

EXECUTIVE SUMMARY

The One Valley One Vision (OVOV) Planning Area is located within the South Coast Air Basin (SoCAB) (see **Figure 3.3-1, South Coast Air Basin**), which is bounded by the Pacific Ocean and Ventura County to the west, the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east, and San Diego County to the south. This section describes the existing air quality conditions within the SoCAB (Basin) and the OVOV Planning Area, the regulations and adopted plans that have been designed to improve regional air quality, the agencies responsible for implementing the regulations and plans, potential air quality impacts of the proposed City General Plan and County Area Plan, and an assessment of the effectiveness of the proposed goals, objectives, and policies.

The air quality analysis is a regional analysis for the OVOV Planning Area. The County and City Planning Areas together comprise the OVOV Planning Area. The County's Planning Area consists of the unincorporated land outside of the City's boundaries and the City's adopted Sphere of Influence (SOI) but within the OVOV Planning Area boundaries. The City's Planning Area consists of its incorporated boundaries and adopted SOI. The impact analysis evaluates the proposed Area Plan policies and proposed General Plan goals, objectives, and policies for their effectiveness in reducing potential air quality impacts. While the policies would reduce air pollutant emissions, the potential for impacts on air quality from implementation of the proposed Area Plan and General Plan would remain significant and unavoidable. Impacts would be considered potentially significant and mitigation measures are required. Nonetheless, after mitigation, impacts to air quality are potentially significant and unavoidable.

EXISTING CONDITIONS

Climate

The topic of climate is relevant to the topic of air quality because air quality is affected by temperature, wind, humidity, and cloud cover.

- Temperature is important to the creation of inversion layers in the SoCAB that can temporarily trap pollutants near the ground surface and prevent vertical mixing and dispersion of air pollutants.
- 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. Low mixing heights and light winds are conducive to the accumulation of air pollutants.

- High relative humidity not only restricts visibility, it contributes to the conversion of sulfur dioxide (SO₂) to sulfate (SO₄), which increases the acidity of the atmosphere, forming acid rain.
- The degree of cloud cover in reducing the amount of sunlight on the earth's surface is also important because sunlight affects photochemical reactions in the atmosphere that contribute to the production of ozone (O₃). The higher the temperature and the more direct the sunlight, the more ozone is produced.

Other conditions possibly affecting regional climate conditions include global warming. This condition is discussed in **Section 3.4, Global Climate Change**, of this environmental impact report (EIR).

Regional Climate

Southern California lies in a semi-permanent high-pressure zone of the Eastern Pacific region. Summertime weather is dominated by the movement and intensity of a semi-permanent high-pressure system that is normally centered several hundred miles southwest of California. In the spring, summer, and fall, the climate is heavily influenced by marine air; light winds in the region allow marine air to regulate temperatures and airflow during these periods. In the winter, low-pressure weather systems originating in the northern Pacific Ocean bring clouds, wind, and rain into Southern California. Santa Ana winds, caused by high pressure in the high plateau region located northeast of California, intermittently occur during winter and fall.

The climate of the SoCAB is semi-arid, and characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. Annual average temperatures throughout the region vary from the low to middle 60 degrees Fahrenheit (°F). However, due to decreased marine influence, the eastern portion of the Basin shows greater variability in average annual minimum and maximum temperatures. January is the coldest month throughout the Basin, with average minimum temperatures of 47 °F in downtown Los Angeles and 36°F in San Bernardino. All portions of the Basin have recorded maximum temperatures above 100°F.

Although the climate of the Basin can be characterized as semi-arid, the air near the land surface is quite moist on most days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of Basin climate. The marine layer is an excellent environment for the conversion of SO₂ to SO₄, especially during the spring and summer months. The annual average relative humidity is 71 percent along the coast and 59 percent inland. Because the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature. These effects decrease with distance from the coast.

In general, more than 90 percent of the Basin's rainfall occurs from November through April (see **Table 3.3-1, Average Monthly Temperatures and Precipitation for Dry Canyon Reservoir, CA, 1921–1990**). Dry Canyon Reservoir is located north of the terminus of Seco Canyon Road within the City's Plan Area. Annual average rainfall varies from approximately 9 inches in Riverside to 14 inches in downtown Los Angeles. Monthly and yearly rainfall totals are extremely variable. Summer rainfall usually consists of widely scattered thundershowers near the coast and slightly heavier shower activity in the eastern portion of the region and near the mountains. Rainy days comprise 5 to 10 percent of all days in the Basin, with the frequency being higher near the coast. The influence of rainfall on the contaminant levels in the Basin is minimal. Although some washout of pollution would be expected with winter rains, air masses that bring precipitation of consequence are very unstable and provide excellent dispersion that masks wash-out effects. Summer thunderstorm activity affects pollution only to a limited degree. If the inversion is not broken by a major weather system, high contaminant levels can persist even in areas of light showers. However, heavy clouds associated with summer storms minimize O₃ production because of reduced sunshine and cooler temperatures.

Table 3.3-1
Average Monthly Temperatures and Precipitation for
Dry Canyon Reservoir, CA, 1921–1990

Month	Mean Daily Temperatures (°F)		Mean Monthly Precipitation
	Maximum	Minimum	
January	63	36	2.54
February	65	38	2.66
March	68	39	2.34
April	72	43	1.27
May	78	47	0.32
June	85	51	0.03
July	94	56	0.02
August	94	56	0.13
September	90	53	0.28
October	81	47	0.42
November	71	42	1.46
December	65	38	2.27
Annual	77	46	13.74 (total)

Source: California Climate Data Archive, National Weather Service Cooperative Network, Dry Canyon Reservoir, California, Station 042516.

