy (building electricity and natural gas use)	11.36	99.38	58.16	0.62	7.85	7.85
Mobile (vehicle emissions)	1,313.44	3,079.44	13,338.25	15.32	1,661.40	126.23
Waste (emissions associated with landfill disposal)	--	--	--	--	0.00	0.00
Water (electricity associated with transport and treatment of water)	--	--	--	--	0.00	0.00
Total for the City of Fullerton	**2,039.45**	**3,191.56**	**14,431.41**	**16.44**	**1,718.17**	**182.98**

Notes:
1 – Emissions estimates calculated using CalEEMod.
2 – Emissions estimates calculated using the land use categories/intensities depicted in Section 5.1, Land Use.

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 SR-57, SR-91, and I-5), schools, hospitals, churches, and parks.

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 Fullerton is closest to the Anaheim 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 SCAQMD *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning* (dated May 6, 2005) 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.

5.5.4 SIGNIFICANCE THRESHOLDS AND 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_X	CO	SO_X	PM_{10}	$PM_{2.5}$
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 Fullerton Plan 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 Fullerton Plan'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.

5.5.5 PROJECT IMPACTS AND MITIGATION MEASURES

SHORT-TERM CONSTRUCTION EMISSIONS

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

Impact Analysis: Implementation of The Fullerton Plan 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 Fullerton Plan 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 Fullerton Plan 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 Fullerton Plan, and that additional environmental review is conducted under *CEQA,* as needed.

Construction-related activities associated with implementation of The Fullerton Plan 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 Fullerton Plan 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 typically 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 Fullerton Plan 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 Fullerton Plan 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 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 Fullerton Plan Natural Environment Element (Air Quality and Climate Change Chapter) Policy P21.6 addresses construction related air quality impacts by supporting projects, programs, policies, and regulations to reduce impacts to air quality caused by private and public construction projects. Additionally, future development projects would be required to comply with applicable SCAQMD rules and regulations as well as other control measures to reduce construction emissions; refer to Mitigation Measure AQ-1 through AQ-8. However, The Fullerton Plan would facilitate future development and generate construction emissions that would potentially exceed SCAQMD thresholds. Thus, a significant unavoidable impact would occur.

Proposed General Plan Update Policies and Actions:

P21.6 ***Construction Impacts***
Support projects, programs, policies and regulations to reduce impacts to air quality caused by private and public construction projects.

Mitigation Measures:

AQ-1 Prior to issuance of any Grading Permit, the Community Development Director and the Building Official shall confirm that the Grading Plan, Building Plans, and specifications stipulate that, in compliance with SCAQMD Rule 403, excessive fugitive dust emissions shall be controlled by regular watering or other dust prevention measures, as specified in the SCAQMD's Rules and Regulations. In addition, SCAQMD Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site. Implementation

of the following measures would reduce short-term fugitive dust impacts on nearby sensitive receptors:

- All active portions of the construction site shall be watered twice daily to prevent excessive amounts of dust;
- Non-toxic soil stabilizers shall be applied to all inactive construction areas (previously graded areas inactive for 20 days or more, assuming no rain), according to manufacturers' specifications;
- All excavating and grading operations shall be suspended when wind gusts (as instantaneous gust) exceed 25 miles per hour;
- On-site vehicle speed shall be limited to 15 miles per hour;
- All on-site roads shall be paved as soon as feasible, watered twice daily, or chemically stabilized;
- Visible dust beyond the property line which emanates from the project shall be prevented to the maximum extent feasible;
- All material transported off-site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust prior to departing the job site;
- Track-out devices shall be used at all construction site access points;
- All delivery truck tires shall be watered down and/or scraped down prior to departing the job site;
- A construction relations officer shall be appointed to act as a community liaison concerning on-site construction activity including resolution of issues related to fugitive dust generation;
- Streets shall be swept at the end of the day if visible soil material is carried onto adjacent paved public roads and use of SCAQMD Rule 1186 and 1186.1 certified street sweepers or roadway; and
- Replace ground cover in disturbed areas as quickly as possible.

