



5.3 AIR QUALITY

This section evaluates potential short-term and long-term air quality impacts resulting from buildout of the proposed General Plan Update. Information used to prepare this section is based upon the *Air Quality & Greenhouse Gas Impact Analysis for City of Yorba Linda General Plan Update* (May 2016, Ambient Air Quality and Noise Consulting). The report is summarized in this section and included as Appendix D to this Program EIR.

5.3.1 Regulatory Setting

The federal and State governments have been empowered by Federal Clean Air Act (FCAA) and the California Clean Air Act (CCAA), respectively, to regulate the emission of airborne pollutants and have established ambient air quality standards for the protection of public health. The U.S. Environmental Protection Agency (U.S. EPA) is the federal agency designated to administer air quality regulation, while the California Air Resources Board (CARB) is the State equivalent in California. Local control in air quality management is provided by CARB through county-level or regional (multi-county) air pollution control districts (APCD). The South Coast Air Quality Management District (SCAQMD) is the APCD for all of Orange County and the urban portions of Los Angeles, Riverside, and San Bernardino Counties. The CARB establishes air quality standards and is responsible for control of mobile emission sources, while the local APCDs are responsible for enforcing standards and regulating stationary sources.

Federal

Federal Clean Air Act

Under the 1970 FCCA, as amended, the U.S. EPA is responsible for establishing and enforcing the National Ambient Air Quality Standards (NAAQS) for criteria pollutants. Two types of NAAQS have been established: primary standards which protect public health, and secondary standards which protect public welfare from non-health-related adverse effects, such as visibility restrictions. The standards are identified in **Table 5.3-1, Summary of Ambient Air Quality Standards and Attainment Designations**.

As part of its enforcement responsibilities, the U.S. EPA requires each state with federal nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain and maintain federal standards. The SIP must integrate federal, State, and local plan components and regulations to identify specific measures to reduce pollution by using a combination of performance standards and market-based programs within the SIP-identified timeframe.

Toxic Substances Control Act

The Toxic Substances Control Act first authorized the U.S. EPA to regulate asbestos in schools and public and commercial buildings under Title II of the Toxic Substances Control Act, which is also known as the Asbestos Hazard Emergency Response Act (AHERA). AHERA requires Local Education Agencies to inspect schools for asbestos-containing materials (ACMs) and to prepare management plans to reduce the asbestos hazard. The Act also established a program for the training and accreditation of individuals performing certain types of asbestos work.



Table 5.3-1 Summary of Ambient Air Quality Standards and Attainment Designations					
Pollutant	Averaging Time	California Standards		National Standards	
		Concentration	Attainment Status	Primary	Attainment Status
Ozone (O ₃)	1-hour	0.09 ppm	Non-Attainment	–	Non-Attainment
	8-hour	0.070 ppm		0.070 ppm	
Particulate Matter (PM ₁₀)	AAM	20 µg/m ³	Non-Attainment	–	Attainment/Maintenance
	24-hour	50 µg/m ³		150 µg/m ³	
Fine Particulate Matter (PM _{2.5})	AAM	12 µg/m ³	Non-Attainment	12 µg/m ³	Non-Attainment
	24-hour	No Standard		35 µg/m ³	
Carbon Monoxide (CO)	1-hour	20 ppm	Attainment	35 ppm	Attainment/Maintenance
	8-hour	9 ppm		9 ppm	
Nitrogen Dioxide (NO ₂)	AAM	0.030 ppm	Attainment	0.053 ppm	Unclassified/Attainment
	1-hour	0.18 ppm		0.100 ppb ^b	
Sulfur Dioxide (SO ₂)	AAM	–	Attainment	0.03 ppm	Unclassified/Attainment
	24-hour	0.04 ppm		0.14 ppm	
	3-hour	–		–	
	1-hour	0.25 ppm		75 ppb	
Lead	30-day Average	1.5 µg/m ³	Attainment	–	Non-Attainment (Partial)
	Calendar Quarter	–		1.5 µg/m ³	
	Rolling 3-Month Average	–		0.15 µg/m ³	
Sulfates	24-hour	25 µg/m ³	Attainment	No Federal Standards	
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m ³)	Unclassified		
Vinyl Chloride	24-hour	0.01 ppm (26 µg/m ³)	Attainment		
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/km-visibility ≥ 10 miles (0.07 per km - ≥30 miles for Lake Tahoe).	Unclassified		

“–”: No Standard; ppm: parts per million; µg/m³: micrograms per cubic meter; mg/m³: milligrams per cubic meter.
a. No federal 1-hour standard.
b. To attain this standard, the 3-year average of the 98th percentile daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010).

National Emission Standards for Hazardous Air Pollutants

Pursuant to the FCAA of 1970, the U.S. EPA established the National Emission Standards for Hazardous Air Pollutants (NESHAPs). These are technology-based source-specific regulations that limit allowable



emissions of HAPs. Among these sources include ACMs. NESHAPs include requirements pertaining to the inspection, notification, handling, and disposal of ACMs associated with the demolition and renovation of structures.

State of California

California Clean Air Act

The California Air Resources Board (CARB) is the State agency responsible for the coordination and oversight of federal, State, and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA) of 1988. In this capacity, CARB conducts research; sets the California Ambient Air Quality Standards (CAAQS) (Table 5.3-1); compiles emission inventories; develops suggested control measures; provides oversight of local programs; and prepares the SIP. CARB establishes emissions standards for motor vehicles sold in California, consumer products (e.g., hair spray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to reduce vehicular emissions of harmful pollutants. The emission standards established for motor vehicles differ depending on various factors including the model year, and the type of vehicle, fuel and engine used.

For regions that do not attain the CAAQS, CARB requires the air districts to prepare plans for attaining the standards. These plans are then integrated into the State SIP. The CCAA specifies that districts focus particular attention on reducing the emissions from transportation and area-wide emission sources. Each district plan is required to either (1) achieve a five percent annual reduction, averaged over consecutive three-year periods, in districtwide emissions of each non-attainment pollutant or its precursors; or (2) to provide for implementation of all feasible measures to reduce emissions.

Assembly Bill (AB) 1807 and AB 2588 - Toxic Air Contaminants

In California, toxic air contaminants (TACs) are regulated primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics Hot Spots Information and Assessment Act of 1987). The Tanner Air Toxics Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB designates a substance as a TAC. Existing sources of TACs that are subject to the Air Toxics Hot Spots Information and Assessment Act are required to: prepare a toxic emissions inventory; prepare a risk assessment if emissions are significant; notify the public of significant risk levels; and prepare and implement risk reduction measures. The SCAQMD requires a comprehensive health risk assessment for facilities that are classified in the significant-risk category, pursuant to AB 2588.

The CARB published an informational guide entitled: *Air Quality and Land Use Handbook: A Community Health Perspective* (Handbook) in 2005 to provide information to aid local jurisdictions in addressing issues and concerns related to the placement of sensitive land uses near major sources of air pollution. The Handbook includes recommended separation distances for various land uses that are based on relatively conservative estimations of emissions based on source-specific information. These recommendations are not site specific and should not be interpreted as defined “buffer zones”. It is also important to note that the recommendations of the Handbook are advisory and need to be balanced with other State and local policies. Depending on site and project-specific conditions, an assessment of potential increases in exposure to TACs may be warranted for proposed development projects located within the distances identified.



In-Use Off-Road Diesel Vehicle Regulation

On July 26, 2007, the CARB adopted a regulation to reduce diesel particulate matter (DPM) and NO_x emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. The regulation applies to self-propelled diesel-fueled vehicles that cannot be registered and licensed to drive on-road, as well as two-engine vehicles that drive on road, with the limited exception of two-engine sweepers. Examples include loaders, crawler tractors, skid steers, backhoes, forklifts, airport ground support equipment, water well drilling rigs, and two-engine cranes. Such vehicles are used in construction, mining, and industrial operations. The regulation does not apply to stationary equipment or portable equipment such as generators. The off-road vehicle regulation, establishes emissions performance requirements, establishes reporting, disclosure, and labeling requirements for off-road vehicles, and limits unnecessary idling.