Due to the generally clear weather, about 75 percent of available sunshine is received in the Basin. Clouds absorb the remaining 25 percent. The ultraviolet portion of this abundant radiation is a key factor in photochemical reactions. On the shortest day of the year there are approximately 10 hours of possible

sunshine, and approximately 14 hours on the longest day of the year. The percentage of cloud cover during daylight hours varies from 47 percent at Los Angeles International Airport (LAX) to 35 percent at Sandberg, a mountain location. The number of clear days also increases with distance from the coast: 145 days at LAX and 186 days at Burbank.¹ The Basin typically receives much less sunshine during the first six months of the year than the last six months. This difference is attributed to the greater frequency of deep marine layers and the subsequent increase in stratus clouds during the spring and to the fact that the rainy season begins late in the year (November) and continues through early spring.

During the late autumn to early spring rainy season, the Basin is subject to wind flows associated with traveling storms moving through the region from the northwest. This period also brings 5 to 10 periods of strong, dry offshore winds (locally termed "Santa Anas") each year. During the dry season, which coincides with the months of maximum photochemical smog concentrations, the wind flow is bimodal, typified by a daytime onshore sea breeze and a nighttime offshore drainage wind. Summer wind flows are created by the pressure differences between the relatively cold ocean and the unevenly heated and cooled land surfaces that modify the general northwesterly wind circulation over Southern California. Nighttime drainage begins with the radiational cooling of the mountain slopes. Heavy, cool air descends the slopes and flows through the mountain passes and canyons as it follows the lowering terrain toward the ocean. Another characteristic wind regime in the Basin is the "Catalina Eddy," a low-level cyclonic (counterclockwise) flow centered over Santa Catalina Island, which results in an offshore flow to the southwest. On most spring and summer days, some indication of an eddy is apparent in coastal sections.

The vertical dispersion of air pollutants in the Basin is frequently restricted by the presence of a persistent temperature inversion in the atmospheric layers near the earth's surface. Normally, the temperature of the atmosphere decreases with altitude. However, when the temperature of the atmosphere increases with altitude, the phenomenon is termed an inversion. An inversion condition can exist at the surface or at any height above the ground. The bottom of the inversion, known as the mixing height, is the height of the base of the inversion.

In the Basin, there are two distinct temperature inversion structures that control vertical mixing of air pollution. During the summer, warm, 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. This boundary prevents vertical mixing that effectively acts as an impervious lid to pollutants over the entire Basin. The mixing height for this inversion structure is normally situated 1,000 to 1,500 feet above mean sea level.

¹ National Oceanic and Atmospheric Administration. *1999 Local Climatological Data, "Annual Summary with Comparative Data, Los Angeles, California, International Airport."*

A second inversion-type forms in conjunction with the drainage of cool air off the surrounding mountains at night followed by the seaward drift of this pool of cool air. The top of this layer forms a sharp boundary with the warmer air aloft and creates nocturnal radiation inversions. These inversions occur primarily in the winter when nights are longer and onshore flow is weakest. They are typically only a few hundred feet above mean sea level. These inversions effectively trap pollutants, such as oxides of nitrogen (NO_x) and carbon monoxide (CO) from vehicles, as the pool of cool air drifts seaward. Winter is, therefore, a period of high levels of primary pollutants along the coastline.

In general, inversions in the Basin 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. As this heating continues, the temperature of the surface layer approaches the temperature of the base of the inversion layer. When these temperatures become equal, the inversion layer's lower edge begins to erode and, if enough warming occurs, the layer breaks up. The surface layers are gradually mixed upward, diluting the previously trapped pollutants. The breakup of inversion layers frequently occurs during mid to late afternoon on hot summer days. Winter inversions usually break up by mid-morning.

Local Climate

The OVOV Planning Area, with the Sierra Pelona Mountains on the north, and the Santa Susana and San Gabriel Mountains to the south, east, and west, is in a transitional microclimatic zone located between two climatic types, termed "valley marginal" and "high desert." The OVOV Planning Area is situated far enough from the ocean to escape coastal damp air and fog, and also far enough from the high desert to escape extremely hot summers and harsh winters. As a result, summers are dry and warm, with daytime temperatures ranging from 70 to 100°F. Winters are temperate, semi-moist, and sunny, with daytime temperatures ranging from 40 to 65°F. Rainfall averages 13 to 24 inches a year, with the rainy season running primarily from October to April.

The topography surrounding the OVOV Planning Area has resulted in two separate wind flow patterns through the southern and northern parts of the Santa Clarita Valley. Diurnal winds in the southern part of the Valley flow northerly from the San Fernando Valley through the Newhall Pass. These daytime wind flows are oftentimes enhanced by localized up-valley or mountain pass winds, and are most dominant during summer, which is the peak smog season. Diurnal winds in the northern part of the Valley flow easterly from Ventura County through the Santa Clara River Valley. During the night, mountain, desert, and valley air cools and flows southerly and westerly back towards the ocean, producing a gentle "drainage wind." On most days, these two flow patterns meet and form a convergence zone, usually in the northern half of the Valley, during which wind speeds accelerate.