AQ-2 All trucks that are to haul excavated or graded material on-site shall comply with State Vehicle Code Section 23114 (Spilling Loads on Highways), with special attention to Sections 23114(b)(F), (e)(4) as amended, regarding the prevention of such material spilling onto public streets and roads. Prior to the issuance of grading permits, the Applicant shall demonstrate to the City of Fullerton how the project operations subject to that specification during hauling activities shall comply with the provisions set forth in Sections 23114(b)(F), (e)(4).

AQ-3 The following measures shall be implemented to reduce VOC emissions resulting from application of architectural coatings:

- Contractors shall use high-pressure-low-volume (HPLV) paint applicators with a minimum transfer efficiency of at least 50 percent;
- Use required coatings and solvents with a VOC content lower than required under Rule 1113;
- Construct/build with materials that do not require painting; and
- Use pre-painted construction materials.

AQ-4 Prior to issuance of any Grading Permit, the Community Development Director and the Building Official shall confirm that the Grading Plan, Building Plans and specifications stipulate that ozone precursor emissions from construction equipment vehicles shall be controlled by maintaining equipment engines in good condition and in proper tune per manufacturer's specifications, to the satisfaction of the City Engineer. Equipment maintenance records and equipment design specifications data sheets shall be kept on site during construction. The City Inspector shall be responsible for ensuring that contractors comply with this measure during construction.

AQ-5 Electricity from power poles shall be used instead of temporary diesel or gasoline-powered generators to reduce the associated emissions. Approval shall be required by the City of Fullerton Building and Safety Division prior to issuance of grading permits.

AQ-6 Each individual implementing development project shall submit a traffic control plan prior to the issuance of a grading permit. The traffic control plan shall describe in detail safe detours and provide temporary traffic control during construction activities for that project. To reduce traffic congestion, the plan shall include, as necessary, appropriate, and practicable, the following: temporary traffic controls such as a flag person during all phases of construction to maintain smooth traffic flow, dedicated turn lanes for movement of construction trucks and equipment on- and off-site, scheduling of construction activities that affect traffic flow on the arterial system to off-peak hour, consolidating truck deliveries, rerouting of construction trucks away from congested streets or sensitive receptors, and/or signal synchronization to improve traffic flow.

AQ-7 Building and grading permits shall include a restriction that limits idling of construction equipment on site to no more than five minutes.

AQ-8 Proposed development projects that are subject to CEQA shall have construction-related air quality impacts analyzed using the latest available air emissions model, or other analytical method determined in conjunction with the SCAQMD. The results of the construction-related air quality impacts analysis shall be included in the development project's CEQA documentation. To address potential localized impacts, the air quality analysis may incorporate SCAQMD's Localized Significance Threshold analysis or other appropriate analyses as determined in conjunction with SCAQMD. If such analyses identify potentially significant regional or local air quality impacts, the City shall require the incorporation of appropriate mitigation to reduce such impacts.

Level of Significance After Mitigation: Significant Unavoidable Impact.

LONG-TERM MOBILE AND STATIONARY SOURCE EMISSIONS

- **IMPLEMENTATION OF THE FULLERTON PLAN 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.**

Impact Analysis: Regional area- and mobile-source emissions of criteria air pollutants and ozone precursors were modeled using the California Emissions Estimator Model (CalEEMod), which is designed to estimate emissions for land use development projects. CalEEMod allows land use data entries that include project location specifics and trip generation rates, and accounts for emissions from the use of electricity, natural gas, and water, as well as mobile-source emissions associated with vehicle trip generation and emissions from waste generation. Regional emissions were modeled based on proposed land use types, the increase in trip generation, and default settings and parameters attributable to the analysis period and site location. Table 5.5-6, *Summary of 2030 Estimated Emissions Inventory*, presents the criteria air pollutant emissions within the City for area, energy, mobile, waste, and water 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 2030 Estimated Emissions Inventory