Regional and Local

South Coast Air Quality Management District

The South Coast Air Quality Management District (SCAQMD) is the agency principally responsible for comprehensive air pollution control in the South Coast Air Basin (SCAB) which includes all of Orange County and the urbanized portions of Los Angeles, Riverside, and San Bernardino Counties. Specifically, the SCAQMD is responsible for monitoring air quality and planning, implementing, and enforcing programs designed to attain and maintain State and federal ambient air quality standards in the district. Programs developed include air quality rules and regulations that regulate stationary source emissions, including area and point sources and certain mobile source emissions. The SCAQMD is also responsible for establishing permitting requirements and issuing permits for stationary sources and ensuring that new, modified, or relocated stationary sources do not create net emissions increases. The SCAQMD enforces air quality rules and regulations through a variety of means, including inspections, educational and training programs, and fines.

The SCAQMD has responded to the requirement to maintain air quality standards by preparing a sequence of Air Quality Management Plans (AQMPs), with input from the Southern California Association of Governments (SCAG) and CARB. The AQMP is a comprehensive plan that includes control strategies for stationary and area sources, as well as for on-road and off-road mobile sources. SCAG has the primary responsibility for providing future growth projections and the development and implementation of transportation control measures. CARB in coordination with federal agencies provides the control element for mobile sources.

The 2012 AQMP was adopted by the SCAQMD Governing Board on December 7, 2012. The purpose of the AQMP is to set forth a comprehensive and integrated program that will lead the SCAB into compliance with the federal 24-hour PM_{2.5} air quality standard, and to provide an update to the SCAB's commitments towards meeting the federal 8-hour ozone standards. The AQMP incorporates scientific and technological information and planning assumptions, including the *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS) and updated emission inventory methodologies for various source categories. SCAQMD staff is currently in the process of developing the 2016 AQMP.

Land Use Planning Guidance. The SCAQMD has prepared the *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning* (May 2005). This document serves as a tool to assist local governments in the development of General Plans and other planning decisions that affect air quality. The guidance contained in this document is intended to help to achieve ambient air quality



standards, reduce public exposure to source-specific air pollution, and to lower health risk associated with cumulative air pollution impacts.

2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)

Southern California Association of Governments (SCAG) is the regional planning agency for Orange, Los Angeles, Ventura, Riverside, San Bernardino, and Imperial Counties. Under federal law, SCAG is designated as a Metropolitan Planning Organization (MPO) and under State law as a Regional Transportation Planning Agency and a Council of Governments. The RTP is a long-range transportation plan that provides a vision for regional transportation investments over a period of 20 years or more. The SCS is a new element of the RTP that demonstrates the integration of land use, transportation strategies, and transportation investments within the Plan. This new requirement was put in place by the passage of Senate Bill (SB) 375, with the goal of ensuring that the SCAG region can meet its regional greenhouse gas (GHG) emissions reduction targets set by the CARB. The SCS exceeds the targets issued by CARB (8% reduction by 2020 and 13% reduction by 2035), resulting in a 9 percent reduction by 2020 and 16 percent by 2035. SCAG is also responsible under the FCAA for determining federal air quality conformity of projects, plans, and programs within the SCAQMD.

City of Yorba Linda General Plan

The Yorba Linda General Plan includes various goals and policies that are intended to help improve local and regional air quality. These policies largely relate to growth management and include efforts to reduce emissions associated with increased vehicle use, energy use, and operational emissions associated with stationary sources. Policies are also included to promote mixed use development and improved coordination between the City and other jurisdictions and agencies within the region to achieve regional air quality attainment planning objectives.

Housing Element

The Housing Element provides a comprehensive assessment of the current and projected housing needs of all economic segments of the community. The 2014-2021 Housing Element was adopted on October 15, 2013 consistent with State law. The Housing Element incorporates numerous policies that would help to reduce local and regional air quality impacts associated with future development, including measures to help promote energy and water conservation, waste reduction, and conservation of open space. The Housing Element also establishes a “Sustainability and Green Building Program.”

5.3.2 Environmental Setting

Geography

The Planning Area is located in the SCAB which is an approximate 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 SCAB includes Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Gorgonio Pass area of Riverside County. Terrain and geographical location (i.e., a coastal plain with connecting broad valleys and low hills) determine its distinctive climate.



Climate

The regional climate significantly influences the air quality in the SCAB. Temperature, wind, humidity, precipitation and even the amount of sunshine influence the quality of the air. Within the SCAB, annual average temperatures, in degrees Fahrenheit (F), generally range from the low to mid 60s. January is the coldest month throughout the SCAB, with average minimum temperatures of 47 degrees F in downtown Los Angeles and 36 degrees F in San Bernardino. All portions of the SCAB have recorded maximum temperatures above 100 degrees F. The annual average relative humidity within SCAB generally ranges from 71 percent along the coast to 59 percent inland. More than 90 percent of the SCAB's rainfall occurs between November and April. Monthly and yearly rainfall totals are extremely variable. On average, annual rainfall varies from approximately 9 inches in Riverside to 14 inches in downtown Los Angeles. The importance of wind to air pollution is considerable. The direction and speed of the wind determines the horizontal dispersion and transport of air pollutants. During the late autumn to early spring rainy season, the SCAB is subject to wind flows associated with traveling storms moving through the region from the northwest.

In the Planning Area, average temperatures generally range from the low 40s during winter months to the high 80s during the summer months. The warmest month of the year is August with an average maximum temperature of 88 degrees F, while the coldest month of the year is January with an average minimum temperature of 42 degrees F. The annual average precipitation in Yorba Linda is 14.4 inches. The highest rainfall generally occurs between November and April.

Temperature Inversions

Under normal meteorological conditions, the temperature of the atmosphere decreases with increased altitude. However, when the temperature of the atmosphere increases with altitude, the phenomenon is termed an inversion. These inversions can restrict the vertical mixing of air and pollutants.

In the SCAB, two distinct temperature inversion types commonly occur. The first type of inversion typically occurs during the warmer summer months when high-pressure descending (subsiding) air is undercut by a shallow layer of cool marine air. The boundary between these two layers of air is a persistent marine subsidence/inversion. The mixing height for this inversion structure is normally situated 1,000 to 1,500 feet above mean sea level. The second inversion type primarily occurs in the winter, when nights are longer and onshore flow is weakest. This inversion occurs in conjunction with the nighttime drainage of cool air off the surrounding mountains followed by the seaward drift of this pool of cool air. In general, inversions in the SCAB are lower before sunrise than during the daylight hours. As the day progresses, the mixing height normally increases as the warming of the ground heats the surface air layer. The breakup of inversion layers frequently occurs during mid- to late-afternoon on hot summer days. Winter inversions usually break up by mid-morning.

Ambient Air Quality

Air pollutant concentrations are measured at several monitoring stations in the SCAB. The Anaheim-Pampas Lane monitoring station is the closest representative monitoring station to the Planning Area with sufficient data to meet U.S. EPA and/or CARB criteria for quality assurance. The Anaheim-Pampas Lane monitoring station monitors ambient concentrations of ozone, PM₁₀, and PM_{2.5}, and NO₂. Ambient monitoring data were obtained for the last three years of available measurement data (i.e., 2013 through 2015) and are summarized in **Table 5.3-2, Summary of Ambient Air Quality Monitoring Data**. As depicted,



the State and federal ozone and PM_{2.5}, and State PM₁₀ standards were exceeded on numerous occasions during the past three years.