During the spring and the early part of summer, the diurnal wind patterns disperse air pollutants through and out of the Santa Clarita Valley. However, this dispersion is less pronounced during the late summer and winter months because of lighter wind speeds, except during an occasional winter storm or during strong Santa Ana wind conditions when winds flow southerly and southwesterly from the desert of the Great Basin through canyons to the northeast and Tejon Pass to the north. The Santa Ana winds are usually warm, always very dry, and often carry great amounts of dust. The winds are particularly strong in mountain passes and at the mouths of canyons. On the average, Santa Ana winds occur five to ten times per year and can last up to several days per occurrence.

Regional Air Basins

As a branch of the California Environmental Protection Agency (Cal/EPA), the California Air Resources Board (CARB) oversees air quality monitoring, planning, and control throughout California. In order to effectively do this, CARB has divided the state into regional air basins according to topographic features. The OVOV Planning Area is located within the SoCAB (see **Figure 3.3-1, South Coast Air Basin**). The South Central Coast Air Basin (SCCAB) lies to the immediate west of the OVOV Planning Area.

Wind speed and direction play an important role in the dispersion and transport of air pollutants. Ozone and inhalable particulates (particulate matter 10 microns or less in diameter [PM₁₀] and particulate matter 2.5 microns or less in diameter [PM_{2.5}]) are classified as regional pollutants because they can be transported away from the emission source before concentrations peak. Pollutant transport is known to occur between the SoCAB and the SCCAB; therefore, although the Planning Area is within the SoCAB, development in the Planning Area has the potential to affect air quality in the Oxnard Plain airshed, which is a subarea of the SCCAB.

South Coast Air Basin

The SoCAB is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD),² and is bounded by the Pacific Ocean and Ventura County to the west, the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east, and San Diego County to the south.

² Overall, the SCAQMD has jurisdiction over Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties), the Riverside County portions of the Salton Sea Air Basin (SSAB), and Mojave Desert Air Basin (MDAB), totaling approximately 10,743 square miles.