Source Type/Category[2]	Estimated Annual Average Emissions (Tons/Year)[1]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Area (hearths, consumer products, architectural coatings, and landscape equipment)	868.30	14.69	1,224.55	0.62	60.90	60.87
Energy (building electricity and natural gas use)	12.70	111.10	65.24	0.69	8.77	8.77
Mobile (vehicle emissions)	724.56	1,733.47	5,908.47	21.38	2,243.51	133.96
Waste (emissions associated with landfill disposal)	--	--	--	--	0.00	0.00
Water (electricity associated with transport and treatment of water)	--	--	--	--	0.00	0.00
Grand Total for the City of Fullerton	**1,605.46**	**1,859.26**	**7,198.26**	**22.69**	**2,313.18**	**203.60**

Notes:
1 – Emissions estimates calculated using CalEEMod.
2 – Emissions estimates calculated using the land use categories/intensities depicted in Section 5.1, Land Use.

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 Fullerton Plan would result in approximately 56,130 dwelling units and approximately 56.3 million square feet of non-residential land uses at buildout. Although the City anticipates future growth, overall emissions are anticipated to be lower than existing conditions for ROG, NO_X,

and CO (refer to Table 5.5-4). Area and energy source emissions are expected to increase from existing conditions. However, mobile source ROG, NO_X, and CO emissions would decrease despite a projected increase in vehicle trips. This can be attributed to improved vehicle emissions standards, improved fuel efficiency, and a newer model year vehicle fleet at buildout. It should be noted that mobile source SO_X, PM_{10}, and $PM_{2.5}$ emissions would increase from existing conditions.

Policies P21.1 through 21.3 of The Fullerton Plan Natural Environment Element (Air Quality and Climate Change Chapter) would improve air quality within the City through participation in regional and subregional efforts to improve housing and employment options to reduce commuting, promote a transportation system coordinated with air quality improvements, and implement programs that regulate pollution across jurisdictions. Policy P21.4 would support balanced land uses which would provide options to reduce vehicle trips and vehicle miles traveled (VMT). Policies P21.5 and P21.7 would reduce air quality impacts from the improper handling and disposal of commercial products and impacts caused by the design or operation of a site or use. Additionally, Actions A21.1 and A21.2 would accommodate the use of neighborhood electric vehicles and implement a car sharing pilot program which would reduce mobile source emissions.

Reducing vehicle trips in turn reduces mobile source air emissions. Therefore, Policies P5.1, P5.2, P5.11, P5.15, P6.2, and P6.11 of The Fullerton Plan Build Environment Element (Mobility and Bicycle Chapters) support regional and local efforts to coordinate multi-modal transportation needs and requirements which would support a reduction of single occupant vehicle trips. Policies P5.7 through P5.9 would help reduce emissions by implementation of complete streets, maximizing person trips, supporting programs to reduce motorized transport to and from schools, and supporting the use of easements as part of the multi-modal network throughout the City. Policies P5.12, P5.13, and P5.16, and Actions A5.1 and A5.3 would ensure that transit opportunities in the City are increased in order to reduce vehicle trips. Alternative fuel vehicles and associated infrastructure are encouraged by Policy P5.16. Policies P6.2 through P6.12 and Actions A5.5, A6.1, and A6.3 address the needs for an expanded bicycle network, bicycle safety, and bicycle parking and facilities.

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 Fullerton 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 Fullerton Plan 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 Fullerton Plan goals and policies would help to reduce the significance of impacts from these individual development projects.

Development projects allowed under The Fullerton Plan would increase regional pollutants over current conditions, specifically PM_{10} and $PM_{2.5}$. However, ozone precursor pollutants, reactive organic compounds and nitrogen oxides would decrease, due to improvements in vehicular technology for mobile source emissions. 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. Depending on the specific air quality impact, Mitigation Measures AQ-9 through AQ-14 would be required to reduce emissions of criteria pollutants. However, due to the magnitude of development and associated mobile and stationary source air quality impacts, impacts would be significant unavoidable in this regard.

Proposed General Plan Update Policies and Actions:

P21.1 ***Jobs-Housing Balance***
Support regional and subregional efforts to improve the alignment of housing options and employment opportunities to reduce commuting.

P21.2 ***Transportation System***
Support regional and subregional efforts to promote a transportation system coordinated with air quality improvements.