Table 5.3-2 Summary of Ambient Air Quality Monitoring Data			
Pollutant	Monitoring Year		
	2013	2014	2015
Ozone			
Maximum concentration (1-hour/8-hour average)	0.084/0.070	0.111/0.081	0.100/0.080
Number of days State/national 1-hour standard exceeded	0/0	2/0	1/0
Number of days State/national 8-hour standard exceeded	0/0	4/6	1/1
Nitrogen Dioxide (NO₂)			
Maximum concentration (1-hour average)	81.8	75.8	59.1
Annual average	NA	NA	14
Number of days State/national standard exceeded	0/0	0/0	0/0
Suspended Particulate Matter (PM_{2.5})			
Maximum concentration (national/State)	37.8/47.7	56.2/56.2	45.8/53.8
Annual Average (national/State)	10.0/10.1	10.5/16.1	NA/NA
Number of days national standard exceeded (measured/calculated)	1/1.1	6/6.5	3/NA
Suspended Particulate Matter (PM₁₀)			
Maximum concentration (national/State)	77.0/77.0	85.0/84.0	59.0/59.0
Number of days State standard exceeded (measured/calculated)	1/5.7	2/12.0	1/NA
Number of days national standard exceeded (measured/calculated)	0/0	0/0	0/NA
ppm = parts per million by volume, µg/m ³ = micrograms per cubic meter, NA=Not Available 1. Based on ambient concentrations obtained from the Anaheim-Pampas Lane Monitoring Station. 2. Measured days are those days that an actual measurement was greater than the standard. Calculated days are estimated days that a measurement would have exceeded the standard had measurements been collected every day.			

Air Pollutants of Concern

Criteria Air Pollutants

For the protection of public health and welfare, the FCAA required that the U.S. EPA establish NAAQS for criteria pollutants. These standards define the maximum amount of an air pollutant that can be present in ambient air. An ambient air quality standard is generally specified as a concentration averaged over a specific time period, such as one hour, eight hours, 24 hours, or one year. The different averaging times and concentrations are meant to protect against different exposure effects. Standards established for the protection of human health are referred to as primary standards; whereas, standards established for the prevention of environmental and property damage are called secondary standards. The FCAA allows states to adopt additional or more health-protective standards. The following provides a summary discussion of the criteria air pollutants of primary concern.

Ozone (O₃) is a reactive gas consisting of three atoms of oxygen. In the troposphere, it is a product of the photochemical process involving the sun's energy. It is a secondary pollutant that is formed when NO_x



and volatile organic compounds (VOC), also referred to as reactive organic gases (ROG) react in the presence of sunlight. Ozone at the earth's surface causes numerous adverse health effects and is a criteria pollutant. It is a major component of smog. In the stratosphere, ozone exists naturally and shields Earth from harmful incoming ultraviolet radiation.

High concentrations of ground level ozone can adversely affect the human respiratory system and aggravate cardiovascular disease and many respiratory ailments. Ozone also damages natural ecosystems such as forests and foothill communities, agricultural crops, and some man-made materials, such as rubber, paint, and plastics.

Reactive Organic Gas (ROG) is a reactive chemical gas, composed of hydrocarbon compounds that may contribute to the formation of smog by their involvement in atmospheric chemical reactions. No separate health standards exist for ROG as a group. Because some compounds that make up ROG are also toxic, like carcinogen benzene, they are often evaluated as part of a toxic risk assessment. Total Organic Gases includes all of the ROGs, in addition to low reactivity organic compounds like methane and acetone. ROGs and VOC are subsets of Toxic Organic Gases.

Volatile Organic Compounds (VOC) are hydrocarbon compounds that exist in the ambient air. VOCs contribute to the formation of smog and may also be toxic. VOC emissions are a major precursor to the formation of ozone. VOCs often have an odor; examples include gasoline, alcohol, and the solvents used in paints.

Oxides of Nitrogen (NO_x) are a family of gaseous nitrogen compounds and is a precursor to the formation of ozone and particulate matter. The major component of NO_x, nitrogen dioxide (NO₂), is a reddish-brown gas that is toxic at high concentrations. NO_x results primarily from the combustion of fossil fuels under high temperature and pressure. On-road and off-road motor vehicles and fuel combustion are the major sources of this air pollutant.

Particulate Matter (PM), also known as particle pollution, is a complex mixture of extremely small particles and liquid droplets. Particle pollution is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. The size of particles is directly linked to its potential for causing health problems. The U.S. EPA is concerned about particles that are 10 micrometers in diameter or smaller because those are the particles that generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects. The U.S. EPA groups particle pollution into three categories based on their size and where they are deposited:

- "Inhalable coarse particles (PM_{2.5} - PM₁₀)," such as those found near roadways and dusty industries, are between 2.5 and 10 micrometers in diameter. PM_{2.5-10} is deposited in the thoracic region of the lungs.
- "Fine particles (PM_{2.5})," such as those found in smoke and haze, are 2.5 micrometers in diameter and smaller. These particles can be directly emitted from sources such as forest fires, or they can form when gases emitted from power plants, industries and automobiles react in the air. They penetrate deeply into the thoracic and alveolar regions of the lungs.
- "Ultrafine particles (UFP)," are very small particles less than 0.1 micrometer in diameter largely resulting from the combustion of fossil fuels, meat, wood and other hydrocarbons. While UFP



mass is a small portion of $PM_{2.5}$, its high surface area, deep lung penetration, and transfer into the bloodstream can result in disproportionate health impacts relative to their mass.

PM_{10} , $PM_{2.5}$, and UFP include primary pollutants (emitted directly to the atmosphere) as well as secondary pollutants (formed in the atmosphere by chemical reactions among precursors). Generally speaking, $PM_{2.5}$ and UFP are emitted by combustion sources like vehicles, power generation, industrial processes, and wood burning, while PM_{10} sources include these same sources plus roads and farming activities. Fugitive windblown dust and other area sources also represent a source of airborne dust.

Long-term exposures, such as those experienced by people living for many years in areas with high particle levels, have been associated with problems such as reduced lung function and the development of chronic bronchitis and even premature death. Short-term exposures to particles (hours or days) can aggravate lung disease, causing asthma attacks and also acute (short-term) bronchitis, and may also increase susceptibility to respiratory infections. In people with heart disease, short-term exposures have been linked to heart attacks and arrhythmias. Healthy children and adults have not been reported to suffer serious effects from short term exposures, although they may experience temporary minor irritation when particle levels are elevated.

Carbon Monoxide (CO) is an odorless, colorless gas that is highly toxic. It is formed by the incomplete combustion of fuels and is emitted directly into the air (unlike ozone). The main source of CO is on-road motor vehicles. Other CO sources include other mobile sources, miscellaneous processes, and fuel combustion from stationary sources. Because of the localized nature of CO, the CARB and U.S. EPA designate urban areas as CO nonattainment areas instead of the entire basin as with ozone and PM_{10} . Motor vehicles are by far the largest source of CO emissions. Emissions from motor vehicles have been declining since 1985, despite increases in vehicle miles traveled, with the introduction of new automotive emission controls and fleet turnover.

Sulfur Dioxide (SO₂) is a colorless, irritating gas with a "rotten egg" smell formed primarily by the combustion of sulfur-containing fossil fuels. However, like airborne NO_x , suspended SO_x particles contribute to the poor visibility. These SO_x particles can also combine with other pollutants to form $PM_{2.5}$. The prevalence of low-sulfur fuel use has minimized problems from this pollutant.

Lead (Pb) is a metal that is a natural constituent of air, water, and the biosphere. Lead is neither created nor destroyed in the environment, so it essentially persists forever. The health effects of lead poisoning include loss of appetite, weakness, apathy, and miscarriage. Lead can also cause lesions of the neuromuscular system, circulatory system, brain, and gastrointestinal tract. Gasoline-powered automobile engines were a major source of airborne lead through the use of leaded fuels. The use of leaded fuel has been mostly phased out, with the result that ambient concentrations of lead have dropped dramatically.