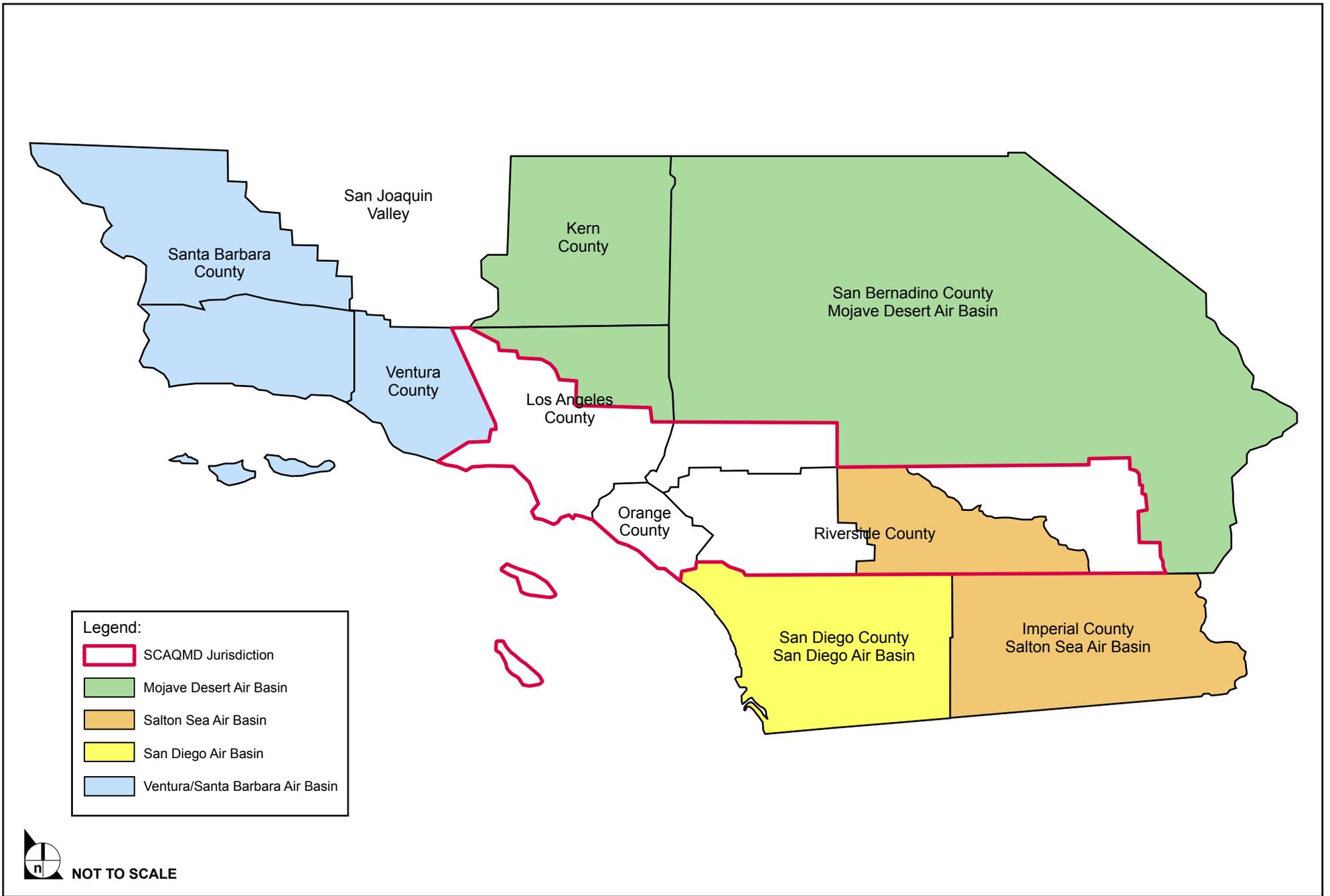


FIGURE 3.3-1

South Coast Air Basin

The SoCAB consistently generates the highest levels of smog in the United States. Smog is a general term based on the words smoke and fog, and is used to describe dense, visible air pollution. The brownish haze in the air that is characteristic of smog is formed when O₃ mixes with particulates, such as dust vehicle exhaust particulates, CO, and other compounds. Ozone, itself, is formed when combustion emissions and gaseous emissions, such as volatile organic compounds (VOC) and NO_x, undergo photochemical reactions in sunlight. In the upper atmosphere, O₃ helps to shield the earth from harmful radiation; however, in the lower atmosphere where people live, it poses health risks and damages crops, rubber, and other materials. Because of these hazards, SCAQMD monitors and regulates the emissions of VOC and NO_x, which are referred to as “ozone precursors.”

The topography and climate of the SoCAB make it vulnerable to smog formation. During the summer months, a warm air mass frequently descends over the lower, cool, moist marine air layer in the basin. The warm upper layer forms a cap over the marine layer and inhibits the air pollutants generated near the ground from dispersing upward. Light summer winds and the surrounding mountains further limit the horizontal disbursement of the pollutants. Therefore, the summertime concentration of pollutants in the basin allows the summer sunlight to generate high levels of O₃ and, therefore, smog. “Smog episode” warnings are issued when an occurrence of high concentrations of O₃ is predicted that could endanger or cause harm to the public.³ During the winter months, however, cool ground temperatures and very light winds cause extremely low inversions, allowing pollutants to disperse upwards during the late night and early morning hours. On days when no inversions occur, or when winds average 25 miles per hour or more, there are no important smog effects.

South Central Coast Air Basin

To the west of the OVOV Planning Area is the SCCAB, which is composed of Ventura, Santa Barbara, and San Luis Obispo Counties. The area of interest in this impact analysis is a subarea of the SCCAB located in Ventura County: the Oxnard Plain airshed. The Oxnard Plain experiences the mild, Mediterranean climate typical of Southern California. Average temperatures in the Oxnard area are a high of 71°F, a low of 50°F, and an overall mean temperature of 60°F. Precipitation averages 14 inches per year, with the majority of rainfall occurring from November through March. Prevailing winds along the Ventura coast and Oxnard Plain are from the west and northwest. During the fall, Santa Ana winds reverse the prevailing airflow and bring dry, hot gusts that often have greater air movement. The topography and climate of the Oxnard Plain also make it an area of significant smog potential. Temperature inversions

³ Various levels of smog episodes are reported for the pollutant ozone. The declaration of a first, second or third stage smog alert is based on the degree of health risk. When the levels of ozone exceed a certain standard, a first-stage smog alert is made indicating that the air is unhealthy for everyone. A second-stage smog alert indicates the air is hazardous and exercise should be avoided entirely.

frequently occur at approximately 800 to 1,000 feet above mean sea level in Ventura County, and are most persistent during late summer and early fall.

The primary sources of air emissions from Ventura County include power plants, oil extraction, and oil refining operations, which emit substantial amounts of ozone precursors. Transportation and agricultural activities also contribute emissions.⁴

Topography and wind patterns link the Oxnard airshed with the SoCAB. Pollutants from the SoCAB can be blown offshore and carried to the coastal cities of the airshed. Pollutants can also impact the airshed by way of an inland route from the San Fernando Valley in Los Angeles County.

The Santa Clara River Valley is also a transport corridor between Ventura County and the Santa Clarita Valley. The Ventura County Air Pollution Control District (VAPCD) monitors concentrations of O₃ and PM₁₀ in the river valley at a station located in the community of Piru.

Pollutants of Concern

The air pollutants within the SoCAB are generated by both stationary and mobile sources.

Stationary Source Emissions

Stationary sources are grouped under the following categories: fuel combustion; waste disposal; cleaning and surface coatings; petroleum production and marketing; industrial processes; solvent evaporation; and other miscellaneous processes. Stationary sources are the major contributors to PM₁₀ and PM_{2.5} emissions in the SoCAB.

One type of stationary source is known as a “point source,” which has one or more emission sources at a single facility. Point sources occur at an identified location and are usually associated with manufacturing and industry. Examples are boilers or combustion equipment that produce electricity or generate heat. Point sources are usually associated with manufacturing and industrial uses, and include sources that produce electricity or process heat, such as refinery boilers or combustion equipment, but may also include commercial establishments, like gasoline stations, dry cleaners, or charbroilers in restaurants.