P21.3 ***Inter-Jurisdictional Regulation***
Support regional and subregional efforts to implement programs that regulate pollution across jurisdictions, particularly where the source is not under the City's authority.

P21.4 ***Balanced Land Use***
Support projects, programs, policies and regulations to promote a balance of residential, commercial, industrial, recreational, and institutional uses located to provide options to reduce vehicle trips and vehicle miles traveled.

P21.5 ***Product Handling and Disposal Impacts***
Support projects, programs, policies and regulations to reduce impacts to air quality from the improper handling and disposal of commercial products.

P21.7 ***Development Impacts***
Support projects, programs, policies and regulations to reduce impacts to air quality caused by the design or operation of a site or use.

A21.1 ***NEV Accommodation***
Accommodate the use of neighborhood electric vehicles through reduced parking requirements, modified parking spaces dimensions, or other Zoning Ordinance revisions, considered as a park of a comprehensive review of City parking standards.

A21.2 ***Car Sharing Pilot Program***
Explore the potential for a car sharing pilot program to be implemented in one or more of the City's Focus Areas.

P5.1 ***Circulation Between Cities***
Support regional and subregional efforts to implement programs that coordinate the multi-modal transportation needs and requirements across jurisdictions, including but not limited to the Master Plan of Arterial Highways, the Commuter Bikeways Strategic Plan, the Signal Synchronization Master Plan, the Orange County Congestion Management Plan, and the Growth Management Plan.

P5.2 ***Reduction of Single Occupant Vehicle Trips***
Support regional and subregional efforts to increase alternatives to and infrastructure supporting a reduction of single occupant vehicle trips.

P5.7 ***Complete Streets***
Support projects, programs, policies and regulations to maintain a balanced multi-modal transportation network that meets the needs of all users of the streets, roads, and highways – including bicyclists, children, persons with disabilities, motorists, movers of commercial goods, pedestrians, users of public transportation, and seniors – for safe and convenient travel in a manner that is suitable to the suburban and urban contexts within the City.

P5.8 ***Maximization of Person-Trips***
Support programs, policies and regulations to plan for and implement an efficient transportation network that maximizes capacity for person-trips, not just vehicle-trips.

P5.9 ***Coordination with Schools***
Support projects, programs, policies and regulations to improve – in coordination with the school districts – alternatives to the motorized transport of students by parents to and from school.

P5.10 ***Easements and Rights-Of-Way***
Support projects, programs, policies and regulations to use public easements and rights-of-way along flood control channels and/or inactive railroads as part of the multi-modal network.

P5.11 ***Integrated Land Use and Transportation***
Support projects, programs, policies and regulations to integrate land use and transportation planning and implementation.

P5.12 ***Multi-Modal Traffic Analysis***
Support programs, policies and regulations to analyze and evaluate urban streets using an integrated approach from the points of view of automobile drivers, transit passengers, bicyclists, and pedestrians rather than auto-centric thresholds which conflict with other policies of The Fullerton Plan – including better environments for walking and bicycling, safer streets, increased transit use, cost-effective infrastructure investments, reduced greenhouse gas emissions, and the preservation of open space.

P5.13 ***Development-Oriented Transit***
Support projects, programs, policies and regulations to encourage transit improvements that incentivize investment and link neighborhoods while fitting the scale and traffic patterns of the surrounding area.

P5.15 ***Neighborhood and Focus Area Connections***
Support projects, programs, policies and regulations to connect neighborhoods via a multi-modal network to each other and to the City's Focus Areas.

P5.16 ***Infrastructure for Low and Zero Emission Vehicles***
Support projects, programs, policies and regulations to encourage the development of private and/or public infrastructure facilitating the use of alternative fuel vehicles.

P6.2 ***Inter-Jurisdiction Connections***
Support efforts to maintain, expand and create new connections between the Fullerton bicycle network and the bicycle networks of adjacent cities, Orange County, and the region.

P6.4 ***Bicyclist Use on All Streets***
Support projects, programs, policies and regulations to recognize that every street in Fullerton is a street that a bicyclist can use.