Hydrogen Sulfide (H₂S) is associated with geothermal activity, oil and gas production, refining, sewage treatment plants, and confined animal feeding operations. Hydrogen sulfide is extremely hazardous in high concentrations; especially in enclosed spaces (800 ppm can cause death). OSHA regulates workplace exposure to H₂S.



Other Pollutants

The State of California has established air quality standards for some pollutants not addressed by federal standards. The CARB has established State standards for hydrogen sulfide, sulfates, vinyl chloride, and visibility reducing particles. The following section summarizes these pollutants and provides a description of the pollutants' physical properties, health and other effects, sources, and the extent of the problems.

Sulfates (SO_4^{2-}) are the fully oxidized ionic form of sulfur. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to SO_2 during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO_2 to sulfates takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features.

The CARB sulfates standard is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in ventilator function, aggravation of asthmatic symptoms, and an increased risk of cardio-pulmonary disease. Sulfates are particularly effective in degrading visibility, and, due to the fact that they are usually acidic, can harm ecosystems and damage materials and property.

Visibility Reducing Particles: Are a mixture of suspended particulate matter consisting of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. The standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile radius nominal visual range.

Vinyl Chloride ($\text{C}_2\text{H}_3\text{Cl}$ or **VCM)** is a colorless gas that does not occur naturally. It is formed when other substances such as trichloroethane, trichloroethylene, and tetrachloro-ethylene are broken down. Vinyl chloride is used to make polyvinyl chloride which is used to make a variety of plastic products, including pipes, wire and cable coatings, and packaging materials.

Odors

Typically odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to foul odors can range from the psychological (i.e., irritation, anger, or anxiety) to the physiological, including circulatory and respiratory effects, nausea, vomiting, and headache.

The ability to detect odors varies considerably. Some individuals have the ability to smell very minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor and in fact an odor that is offensive to one person may be acceptable to another (e.g., fast food restaurant). It is important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Toxic Air Contaminants

Toxic air contaminants (TACs) are air pollutants that may cause or contribute to an increase in mortality or serious illness, or which may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air, but due to their high toxicity, they may pose a threat to public health even



at very low concentrations. Because there is no threshold level below which adverse health impacts are not expected to occur, TACs differ from criteria pollutants for which acceptable levels of exposure can be determined and for which state and federal governments have set ambient air quality standards. TACs are not criteria pollutants under either the FCAA or CCAA, and are thus not subject to federal or State standards. However, the U.S. EPA and CARB regulate Hazardous Air Pollutants (HAPs) and TACs, respectively, through statutes and regulations that generally require the use of the maximum or best available control technology (BACTs) to limit emissions. In conjunction with District rules, these federal and State statutes and regulations establish the regulatory framework for TACs. At the national levels, the U.S. EPA has established NESHAPs for HAPs. These are technology-based source-specific regulations that limit allowable emissions of HAPs.

At the State level, the CARB has authority for the regulation of emissions from motor vehicles, fuels, and consumer products, including diesel-exhaust particulate matter (DPM). DPM is the primary TACs of concern for mobile sources. Of all controlled TACs, emissions of DPM are estimated to be responsible for about 70 percent of the total ambient TAC risk. The CARB has made the reduction of the public's exposure to DPM one of its highest priorities, with an aggressive plan to require cleaner diesel fuel and cleaner diesel engines and vehicles.

Sensitive Receptors

One of the most important reasons for air quality standards is the protection of those members of the population who are most sensitive to the adverse health effects of air pollution, termed "sensitive receptors." The term "sensitive receptors" refers to specific population groups, as well as the land uses where individuals would reside for long periods. Commonly identified sensitive population groups are children, the elderly, the acutely ill, and the chronically ill. Commonly identified sensitive land uses would include facilities that house or attract children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Residential dwellings, schools, parks, playgrounds, childcare centers, convalescent homes, and hospitals are examples of sensitive land uses. Sensitive land uses within the City of Yorba Linda consist predominantly of residential land uses, schools, and community parks.

Regulatory Attainment Designations

Under the CCAA, the CARB is required to designate areas of the State as attainment, nonattainment, or unclassified with respect to applicable standards. An "attainment" designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A "nonattainment" designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An "unclassified" designation signifies that the data does not support either an attainment or nonattainment designation. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The U.S. EPA designates areas for ozone, CO, and NO₂ as "does not meet the primary standards," "cannot be classified," or "better than national standards." For SO₂, areas are designated as "does not meet the



primary standards,” “does not meet the secondary standards,” “cannot be classified,” or “better than national standards.” However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used. The U.S. EPA uses the same sub-categories for nonattainment status: serious, severe, and extreme. In 1991, U.S. EPA assigned new nonattainment designations to areas that had previously been classified as Group I, II, or III for PM₁₀ based on the likelihood that they would violate national PM₁₀ standards. All other areas are designated “unclassified.”

The SCAB is currently designated as a nonattainment area with respect to the State ozone, PM₁₀, and PM_{2.5} standards, as well as the national 8-hour ozone and PM_{2.5} standards (Table 5.3-1). With the exception of Los Angeles County, the remainder of the SCAB is designated attainment for the lead standards. The SCAB is designated attainment or unclassified for the remaining State and federal standards.

5.3.3 Significance Threshold Criteria

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

- AQ-1 Conflict with or obstruct implementation of the applicable air quality plan.
- AQ-2 Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- AQ-3 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).
- AQ-4 Expose sensitive receptors to substantial pollutant concentrations.
- AQ-5 Create objectionable odors affecting a substantial number of people.

5.3.4 Impacts and Mitigation Measures

The quantifiable thresholds shown below are currently recommended by the SCAQMD and are used to determine the significance of air quality impacts associated with implementation of the General Plan Update.

Regional Air Quality Impacts

Regional significance thresholds recommended by SCAQMD are summarized in **Table 5.3-3, SCAQMD-Recommended CEQA Significance Thresholds**. Project-generated emissions that exceed these mass emissions thresholds would be considered to have a potentially significant impact, which could interfere with regional air quality attainment plans.



Table 5.3-3 SCAQMD-Recommended CEQA Significance Thresholds		
Pollutant	Construction Emissions (lbs/day)	Operational Emissions (lbs/day)
VOC	75	55
NO _x	100	55
CO	550	550
PM ₁₀	150	150
PM _{2.5}	55	55
SO _x	150	150

Exposure to Localized Pollutant Concentrations

In addition to the mass emissions thresholds identified above, the SCAQMD has established the following threshold criteria to determine if a project has the potential to contribute to a localized exceedance of the State AAQS:

- California State 1-hour CO standard of 20.0 ppm
- California State 8-hour CO standard of 9.0 ppm
- California State 1-hour NO₂ standard of 0.25 ppm
- SCAQMD 24-hour construction PM₁₀ LST of 10.4 µg/m³
- SCAQMD 24-hour construction PM_{2.5} LST of 10.4 µg/m³
- SCAQMD 24-hour operational PM₁₀ LST of 2.5 µg/m³
- SCAQMD 24-hour operational PM_{2.5} LST of 2.5 µg/m³

The SCAQMD provides screening criteria that can be relied upon to determine if the daily emissions for proposed construction or operational activities would have a potential to exceed the Localized Significance Thresholds (LSTs). LSTs represent the maximum emissions at a project site that are not expected to cause or contribute to an exceedance of the most stringent federal or State AAQS. LSTs are based on the ambient concentrations of that pollutant within a project area and the distance to the nearest sensitive receptor. An LST analysis for construction activities is applicable to project sites of five acres or less but can be used to screen larger projects to determine whether dispersion modeling may be required. If calculated daily emissions are below the LST screening levels, a project would be considered to have a less than significant impact.

In addition to the above criteria for evaluation of localized air quality impacts, projects that would result in emissions of carcinogenic or toxic contaminants that exceed the maximum individual cancer risk of 10 in one million or a hazard index of one would be considered to have a potentially significant impact.