The other type of stationary source is the “area source,” which is widely distributed and produces many small emissions. Area sources are widely distributed and produce many small emissions. Examples of area sources include residential and commercial water heaters, painting operations, portable generators, lawn mowers, agricultural fields, landfills, and consumer products such as barbeque lighter fluid and

⁴ California Air Resources Board, *Ozone Transport: 2001 Review*, April 2001, 49.

hair spray. Construction activities such as excavation and grading also contribute to area source emissions.

Mobile Source Emissions

Mobile sources refer to operational and evaporative emissions from on- and off-road motor vehicles, including tailpipe and evaporative emissions. On-road mobile sources include light-duty passenger vehicles; light-, medium-, and heavy-duty trucks; motorcycles; urban buses; school buses; and motor homes, all of which may be legally operated on roadways and highways. Off-road mobile sources include mobile gasoline, diesel, and “other” commercial and industrial equipment; off-road utility vehicles; construction equipment; lawn and garden equipment; farm and logging equipment; aircraft, and airport service equipment and vehicles; locomotives and railway maintenance equipment; and all motorized marine vessels.

Mobile sources account for the majority of CO, oxides of sulfur (SO_x), NO_x, and VOC emissions within the SoCAB.

Other Emissions Sources

Air pollutants can also be generated by the natural environment, such as when fine dust particles are pulled off the ground surface and suspended in the air during high winds.

Criteria Pollutants and Toxic Air Contaminants

Pollutants that impact air quality are generally divided into two categories: criteria pollutants (those for which health standards have been set), and toxic air contaminants (those that cause cancer or have adverse human health effects other than cancer).

Criteria Pollutants

Both the federal and state governments have established ambient air quality standards for outdoor concentrations of criteria air pollutants in order to protect public health. The criteria pollutants relevant to the project and of concern in the air basin that the project is located – the South Coast Air Basin – are briefly described below. While VOCs are not considered to be criteria pollutants, they are widely emitted from land use development projects and participate in photochemical reactions in the atmosphere to form O₃; therefore, VOCs are relevant to the project and are of concern in the SoCAB.

- **Ozone (O₃).** O₃ is a gas that is formed when VOCs and NO_x, both byproducts of internal combustion engine exhaust and other sources undergo slow photochemical reactions in the presence of sunlight.

Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant.

- **Volatile Organic Compounds (VOCs).** VOCs are compounds comprised primarily of atoms of hydrogen and carbon. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. Adverse effects on human health are not caused directly by VOCs, but rather by reactions of VOCs to form secondary air pollutants, including ozone. VOCs are also referred to as reactive organic compounds (ROCs) or reactive organic gases (ROGs). VOCs themselves are not “criteria” pollutants; however, they contribute to formation of O₃.
- **Nitrogen Dioxide (NO₂).** NO₂ is a reddish-brown, highly reactive gas that is formed in the ambient air through the oxidation of nitric oxide (NO). NO₂ is also a byproduct of fuel combustion. The principle form of NO₂ produced by combustion is NO, but NO reacts quickly to form NO₂, creating the mixture of NO and NO₂ referred to as NO_x. NO₂ acts as an acute irritant and, in equal concentrations, is more injurious than NO. At atmospheric concentrations, however, NO_x is only potentially irritating. NO₂ absorbs blue light, the result of which is a brownish-red cast to the atmosphere and reduced visibility.
- **Carbon Monoxide (CO).** CO is a colorless, odorless gas produced by the incomplete combustion of fuels. CO concentrations tend to be the highest during the winter morning, with little to no wind, when surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, unlike ozone, and motor vehicles operating at slow speeds are the primary source of CO in the basin, the highest ambient CO concentrations are generally found near congested transportation corridors and intersections.
- **Sulfur dioxide (SO₂).** SO₂ is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of burning high-sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries. When sulfur dioxide oxidizes in the atmosphere, it forms sulfates (SO₄).
- **Respirable Particulate Matter (PM₁₀).** PM₁₀ consists of extremely small, suspended particles or droplets 10 microns or smaller in diameter. Some sources of PM₁₀, like pollen and windstorms, are naturally occurring. However, in populated areas, most PM₁₀ is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes, and construction activities.
- **Fine Particulate Matter (PM_{2.5}).** PM_{2.5} refers to particulate matter that is 2.5 micrometers or smaller in size. The sources of PM_{2.5} include fuel combustion from automobiles, power plants, wood burning, industrial processes, and diesel-powered vehicles such as buses and trucks. These fine particles are also formed in the atmosphere when gases such as sulfur dioxide, NO_x, and VOCs are transformed in the air by chemical reactions.
- **Lead (Pb).** Pb occurs in the atmosphere as particulate matter. The combustion of leaded gasoline is the primary source of airborne lead in the basin. The use of leaded gasoline is no longer permitted for on-road motor vehicles, so most such combustion emissions are associated with off-road vehicles such as racecars that use leaded gasoline. Other sources of Pb include the manufacturing and recycling of batteries, paint, ink, ceramics, ammunition, and secondary lead smelters.

National Ambient Air Quality Standards

The federal Clean Air Act (CAA) requires the US Environmental Protection Agency (US EPA) to set ambient (outdoor) air quality standards for the nation for pollutants that are considered harmful to public health and the environment. These pollutants are referred to by the US EPA as criteria pollutants, and include: CO, NO₂, O₃, SO₂, PM₁₀, PM_{2.5}, and lead.⁵

The US EPA Office of Air Quality Planning and Standards has set primary and secondary National Ambient Air Quality Standards (NAAQS) for these pollutants. Primary standards are considered the maximum levels of ambient (outdoor) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare. Secondary standards were set to protect against decreased visibility, damage to animals, crops, vegetation, and buildings. The secondary standards are the same as the primary standards, with the exception of CO and SO₂. There is no secondary standard for CO and the secondary standard for SO₂ is less restrictive than is the primary standard.