P6.5 ***Bicycling Safety and Convenience***
Support projects, programs, policies and regulations that make bicycling safer and more convenient for all types of bicyclists.

P6.7 ***Development Projects***
Support projects, programs, policies, and regulations to reduce negative impacts to and increase opportunities for bicycle users and the bicycle network in private and public development projects.

P6.11 ***Neighborhood and Focus Area Connections***
Support projects, programs, policies and regulations to connect neighborhoods via a multi-modal network to each other, and to and through the City's Focus Areas.

P6.12 ***Bicycle Parking and Facilities***
Support projects, programs, policies, and regulations to provide convenient bicycle parking and other bicycle facilities in existing and potential high demand locations within the City, such as educational institutions, parks, business districts, transit stops, retail, commercial and employment centers.

A5.1 ***Improved Transit Service***
Work with OCTA to improve the coverage of transit service in Fullerton, by providing transit routes that more directly serve residential neighborhoods and enhancing regional transit connections in Fullerton through additional routes and increased service frequency.

A5.2 ***Signal Coordination***
Collaborate with Caltrans, OCTA, and neighboring cities to achieve multi-jurisdictional traffic signal coordination across city boundaries.

A5.3 ***Rail and Rapid Transit***
Participate in the planning efforts for regional and inter-state rail and rapid transit projects to represent the interests of the City.

A5.4 ***Alternative Parking Solutions***
Evaluate and revise the Zoning Ordinance related to parking requirements for individual projects to consider the urban context and proximity to multi-modal transportation infrastructure; consider Parking Management Districts for shared parking and other opportunities to reduce the parking requirements of individual projects.

A5.5 ***Dedications for Right-of-Way***
Establish by local ordinance the ability to require a dedication or irrevocable offer of dedication of real property for streets, alleys, and additional land as may be necessary to provide bicycle paths and/or local transit facilities, consistent with the provisions of the Subdivision Map Act or as otherwise allowed under State law.

A6.1 ***Development of Multi-Tiered Network of Bikeways***
Work with the Bicycle Users Subcommittee and the community to further develop the current bicycle network into a multi-tiered network of on- and off-street bicycle travel options.

A6.3 ***Collaboration with North Orange County Cities and Agencies***
Collaborate with North Orange County cities and other agencies as appropriate on short- and long-term strategies to integrate bicycle routes and networks across jurisdictional boundaries.

Mitigation Measures:

AQ-9 Proposed developments within the City of Fullerton shall include, to the extent feasible, as a part of construction and building management contracts, the following measures:

- All residential and commercial structures shall be required to incorporate high efficiency/low polluting heating, air conditioning, appliances, and water heaters.
- All residential and commercial structures shall be required to incorporate thermal pane windows and weather-stripping.
- All residential, commercial, and industrial structures shall be required to incorporate light colored roofing materials.

AQ-10 Future development projects within the City that include employers with 250 employees or more shall comply with SCAQMD Rule 2202, which requires the implementation of employee commute reduction programs.

AQ-11 To identify potential implementing development project-specific impacts resulting from operational activities, proposed development projects that are subject to CEQA shall have long-term operational-related air quality impacts analyzed using the latest available air emissions model, or other analytical method determined in conjunction with the SCAQMD (only for projects that are subject to a discretionary action and that require a General Plan amendment and/or Zone Change). The results of the operational-related air quality impacts analysis shall be included in the development project's CEQA documentation. To address potential localized impacts, the air quality analysis may incorporate SCAQMD's Localized Significance Threshold analysis, CO Hot Spot analysis or other appropriate analyses as determined in conjunction with SCAQMD. If such analyses identify potentially significant regional or local air quality impacts, the City shall require the incorporation of appropriate mitigation to reduce such impacts.

AQ-12 Signage shall be posted at loading docks and all entrances to loading areas prohibiting all on-site truck idling in excess of five minutes.