Short-term emissions associated with construction activities are largely dependent on the type of development proposed, area of ground disturbance, amount of buildings to be demolished, equipment required, and construction schedules. Because much of this information for specific future development projects is unknown at this time, construction-related impacts are qualitatively discussed.



Long-term operational increases in emissions of criteria air pollutants were calculated using the California Emissions Estimator Model (CalEEMod). Modeling was conducted for the proposed General Plan Update based on projected increases in land uses and trip-generation rates identified in the traffic analysis (Appendix F). Emissions modeling files are provided in Appendix A of the Air Quality and Greenhouse Gas Impact Analysis (refer to Appendix D of this Program EIR). Increased exposure of sensitive land uses to localized pollutant concentrations were qualitatively assessed.

Impact 5.3-1: Construction activities associated with future development could result in a considerable increase of criteria air pollutants and precursor pollutants for which the region is designated non-attainment. [Threshold AQ-2 and AQ-3]

Impact Analysis

Construction of future land uses would generate construction-generated emissions. Construction emissions are short term and of temporary duration, lasting only as long as activities occur but possess the potential to represent a significant air quality impact. Construction activities that typically result in short-term emissions may include, but are not limited to, demolition activities, site grading and excavation, road paving, motor vehicle exhaust associated with construction equipment and worker trips, and the movement of construction equipment, especially on unpaved surfaces. Emissions of airborne particulate matter are largely dependent on the amount of ground disturbance associated with site preparation activities.

There are no specific development proposed as a part of the General Plan Update, and thus no modeling of potential construction emissions was performed. However, future development associated with implementation of the proposed General Plan Update would be anticipated to result in an increase in short-term construction-generated emissions. Emissions associated with individual construction projects may exceed the SCAQMD's significance thresholds. Compliance with SCAQMD's rules, regulations, and mitigation measures for the control of construction-generated emissions would help to reduce this impact but not necessarily to a less than significant level. Implementation of the policies in the General Plan Update and Mitigation Measure AQ-1 would reduce short-term air quality impacts. However, emissions associated with some future development projects could potentially exceed SCAQMD-recommended significance thresholds. As a result, this impact is considered significant and unavoidable.

Proposed General Plan Update Goals and Policies

The proposed Yorba Linda General Plan Update includes the following applicable goals and policies related to air quality.

Conservation Element

Goal CN-5 – Responsible management of designated areas for petroleum and mineral extraction

Policy CN-5.6 – Ensure reclamation projects comply with State, federal, and local standards and attainment programs with respect to air quality, watersheds and basins, and erosion potential.

Land Use Element

Goal LU-3 – Land use compatibility.



Policy LU-3.1 – Consider and mitigate the impacts on surrounding land uses and infrastructure when reviewing proposals for new development.

Mitigation Measures

MM AQ-1 The City shall include a policy requiring future development projects that are subject to CEQA review and deemed to have a potentially significant construction air quality impact to provide air quality mitigation to address short-term construction emissions, as recommended by the SCAQMD. Such measures may include, but are not necessarily limited to, the following:

- 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;
- For large development projects, 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;
- Replace ground cover in disturbed areas as quickly as possible;
- 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.;
- 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; and
- Construct/build with materials that do not require painting.



Level of Significance After Mitigation

Implementation of the General Plan Update would result in significant unavoidable impacts.

Impact 5.3-2: Future development associated with implementation of the proposed General Plan Update could result in a considerable increase of criteria air pollutants and precursor pollutants for which the region is designated non-attainment. [Threshold AQ-2 and AQ-3]

Impact Analysis

While the Planning Area is predominately developed, some parcels are still vacant or under-developed and have the potential for enhanced or further development. These areas have been designated Focus Areas in the General Plan Update. Future development within these Focus Areas is summarized in **Table 5.3-4, Summary of Future Development Potential Within General Plan Update Focus Areas**. In total, future development would result in a net increase of approximately 43,137 daily trips.

Table 5.3-4 Summary of Future Development Potential within General Plan Update Focus Areas			
Focus Area	Land Use	Quantity	Daily Vehicle Trips
Cielo/Esperanza	Single-Family Detached Housing	626 DU	5,960
Civic Core	No Land Use	0	0
Community Core	Single-Family Detached Housing	7 DU	67
	Apartment	47 DU	313
	Shopping Center	125,635 SF	5,365
East Gate	Apartment	441 DU	2,933
	General Office Building	1,373,997 SF	15,155
	Shopping Center	433,894 SF	18,527
	General Light Industrial	-1,195,891 SF	-8,335
Fairlynn	No Land Use	0	0
West Gate	Single-Family Detached Housing	7 DU	67
	Shopping Center	72,244 SF	3,085
Yorba Linda Country Club	No Land Use	0	0
Total Trips:			43,137
DU: dwelling unit; SF: square feet			
Source: Kimley-Horn, <i>Traffic Impact Study for the Circulation Element Update in the City of Yorba Linda</i> , May 2016.			

Long-term operational emissions associated with future development were quantified using CalEEMod and are summarized in **Table 5.3-5, Focus Area Operational Emissions at General Plan Buildout (Year 2035)**. Modeling was conducted for both summer and winter operational conditions under future buildout year 2035 conditions. During the summer months, the proposed General Plan Update would result in combined net increases in daily emissions of approximately 380 pounds per day (lbs/day) of ROG, 144 lbs/day of NO_x, 1,393 lbs/day of CO, 5 lbs/day of SO_x, 332 lbs/day of PM₁₀, and 155 lbs/day of PM_{2.5}. Emissions during the winter months would total approximately 438 lbs/day of ROG, 151 lbs/day of NO_x, 1,407 lbs/day of CO, 4 lbs/day of SO_x, 332 lbs/day of PM₁₀, and 155 lbs/day of PM_{2.5}. Seasonal variations of operational emissions are largely due to varying emission rates for on-road vehicles.



Table 5.3-5 Focus Area Operational Emissions at General Plan Buildout (Year 2035)						
Source	Emissions (lbs/day) ¹					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Summer Conditions						
Area	387	9	660	1	87	87
Energy	1	8	5	0	1	1
Mobile	94	173	941	5	325	90
Total:	428	189	1,605	6	412	177
Removed Emissions ² :	-48	-45	-212	-1	-80	-22
Net Increase in Daily Emissions:	380	144	1,393	5	332	155
Winter Conditions						
Area	387	9	660	1	87	87
Energy	1	8	5	0	1	1
Mobile	99	181	950	4	325	90
Total:	487	198	1,614	5	412	177
Removed Emissions ² :	-49	-47	-207	-1	-80	-22
Net Increase in Daily Emissions:	438	151	1,407	4	332	155
SCAQMD Significance Thresholds ³ :	55	55	550	150	150	55
1. Totals may not sum due to rounding. 2. Emissions were quantified based on projected future development potential within the "focus areas." "Removed Emissions" are based on general light industrial uses to be removed within the Eastgate focus area. 3. SMAQMD Significance Thresholds apply to individual projects and are presented for informational purposes only.						

Emissions associated with future development would be largely generated by mobile sources. To a lesser extent, area sources, including the use of natural gas fired appliances, wood-burning fireplaces, landscape maintenance equipment, and architectural coatings would also contribute to increases in emissions. It is important to note that SMAQMD's recommended thresholds of significance were established for individual development projects. The thresholds do not apply to cumulative development or multiple projects. Furthermore, actual emissions associated with future development would vary, depending project-specific design, site conditions, and building techniques. Nonetheless, increased emissions of criteria air pollutants and ozone precursors associated with future development could potentially exceed SCAQMD's significance thresholds. In addition, emissions associated with future development may conflict with regional air quality planning efforts for the attainment and maintenance of ambient air quality standards. As a result, this impact would be considered potentially significant.