California Ambient Air Quality Standards

California Health and Safety Code (Section 39606) authorizes CARB to set state ambient air quality standards to protect public health, safety, and welfare. The California Ambient Air Quality Standards (CAAQS) are for the federal criteria pollutants, as well as for sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride. In general, California standards are more restrictive than national standards.

The determination of whether a region's air quality is healthful or unhealthful is determined by comparing contaminant levels in ambient air samples to national and state standards. It is SCAQMD's responsibility to ensure that state and federal ambient air quality standards are met and maintained in the Basin. Health-based air quality standards established by California and the federal government applies to O₃, CO, NO₂, SO₂, PM₁₀, PM_{2.5}, and lead. These standards were established to protect exposed sensitive receptors from adverse health effect with a margin of safety. California standards are more stringent than the federal standards, and in the case of PM₁₀ and SO₂, California standards are much more stringent. California has also established standards for sulfates, visibility reducing particles, hydrogen

⁵ The term "criteria air pollutant" derives from the requirement that the US EPA must describe the characteristics and potential health and welfare effects of these pollutants. This term is used by both the US EPA and CARB.

sulfide, and vinyl chloride.⁶ The state and national ambient air quality standards for each of the monitored pollutants and their effects on health are summarized in **Table 3.3-2, Ambient Air Quality Standards**.

**Table 3.3-2
Ambient Air Quality Standards**

Air Pollutant	Concentration/Averaging Time		Most Relevant Health Effects ²
	State Standard	Federal Primary Standard	
Ozone ¹	0.09 ppm, 1-hr. avg.; 0.070 ppm, 8-hr avg.	0.075 ppm, 8-hr avg. (three-year average of annual 4 th -highest daily maximum)	(a) Pulmonary function decrements and localized lung edema in humans and animals; (b) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (c) Increased mortality risk; (d) Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (e) Vegetation damage; and (f) Property damage
Nitrogen Dioxide ²	0.18 ppm, 1-hr avg.; 0.030 ppm, annual arithmetic mean	0.100 ppm, 1-hr avg.; 0.053 ppm, annual arithmetic mean	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extrapulmonary biochemical and cellular changes and pulmonary structural changes; and (c) Contribution to atmospheric discoloration
Respirable Particulate Matter (PM ₁₀)	50 µg/m ³ , 24-hr avg.; 20 µg/m ³ , annual arithmetic mean	150 µg/m ³ , 24-hr avg.	(a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Declines in pulmonary function growth in children; and (c) Increased risk of premature death from heart or lung diseases in the elderly

⁶ California Air Resources Board, "Area Designations (Activities and Maps)," <http://www.arb.ca.gov/desig/desig.htm>. 2010. According to California Health and Safety Code, Section 39608, "state board, in consultation with the districts, shall identify, pursuant to subdivision (e) of Section 39607, and classify each air basin which is in attainment and each air basin which is in nonattainment for any state ambient air quality standard." Section 39607(e) states that the State shall "establish and periodically review criteria for designating an air basin attainment or nonattainment for any state ambient air quality standard set forth in Section 70200 of Title 17 of the California Code of Regulations. California Code of Regulations, Title 17, Section 70200 does not include vinyl chloride; therefore, CARB does not make area designations for vinyl chloride.

Air Pollutant	Concentration/Averaging Time		Most Relevant Health Effects ²
	State Standard	Federal Primary Standard	
Fine Particulate Matter (PM _{2.5})	12 µg/m ³ , annual arithmetic mean	35 µg/m ³ , 24-hr avg. (three-year average of 98 th percentile); 15 µg/m ³ , annual arithmetic mean (3-year average)	(a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Declines in pulmonary function growth in children; and (c) Increased risk of premature death from heart or lung diseases in the elderly
Carbon Monoxide	20 ppm, 1-hr avg.; 9.0 ppm, 8-hr avg.	35 ppm, 1-hr avg.; 9 ppm, 8-hr avg.	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; and (d) Possible increased risk to fetuses
Sulfur Dioxide ³	0.25 ppm, 1-hr. avg.; 0.04 ppm, 24-hr avg.	0.075 ppm, 1-hr avg.	Bronchoconstriction accompanied by symptoms, which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in person with asthma
Lead ^{4,5}	1.5 µg/m ³ , 30-day avg.	1.5 µg/m ³ , calendar quarter; 0.15 µg/m ³ , three month rolling average	(a) Increased body burden, and (b) Impairment of blood formation and nerve conduction
Visibility-Reducing Particles	Reduction of visual range to less than 10 miles at relative humidity less than 70%, 8-hour avg. (10:00 AM–6:00 PM)	None	Visibility impairment on days when relative humidity is less than 70 percent.