AQ-13 New sensitive land uses such as a hospital, medical offices, day care facilities, and fire stations to be located within the City of Fullerton shall not be located closer than 500 feet to the I-5, SR-91, or SR-57 freeways, pursuant to the recommendations set forth in the CARB *Air Quality and Land Use Handbook*. If new sensitive land uses cannot meet this setback, they shall be designed and conditioned to include mechanical ventilation systems with fresh air filtration. For operable windows or other sources of ambient air filtration, installation of a central heating, ventilation, and air conditioning (HVAC) system that includes high efficiency filters for particulates (Minimum Efficiency Reporting Value [MERV] 13 or higher) or other similarly effective systems shall be required.

AQ-14 New sensitive land uses such as residential, a hospital, medical offices, day care facilities, and fire stations shall not be located closer than 1,000 feet from any existing or proposed distribution center/warehouse facility which generates a minimum of 100 truck trips per day, or 40 truck trips with transport refrigeration units (TRUs) per day, or TRU operations exceeding 300 hours per week, pursuant to the recommendations set forth in the CARB *Air Quality and Land Use Handbook*. If new sensitive land uses cannot meet this setback, they shall be designed and conditioned to include mechanical ventilation systems with fresh air filtration. For operable windows or other sources of ambient air filtration, installation of a central heating, ventilation, and air conditioning (HVAC) system that includes high efficiency filters for particulates (Minimum Efficiency Reporting Value [MERV] 13 or higher) or other similarly effective systems shall be required.

Level of Significance After Mitigation: Significant Unavoidable Impact.

ODOR IMPACTS

- **IMPLEMENTATION OF THE FULLERTON PLAN COULD RESULT IN AN OVERALL INCREASE IN ODORS WITHIN THE CITY.**

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 (*Municipal Code* Section 5.14.050) and Orange County Health Department regulations, and be emptied on a regular basis, before potentially substantial odors have developed. The Fullerton Plan accommodates the development of residential, commercial, industrial, public/religious, and open space/parks/recreation uses. These uses are not identified by the SCAQMD as significant odor generators. Additionally, the policies included as part of The Fullerton Plan (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 increased transit behavior. Consequently, implementation of The Fullerton Plan 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.

Proposed General Plan Update Policies and Actions: The Fullerton Plan does not include policies or actions regarding odors.

Mitigation Measures: No mitigation measures are required.

Level of Significance After Mitigation: Not Applicable.

CARBON MONOXIDE HOTSPOTS

- **IMPLEMENTATION OF THE FULLERTON PLAN 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.**

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 Basin 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 Fullerton Plan. Additionally, The Fullerton Plan Built Environment Element (Mobility Chapter) Action A5.2 would ensure local and regional signal coordination which would optimize traffic flow through the City and reduce traffic queuing. Therefore, impacts would be less than significant in this regard.

Proposed General Plan Update Policies and Actions:

A5.2 ***Signal Coordination***
Collaborate with Caltrans, OCTA, and neighboring cities to achieve multi-jurisdictional traffic signal coordination across city boundaries.

Mitigation Measures: No mitigation measures beyond the goals and policies identified in The Fullerton Plan are required.

Level of Significance After Mitigation: Less Than Significant Impact.

CONSISTENCY WITH REGIONAL PLANS

- **THE FULLERTON PLAN 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.**

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 Fullerton Plan would reduce the significance of air quality impacts.

The Fullerton Plan 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 Fullerton Plan 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 Fullerton Plan. Additionally, The Fullerton Plan includes goals and policies within the Natural Environment and Built Environment Elements that would reduce air quality impacts of future developments within the City. Development projects occurring under The Fullerton Plan would be required to comply with The Fullerton Plan 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. Fullerton Plan does not propose any land use changes, with the exception of minor changes to existing parcels, which are necessary to