Future development under the proposed General Plan Update would be required to evaluate potential impacts to surrounding land uses, including those related to air quality. Future reclamation projects would be required to comply with applicable standards and attainment plans. In addition, various other measures have been included to promote the use of alternative means of transportation. The promotion of alternatives to automotive transportation can help to reduce local and regional mobile-source emissions. However, no policies have been proposed that specifically require future development to evaluate and mitigate potential air quality impacts to regional air quality. Implementation of Mitigation Measure AQ-2 would reduce regional air quality impacts associated with future development projects.



Implementation of the above policies and Mitigation Measure AQ-2 would help to reduce long-term air quality impacts. However, emissions associated with some future development projects could potentially exceed SCAQMD-recommended significance thresholds. As a result, this impact is considered significant and unavoidable.

Proposed General Plan Update Goals and Policies

The proposed Yorba Linda General Plan Update would include the following applicable goals and policies related to hazards.

Land Use Element

Goal LU-3 – Land use compatibility.

Policy LU-3.1 – Consider and mitigate the impacts on surrounding land uses and infrastructure when reviewing proposals for new development.

Conservation Element

Goal CN-5 – Responsible management of designated areas for petroleum and mineral extraction

Policy CN-5.6 – Ensure reclamation projects comply with State, federal, and local standards and attainment programs with respect to air quality, watersheds and basins, and erosion potential.

Circulation Element

Goal CR-3 – An efficient circulation system that utilizes transportation system management and demand management strategies.

Policy CR-3.4 - Promote employers to provide transit subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education, and preferential parking for carpools/vanpools.

Policy CR-3.6 - Promote the reduction of single occupant vehicle trips, through transportation demand management programs, such as ridesharing, telecommuting, and parking management.

Policy CR-3.7 - Ensure the circulation system promotes a wide variety of travel modes to serve the greatest cross section of residents, employees and businesses.

Policy CR-3.8 - Encourage new development to provide access to transit, bicycle, pedestrians, and other non-vehicular modes of transportation.

Mitigation Measures

MM AQ-2. Consider and mitigate the impacts on regional air quality when reviewing proposals for new development. Air quality impacts shall be evaluated in accordance with SCAQMD-recommended methodologies and procedures. Recommended mitigation measure may include, but are not limited to, the following:

- Increase building envelope energy efficiency standards in excess of Title 24 requirements.
- Install energy-efficient appliances and building mechanical systems.



- Incorporate renewable energy sources in the project design (e.g., solar photovoltaic panels).
- Install higher efficacy public street and exterior lighting.
- Increase project density.
- Incorporate design measures that promote bicycle, pedestrian, and public transportation use.
- Provide preferential parking spaces for alternatively-fueled vehicles.
- Incorporate measures that reduce water use and waste generation.
- Incorporate measures and design features that promote ride sharing and consistency with the commute-reduction requirements of SCAQMD Rule 2202.

Level of Significance After Mitigation

Implementation of the General Plan Update would result in significant unavoidable impacts.

Impact 5.3-3: Implementation of the proposed General Plan Update is not anticipated to result in new major sources of TACs. However, future development associated with implementation of the proposed General Plan Update could result in new sensitive land uses located in close proximity to existing stationary or transportation sources of TACs. [Threshold AQ-3]

Impact Analysis

The proposed General Plan Update could result in new development within the Planning Area. Subsequent land use activities associated with implementation of the proposed General Plan Update could potentially include short-term, construction sources of toxic air contaminants (TACs) and long-term, operational sources of TACs, including stationary and mobile sources.

Short-Term Exposure

Construction projects can result in short-term increases of TACs, as well as emissions of airborne fugitive dust. Emissions of DPM emitted from construction vehicles are of particular concern. Exposure to DPM can result in a greater incidence of chronic non-cancer and cancer health risks. Construction-generated emissions of fine particulate matter (PM_{2.5}) can also contribute to significant health impacts, particularly among the more sensitive population groups (i.e., children, elderly, etc.).

The amount of TACs generated during construction of individual projects would vary depending on numerous factors, including the size of the development, the type, age and number of pieces of equipment required, and hours of use. Furthermore, it is anticipated that multiple construction projects could occur simultaneously within a given year and within a given area. Without detailed construction information (i.e., construction schedules, demolition, grading, excavation, and construction requirements), construction-generated emissions of TACs for individual projects cannot be quantified at this time.

Depending on the construction activities required and distances to nearby receptors, some development projects may be large enough such that the project-level significance thresholds would be exceeded. In the event that a significant impact is identified for an individual project, SCAQMD-recommended measures would be required to reduce project-related impacts. However, even with mitigation, it may



not be possible to reduce potential emissions of TACS and all health-related risks to nearby receptors to levels below the SCAQMD thresholds. As a result, this impact would be considered potentially significant.

Long-Term Exposure

Development of future land uses may include potential stationary sources of TACs, such as diesel-powered emergency-use power generators. The type and level of TAC emissions emitted would depend upon the nature of the land use and the specific methods and operations that involve toxic air emissions. Pursuant to SCAQMD rules and regulations, including SCAQMD Rule 1401, major stationary sources having the potential to emit TACs would be required to obtain permits from the SCAQMD. Permits may be issued provided the source is constructed and operated in accordance with applicable SCAQMD rules and regulations. Given that compliance with applicable standards and regulations would be required, TAC emissions from new major stationary sources would not be anticipated to result in an increased risk to nearby sensitive receptors that would exceed applicable significance thresholds. However, some proposed projects may include the operation of non-permitted sources of TAC emissions or the location of new sensitive land uses in close proximity to existing stationary sources of emissions.

In addition to the long-term exposure to stationary emission sources, new land uses may also be exposed to emissions from mobile sources. Major roadways of potential concern with regard to mobile-source TACs typically include roadways with average daily traffic (ADT) volumes of 100,000 or more (Table 5.3-2). Within the Planning Area, SR-91 is considered the primary source of mobile-source TAC emissions. Average daily traffic volumes along SR-91 range from approximately 238,000 ADT east of Yorba Linda Boulevard/South Weir Canyon Road to approximately 260,000 ADT west of Yorba Linda Boulevard/South Weir Canyon Road. Traffic volumes along segments of Imperial Highway within the City average approximately 36,000 to 41,000 ADT. Imperial Highway has been identified by the City as a designated truck haul route.

The proposed General Plan Update would include opportunities for new development and redevelopment near SR-91 and Imperial Highway. These areas include the proposed West Gateway, Civic Core, Community Core, and Fairlynn County Island Focus Areas, which are located along Imperial Highway, as well as the East Gateway Focus Area near SR-91. Future development within these areas could result in the exposure of sensitive receptors to mobile-source TAC emissions that could potentially exceed applicable SCAQMD recommended significance thresholds. Given that future development of sensitive land uses could potentially occur proximate to stationary- and mobile-source TACs, this impact would be considered potentially significant.

Implementation of the proposed General Plan Update policies would require review of proposed land use projects to ensure consistency with SCAQMD-recommended thresholds of significance for both short-term and long-term exposure to TACs. Future development of other land uses, including commercial and residential uses, would also be reviewed to ensure compatibility with adjacent and nearby uses, including uses located along Imperial Highway and SR-91. Proposed General Plan Update policies apply predominantly to new emission sources. No policies have been identified that would reduce exposure of proposed sensitive land uses to existing sources of TACs. Implementation of Mitigation Measure AQ-3 would reduce the exposure of proposed sensitive land uses to existing sources of TACs.

With implementation of proposed General Plan Update policies and Mitigation Measure AQ-3, this impact would be less than significant.



Proposed General Plan Update Goals and Policies

Land Use Element

Goal LU-3 – Land use compatibility.

Policy LU-3.1 - Consider and mitigate the impacts on surrounding land uses and infrastructure when reviewing proposals for new development.

Policy LU-3.2 - Manage the development of industrial and other uses which use, store, produce or transport toxic materials, air emissions, and other pollutants to provide proper mitigation measures.

Policy LU-3.3 - Promote efforts to mitigate oil operations for compatibility with other types of land uses during phasing out of operations.

Goal LU-7 – Management of future large scale development opportunities.