Air Pollutant	Concentration/Averaging Time		Most Relevant Health Effects ²
	State Standard	Federal Primary Standard	
Sulfates	25 µg/m ³ , 24-hr avg.	None	(a) Decrease in ventilatory function, (b) Aggravation of asthmatic symptoms, (c) Aggravation of cardio-pulmonary disease, (d) Vegetation damage, (e) Degradation of visibility, and (f) Property damage
Hydrogen Sulfide	0.03 ppm, 1-hr avg.	None	Odor annoyance
Vinyl Chloride ⁴	0.01 ppm, 24-hr avg.	None	Known carcinogen

µg/m³ = microgram per cubic meter.

ppm = parts per million by volume.

Sources:

California Air Resources Board. "California Ambient Air Quality Standards (CAAQS)." July 2010. <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>.

United States Environmental Protection Agency. "National Ambient Air Quality Standards (NAAQS)." July 2010. <http://www.epa.gov/air/criteria.html>.

Notes:

¹ On March 12, 2008, the US EPA revised the federal ozone standard from 0.08 ppm to 0.075 ppm. The standard became effective on May 27, 2008.

² On January 25, 2010, the US EPA promulgated a new 1-hour NO₂ standard. The new 1-hour standard is 0.100 parts per million (188 micrograms per cubic meter) and became effective on April 12, 2010.

³ On June 3, 2010, the US EPA issued a new 1-hour SO₂ standard. The new 1-hour standard is 0.075 parts per million (196 micrograms per cubic meter). The US EPA also revoked the existing 24-hour and annual standards citing a lack of evidence of specific health impacts from long-term exposures. The new 1-hour standard is effective August 23, 2010.

⁴ 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.

⁴ On October 15, 2008, the US EPA revised the federal lead standard to include 0.15 µg/m³ based on a three-month rolling average.

Toxic Air Contaminants

Toxic air contaminants (TACs) are airborne substances that are capable of causing chronic (i.e., of long duration) and acute (i.e., severe, but of short duration) adverse effects on human health. They include both organic and inorganic chemical substances that may be emitted from a variety of common sources, including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities. Toxic air contaminants are different from the "criteria" pollutants previously discussed in that no ambient air quality standards have been established for them (with the exception of lead and vinyl chloride, for which there are state standards). This is largely due to the fact that there are hundreds of air toxics and their effects on health tend to be local rather than regional.

The following information has been obtained primarily from the SCAQMD's Multiple Air Toxics Exposure Study III (MATES III), described below. TACs typically emitted in the Basin include the

contaminants listed in **Table 3.3-3, 2005 Annual Average Day Toxic Emissions for the South Coast Air Basin**. The data in **Table 3.3-3** are the most current data available.

Cancer Risk

One of the primary health risks of concern due to exposure to TACs is the risk of contracting cancer. The carcinogenic potential of TACs is a particular public health concern because it is currently believed by many scientists that there is no “safe” level of exposure to carcinogens. In other words, any exposure to a carcinogen poses some risk of causing cancer. Health statistics show that one in four people will contract cancer over their lifetime, or 250,000 in 1 million, from all causes, including diet, genetic factors, and lifestyle choices. Approximately 2 percent of cancer deaths in the United States may be due to TACs.⁷

As part of the District’s environmental justice initiatives adopted in late 1997, the SCAQMD conducted the Multiple Air Toxics Exposure Study III (MATES III) between April 2004 and March 2006, which was a follow-up to previous MATES I and II air toxics studies conducted in the South Coast Air Basin. The MATES III Final Report was issued in September 2008.

The MATES III study, based on actual monitored data throughout the Basin, consisted of several elements. These included a monitoring program, an updated emissions inventory of toxic air contaminants, and a modeling effort to characterize carcinogenic risk across the South Coast Air Basin from exposure to toxic air contaminants. The MATES III study applied a 2-kilometer (1.24-mile) grid over the South Coast Air Basin and reported carcinogenic risk within each grid space (covering an area of 4 square kilometers or 1.54 square miles). The study concluded that the average of the modeled air toxics concentrations measured at each of the monitoring stations in the South Coast Air Basin equates to a background cancer risk of approximately 1,200 in 1,000,000 primarily due to diesel exhaust. The MATES III study also concluded lower ambient concentrations of most of the measured air toxics compared to the levels measured in the previous MATES II study conducted during 1998 and 1999. Specifically, benzene and 1,3-butadiene, pollutants generated mainly from vehicles, were down 50 percent and 73 percent, respectively.⁸ The reductions were attributed to air quality control regulations and improved emission control technologies.

⁷ Doll and Peto. Journal of the National Cancer Institute. *“The Causes of Cancer: Qualitative Estimates of Avoidance of Risks of Cancer in the United States Today.”* (1981).

⁸ South Coast Air Quality Management District, *Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES III) – Draft Report*, (September 2008) ES-2.