resolve inconsistencies between the current General Plan land use designation and current zoning district. Although the City's projected population, housing, and employment growth would be greater than SCAG what was projected by SCAG, project implementation would not conflict with SCAG's forecasts. The Fullerton Plan accounts for the population growth and establishes Goals and Policies to reduce potential growth-related impacts. As described in Section 5.2, Population, Housing, and Employment, these impacts would be less than significant. As a result the proposed project would not change the land uses that the 2007 AQMP was based upon, and The Fullerton Plan would be consistent with the 2007 AQMP assumptions. Therefore, impacts are considered to be less than significant. It is noted that the next AQMP will also account for any updated growth forecasts for the City. 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 Fullerton Plan's consistency with these regional plans. The Fullerton Plan includes relevant goals and policies that reflect and respond to SCAG's regional goals. As indicated in Table 5.1-5 of Section 5.1, The Fullerton Plan would be consistent with SCAG's regional planning efforts of the RTP. The Fullerton Plan includes several goals and policies within the Natural Environment and Built Environment Elements pertaining to regional mobility, reduced vehicle trips, energy efficiency, smart growth and land use patterns, 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 Fullerton Plan would be consistent with regional goals and principles and impacts in this regard are less than significant.

Proposed General Plan Update Policies and Actions: Refer to the Policies and Actions cited above.

Mitigation Measures: No mitigation measures beyond the goals and policies identified in The Fullerton Plan are required.

Level of Significance After Mitigation: Less Than Significant Impact.

5.5.6 CUMULATIVE IMPACTS

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

Impact Analysis: The geographic context for air quality impacts for the City of Fullerton is SRA 16 (North Orange County) 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 Fullerton Plan 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 Fullerton Plan goals and policies. Construction of future development projects under The Fullerton Plan would be required to comply with the applicable SCAQMD rules and regulations as well as other emissions control measures; refer to Mitigation Measure AQ-1 through AQ-8. 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 and 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_3 and PM_{10}, and $PM_{2.5}$ standards in the Basin. An emissions inventory for the City in year 2030 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 2030. With regard to the contribution of The Fullerton Plan, 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 Fullerton Plan could be cumulatively considerable despite the implementation of Mitigation Measures AQ-9 through AQ-14. 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 Fullerton Plan would be substantially below National and State standards. These future predictions consider cumulative development that would occur in SRA 16 (North Orange County). 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 Fullerton would include residential and commercial uses, and could include restaurants. Odors resulting from the construction of projects that would occur with implementation of The Fullerton Plan 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* Section 5.14.050), and restaurants are typically required to have ventilation systems that avoid substantial adverse odor impacts. Cumulative odor impacts would thus be less than significant.

Proposed General Plan Update Policies and Actions: Refer to the Policies and Actions cited above.

Mitigation Measures: No mitigation measures beyond the goals and policies identified in The Fullerton Plan 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.

5.5.7 SIGNIFICANT UNAVOIDABLE IMPACTS

The Fullerton Plan 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 despite the implementation of Mitigation Measures AQ-1 through AQ-8.

- ***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 despite the implementation of Mitigation Measures AQ-9 through AQ-14.

- ***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 Fullerton Plan goals and policies. Emissions from operations of future development associated with implementation of The Fullerton Plan 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 Fullerton Plan would be less than significant by adherence to and/or compliance with goals, policies, and actions in The Fullerton Plan.

If the City of Fullerton approves The Fullerton Plan, 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.

5.5.8 SOURCES CITED

California Air Resources Board, *Aerometric Data Analysis and Measurement System (ADAM), summaries from 2008 to 2010*, http://www.arb.ca.gov/adam.

City of Fullerton, *City of Fullerton General Plan,* 1997.

City of Fullerton Municipal Code.

RBF Consulting, *The Fullerton Plan Draft*, August 2011.

South Coast Air Quality Management District, *2007 Air Quality Management Plan, South Coast Air Basin,* 2007.

South Coast Air Quality Management District, *California Emissions Estimator Model*, 2011.

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

South Coast Air Quality Management District, *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*, May 6, 2005.

South Coast Air Quality Management District, *Multiple Air Toxics Exposure Study in the South Coast Air Basin, MATES-III*, July 2008.

Southern California Association of Governments, *Regional Comprehensive Plan and Guide: Helping Communities Achieve a Sustainable Future*, adopted 2008.

Southern California Association of Governments, *2008 Regional Transportation Plan: Making the Connections*, adopted May 2008.

Southern California Association of Governments, *2011 Federal Transportation Improvement Program*, adopted 2010.

The Weather Channel, *Average Weather for Fullerton, CA*, Accessed July 27, 2011.

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