Policy LU-7.1 - Ensure the health, safety, and welfare of current and future residents within the City's Sphere-of-Influence areas.

Mitigation Measures

MM AQ-3: Consider and mitigate the impacts on new sensitive land uses that are proposed to be constructed near major stationary or transportation sources of emissions, in accordance with SCAQMD-recommended methodologies and procedures. Sensitive land uses include, but are not limited to, residential dwellings, hospitals, daycare facilities, convalescent care facilities, and schools.

Level of Significance After Mitigation

Less than significant impact.

Impact 5.3-4: Implementation of the proposed General Plan Update would not be anticipated to result in mobile-source CO concentrations that would exceed applicable ambient air quality standards. [Threshold AQ-4]

Impact Analysis

Mobile sources, which are regulated primarily by CARB or U.S. EPA, produce the largest amount of CO emissions in the SCAB. The on-road motor vehicle control strategy is primarily based on adopted regulations, such as the 1990 ARB Low-Emission Vehicles and Clean Fuels (LEV/Clean Fuels) regulations, Phase 2 Reformulated Gasoline Program, oxygenated fuel regulation, and enhancements to the Inspection and Maintenance (I/M) or Smog Check program. The emission reductions resulting from these already adopted regulations have helped to reduce CO emissions from mobile sources. As previously noted, the SCAB is designated attainment for State and federal CO standards.

A detailed CO analysis was conducted as part of the *Federal Attainment Plan for Carbon Monoxide (CO Plan)* which was incorporated in the SCAQMD's *2003 Air Quality Management Plan*. The CO analysis was conducted for intersections in the region having the highest potential for localized concentrations of CO based on vehicle traffic volumes and intersection delay. The analysis found that the highest predicted CO



concentrations were approximately 7.7 ppm or less. Projected 8-hour CO concentrations were 6.6 ppm or less.

Based on the findings of the SCAQMD analysis and given that the intersections analyzed have a higher potential for localized CO concentrations than would occur in the Planning Area, it can be reasonably inferred that localized CO concentrations at intersections in the Planning Area would not exceed applicable standards. In addition, the General Plan Update includes policies to reduce vehicle use and congestion within the Planning Area. For instance, proposed Policy CR-3.3 would require continued adherence to the Orange County Transportation Authority's (OCTA's) Congestion Management Program and proposed Policy CR-1.4 would require arterials and intersections within the City to be maintained at Level of Service (LOS) "D" or better during peak hours. Additional policies have been included in the General Plan Update to promote the use of alternative means of transportation, ride-sharing, and use of alternatively fueled vehicles which would help to further reduce mobile-source emissions. For these reasons, this impact is considered less than significant.

Proposed General Plan Update Goals and Policies

Circulation Element

Goal CR-1 – A circulation system that meets the needs of current and future residents, businesses, and visitors of the City, has adequate capacity for projected future traffic demands at acceptable levels of service, and facilitates the safe and efficient movement of people and goods throughout the City.

Policy CR-1.4 - Maintain a Level of Service (LOS) "D" or better along all City arterials and at intersections during peak hours.

Goal CR-3 – An efficient circulation system that utilizes transportation system management and demand management strategies.

Policy CR-3.1 - Coordinate with a broad range of regional and state agencies to promote and support Transportation Demand Management (TDM) strategies and programs.

Policy CR-3.3 - Continue to adhere to OCTA's Congestion Management Program.

Policy CR-3.4 - Promote employers to provide transit subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education, and preferential parking for carpools/vanpools.

Policy CR-3.6 - Promote the reduction of single occupant vehicle trips, through transportation demand management programs, such as ridesharing, telecommuting, and parking management.

Policy CR-3.7 - Ensure the circulation system promotes a wide variety of travel modes to serve the greatest cross section of residents, employees and businesses.

Policy CR-3.8 - Encourage new development to provide access to transit, bicycle, pedestrians, and other non-vehicular modes of transportation.

Goal CR-5 – A safe, integrated, and efficient public transportation system.



Policy CR-5.1 - Continue to work with the Orange County Transportation Authority (OCTA) to promote the development of additional regional public transportation services and support facilities that will serve those who live and work in Yorba Linda.

Policy CR-5.2 - Encourage public and private shuttle services to provide greater transit choices.

Policy CR-5.3 - Coordinate with the Orange County Transportation Authority (OCTA) to investigate potential locations for future “Park and Ride” facilities.

Goal CR-6 – An efficient non-motorized transportation system.

Policy CR-6.1 - Promote the development and maintenance, where feasible, of safe and convenient non-motorized transportation and multi-purpose trails throughout the City.

Policy CR-6.2 - Provide for safe pedestrian, bicycle, and equestrian access throughout the City.

Policy CR-6.3 - Support the recommendations and action strategies of the Parks and Recreation Master Plan for multi-purpose trails, equestrian facilities, and bikeways.

Policy CR-6.4 - Promote existing and new traffic generators to incorporate facilities, such as bicycle racks and storage, into the development.

Goal CR-10 – A transportation system that promotes use by multiple modes of travel through Complete Streets.

Policy CR-10.1 - Establish model street network cross sections and design guidance that promote multimodal travel in Yorba Linda.

Policy CR-10.2 - Ensure future Complete Streets improvements are evaluated to ensure resident, bicyclist, equestrian, and pedestrian safety as a top priority.

Policy CR-10.3 - Promote incorporation of Complete Streets concepts when designing new roadways or making improvements to existing roadways in conjunction with new development.

Policy CR-10.4 - Promote and prioritize complete streets where improvements will demonstrably improve safety of sidewalk and bicycle access to schools.

Policy CR-10.5 - When developing model complete street cross sections, promote the participation of various user groups.

Policy CR-10.6 - Consider reducing the number of lanes where existing infrastructure or site conditions limits the ability to construct complete streets.

Policy CR-10.7 - Coordinate with the County of Orange for potential complete street improvements within the City’s Sphere of Influence

Policy CR-10.8 - Ensure any future improvements to the transportation system are integrated with the city’s existing and future bikeway and trail systems.

Policy CR-10.9 - Promote and prioritize complete streets where improvements to existing roadways will demonstrably improve integration with the City’s bike and trail system



Policy CR-10.10 - Incorporate design features and other techniques to improve neighborhood multimodal capabilities for pedestrians.

Policy CR-10.11- Prioritize opportunities for complete streets integration into the General Plan Focus Areas.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Less than significant impact.

Impact 5.3-5: Implementation of the proposed General Plan Update would not result in a significant overall increase in odors that would affect a substantial number of individuals. [Threshold AQ-5]

Impact Analysis

The occurrence and severity of odor impacts depends on numerous factors including the nature, frequency, and intensity of the source, wind speed and direction, and the sensitivity of the receptors. While offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and regulatory agencies. Projects with the potential to frequently expose members of the public to objectionable odors would be deemed to have a significant impact.

Implementation of the proposed General Plan Update would result in new development within the Planning Area. Residential dwellings are not considered major sources of odorous emissions and no major existing sources of odors were identified in the Planning Area that occupants of future development would be exposed to on a frequent basis. However, commercial uses may include odor-emitting sources. Emission sources commonly associated with commercial uses, such as fast food restaurants (particularly those using charbroiling equipment) and dry cleaning facilities, are not typically considered major odor emissions sources. Although such sources do not typically affect large numbers of people, sensitive receptors located within close proximity could be exposed to odors on a frequent basis. Odor-generating sources can sometimes reduce impacts by modifying operations or by installing odor-controlling equipment. The SCAQMD has adopted a nuisance rule (Rule 402) that prohibits the discharge of air contaminants that cause “injury, detriment, nuisance or annoyance” to any “considerable number of persons.” Rule 402 does not establish a quantitative threshold for odors nor does the rule define “considerable number of persons”. Continued enforcement of SCAQMD Rule 402 would help to reduce this impact. In addition, short-term construction activities would create minor and temporary emissions of odors. The predominant sources of construction-generated odors would be the operation of diesel-powered equipment, as well as the application of architectural coatings and asphalt paving. However, because odors associated with such sources would be temporary and would disperse rapidly with distance from the source, construction-generated odors would be considered less than significant. Given that the type and location of future commercial land uses have not yet been identified, the frequent exposure of sensitive receptors to nuisance odors could potentially occur. As a result this impact is considered potentially significant.



When new development that would be a source of odors is proposed near residences or sensitive receptors, future development projects would be required to evaluate and mitigate resulting impacts. Mitigation measures may include but are not limited to the use of setbacks, site design considerations, and emission controls in accordance with SCAQMD permitting requirements. Continued enforcement of SCAQMD Rule 402 would further reduce potential exposure to odorous emissions. With implementation of proposed General Plan Update policies, including proposed Policy LU-3.1, this impact would be considered less than significant.

Proposed General Plan Update Goals and Policies

Land Use Element

Goal LU-3 – Land use compatibility.

Policy LU-3.1 - Consider and mitigate the impacts on surrounding land uses and infrastructure when reviewing proposals for new development.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Less than significant impact.

Impact 5.3-6: Future development associated with implementation of the proposed General Plan Update could result in a considerable increase of criteria air pollutants and precursor pollutants for which the region is designated non-attainment. Increased emissions may conflict with applicable air quality planning efforts. [Threshold AQ-1]

Impact Analysis

According to SCAQMD's *CEQA Air Quality Handbook* (1993), a review of a project's consistency with the AQMP is required for new or amended General Plan elements. The purpose of this consistency determination is to ensure that the growth projections contained in the General Plan or General Plan Update are consistent with the projections upon which the AQMPs are based. There are two key indicators of project consistency: (1) whether the project would result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of the AAQS or interim emission reductions in the AQMP; and, (2) whether the project would exceed the growth projections identified in the AQMP.

Consistency Indicator 1

The SCAB is a nonattainment area with respect to the State ozone, PM₁₀, and PM_{2.5} standards, as well as the national 8-hour ozone and PM_{2.5} standards. As discussed in Impacts AQ-1 and AQ-2, future development associated with implementation of the proposed General Plan Update would result in increased emissions of regional criteria air pollutants and precursors that are forecasted to exceed SCAQMD project-level significance thresholds. Although these thresholds are intended to apply to individual development projects, future development associated with implementation of the proposed General Plan Update could contribute to an increase in frequency and/or severity of air quality violations,



which may delay attainment of the ambient air quality standards. As a result, the proposed General Plan Update would not be consistent with the AQMP under the first indicator.

Consistency Indicator 2

The AQMP is based, in part, on projections in population, employment, and vehicle miles traveled. These estimates are developed by SCAG based largely on projections identified in local and regional plans. As a result, local plans that result in increased population and employment that exceeds SCAG's projections would also be considered to conflict with the AQMP.

The proposed General Plan Update could result in the development of an additional 1,128 new residential units within the Focus Areas, as well as opportunities for redevelopment of existing residential uses. Future development would also result in increased employment, particularly in the southeastern portion of the Planning Area. However, in comparison to the existing General Plan projections, the proposed General Plan Update is forecasted to result in an overall increase of approximately 1,620 dwelling units and a decrease of approximately 940,068 square feet of non-residential land uses. As a result, the proposed General Plan Update would not result in an increase in vehicle miles travelled.

Although, buildout of the proposed General Plan Update would be consistent with the growth projections upon which the AQMP is based, implementation of the proposed General Plan Update would result in increased emissions of criteria air pollutants and precursors for which the region is currently designated nonattainment. This would be considered a potentially significant impact.

Implementation of the policies and Mitigation Measure AQ-2 would help to reduce long-term air quality impacts. However, emissions associated with some future development projects could potentially exceed SCAQMD-recommended significance thresholds. As a result, this impact is considered significant and unavoidable.

Proposed General Plan Update Goals and Policies

Please refer to the General Plan Update goals and policies identified in this section.

Mitigation Measures

Please refer to Mitigation Measure AQ-2.

Level of Significance After Mitigation

Implementation of the General Plan Update would result in significant unavoidable impacts.

5.3.5 Cumulative Impacts

The project is located within the SCAB, which is considered the geographic context for cumulative air quality impacts associated with implementation of the City of Yorba Linda General Plan.

Cumulative Short-Term Air Quality Impacts

As discussed in Impact 5.3-1, future development associated with the proposed General Plan Update would be anticipated to result in an increase in short-term construction-generated emissions. Emissions associated with individual construction projects may exceed the SCAQMD's significance thresholds. Compliance with SCAQMD's rules, regulations, and mitigation measures for the control of construction-



generated emissions would help to reduce this impact, but not necessarily to a less than significant level. At the project level, project's that are determined to have a potentially significant air quality impact to regional air quality would generally be considered to result in a potentially significant cumulative contribution to regional air quality impacts. As a result, this impact would be considered potentially significant.

Implementation of the General Plan Update policies and Mitigation Measure AQ-1, as discussed in Impact 5.3-1, would help to reduce short-term air quality impacts. However, emissions associated with some future development projects could potentially exceed SCAQMD-recommended significance thresholds. As a result, this impact is considered significant and unavoidable.

Cumulative Long-Term Air Quality Impacts

As discussed in Impact 5.3-1, increased emissions of criteria air pollutants associated with future development could potentially exceed SCAQMD's significance thresholds. As a result, emissions associated with future development may conflict with regional air quality planning efforts for the attainment and maintenance of ambient air quality standards. As a result, implementation of the proposed General Plan Update would be considered to have a potentially significant cumulative contribution to regional air quality impacts. As a result, this impact would be considered potentially significant.

Implementation of the General Plan Update policies and Mitigation Measure AQ-2, as discussed in Impact 5.3-2, would help to reduce long-term air quality impacts. However, emissions associated with some future development projects could potentially exceed SCAQMD-recommended significance thresholds. As a result, this impact is considered significant and unavoidable.

Cumulative Localized Air Quality Impacts

The proposed future development associated with implementation of the proposed General Plan Update is not anticipate to result in the installation of any new major stationary or mobile sources of TACs or odors, nor result in substantial contribution to localized mobile-source CO concentrations. In addition, continued compliance with SCAQMD rules and regulations would ensure that emissions from any stationary sources associated with future development would not exceed applicable air quality standards. As a result, implementation of the proposed General Plan Update would not be anticipated to result in a substantial long-term cumulative contribution to localized air pollutant concentrations that would exceed applicable standards. As a result, this is considered to be a less than significant cumulative impact.

5.3.6 Significant Unavoidable Impacts

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

Short-Term Construction Emissions. Emissions associated with some future development projects could potentially exceed SCAQMD-recommended significance thresholds. Construction-related emissions are considered significant unavoidable despite the implementation of Mitigation Measure AQ-1.

Long-Term Mobile and Stationary Source Emissions. During operations, potential development within the Planning 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 Measure AQ-2.

Conflict with Implementation of Applicable Air Quality Plan. Future development associated with implementation of the proposed General Plan Update could result in a considerable increase of criteria air pollutants and precursor pollutants for which the region is designated non-attainment. Increased emissions may conflict with applicable air quality planning efforts. Implementation of the policies and Mitigation Measure AQ-2 would help to reduce long-term air quality impacts. However, emissions associated with some future development projects could potentially exceed SCAQMD-recommended significance thresholds. As a result, this impact is considered significant and unavoidable.

Cumulative Short-Term and Long-Term Air Quality 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 General Plan Update policies and mitigation measures. Emissions from operations of future development associated with implementation of the General Plan Update would potentially exceed the SCAQMD thresholds for criteria pollutants, resulting in a significant impact.

All other impacts related to air quality associated with implementation of the General Plan Update would be less than significant with compliance with the policies in the General Plan Update.