Table 3.3-3
2005 Annual Average Day Toxic Emissions for the South Coast Air Basin¹

Pollutant	Emissions (pounds per day)				
	On-Road	Off-Road	Point	Area	Total
Acetaldehyde ²	4,857.0	8,622.4	125.8	505.1	14,110.3
Acetone ³	4,020.5	7,189.1	552.4	28,904.9	40,666.9
Benzene	13,244.8	7,808.3	906.5	609.3	22,568.9
Butadiene [1,3]	2,723.1	1,755.6	537.1	108.7	5,124.5
Carbon tetrachloride	0.0	0.0	11.2	0.0	11.2
Chloroform	0.0	0.0	206.9	0.0	206.9
Dichloromethane [1,1]	0.0	0.0	0.5	0.0	0.5
Dioxane [1,4]	0.0	0.0	0.8	0.7	1.5
Ethylene dibromide	0.0	0.0	2.2	0.0	2.2
Ethylene dichloride	0.0	0.0	67.2	0.0	67.2
Ethylene oxide	0.0	0.0	16.1	52.6	68.7
Formaldehyde ²	12,596.6	19,889.0	1,488.8	1,302.0	35,276.4
Methyl Ethyl Ketone ²	745.6	1,366.0	1,244.3	6,466.7	9,822.6
Methylene chloride	0.0	0.0	325.1	13,548.3	13,873.4
Methyl tertiary butyl ether (MTBE)	0.0	4.4	89.6	0.0	93.9
Naphthalene	573.4	376.8	16.6	568.1	1,534.9
p-Dichlorobenzene	0.0	0.0	115.4	5,553.9	5,669.3
Perchloroethylene	0.0	0.0	940.4	9,685.3	10,625.7
Propylene oxide	0.0	0.0	2.2	0.1	2.3
Styrene	681.7	326.3	1,332.5	76.5	2,417.0
Toluene	37,707.9	15,369.2	8,724.3	21,029.4	82,830.8
Trichloroethylene	0.0	0.0	587.1	633.0	1,220.1
Vinyl chloride	0.0	0.0	51.1	0.0	51.1
Arsenic	0.2	3.9	13.4	24.8	42.3
Cadmium	1.5	2.1	3.2	7.2	14.0
Chromium	21.1	9.2	49.2	77.3	156.8
Diesel particulate	22,164.5	37,406.2	489.5	618.3	60,678.5
Elemental carbon ⁴	10,498.2	9,337.4	4,850.4	14,197.3	38,883.3
Hexavalent chromium	1.1	0.6	0.6	0.5	2.8
Lead	2.4	4.8	13.7	180.9	201.8
Nickel	15.3	5.8	44.2	23.4	88.7
Organic carbon	19,972.7	18,073.3	371.0	69,230.1	107,647.1
Selenium	0.5	0.5	41.4	2.2	44.6
Silicon ^{3,4}	838.7	136.5	1,211.9	218,527.2	220,714.3

Source: South Coast Air Quality Management District, Multiple Air Toxics Exposure Study III, (September 2008) 3-8. This document is available for review at <http://www.aqmd.gov/prdas/matesIII/matesIII.html>.

Notes:

- ¹ Please refer to Chapter 3, Development of the Toxics Emissions Inventory, of MATES III for a discussion on how each portion of the inventory was developed.
- ² Primarily emitted emissions. These materials are also formed in the atmosphere as a result of photochemical reactions.
- ³ Acetone and silicon are not toxic compounds. Their emissions are included in this table because they were measured in the sampling program and were subsequently modeled for the purpose of model evaluation.
- ⁴ Includes elemental carbon from all sources (including diesel particulate).

Non-Cancer Health Risks

For exposures to compounds that do pose a health risk, but not a cancer risk, it is believed that there is a threshold level of exposure to the compound below which it will not pose a health risk. The Cal/EPA and California Office of Environmental Health Hazard Assessment (OEHHA) have developed reference exposure levels (REL) for non-carcinogenic TACs that are health-conservative estimates of the levels of exposure at or below which health effects are not expected. Comparing the estimated level of exposure to the REL assesses the non-cancer health risk due to exposure to a TAC. The comparison is expressed as the ratio of the estimated exposure level to the REL, referred to as the hazard index.⁹

Toxic Air Contaminants Inventory

The SCAQMD's first emissions inventory for stationary sources only was compiled for 30 TACs for the year 1982. In response to AB 2588, the SCAQMD conducted MATES I from 1986 to 1987 wherein data on 20 of the original 30 pollutants were updated. Of the 20 toxics studied from 1,244 point sources, benzene emissions and hexavalent chromium appeared to have the greatest potential health impact in the Basin.

In addition to the stationary sources of these emissions, MATES II compiled mobile source emissions for 12 of the 20 toxic pollutants were compiled for on-road motor vehicles. The MATES III study was a follow up to the previous MATES I and II studies and utilized an updated emissions inventory of toxic air contaminants. A summary of the 2005 emissions inventory was presented in **Table 3.3-3**, which provides the estimated toxic emissions for selected compounds, by source category.

Ambient Air Quality

In conjunction with local air pollution control districts (APCDs) and air quality management districts (AQMDs), private contractors, and the National Park Service, CARB has established and maintains a network of air quality monitoring stations referred to as the State and Local Air Monitoring Stations (SLAMS) network. The stations are strategically placed in source receptor areas (SRAs), and provide air quality monitoring data, including real time meteorological data and ambient pollutant levels, as well as historical data.

⁹ Office of Environmental Health Hazard Assessment, *Air Toxic Hot Spots Program Risk Assessment Guidelines, Part III, "Technical Support Document for the Determination of Noncancer Chronic Reference Exposure Levels,"* (February 2000), 9.

South Coast Air Basin

The Planning Area is located within SRA 13, which encompasses the Santa Clarita Valley west to the Ventura County line.¹⁰ The only air quality monitoring station for this SRA (CARB No. 70090), located at 12th Street and Placerita Canyon Road in the City of Santa Clarita,¹¹ presently monitors pollutant concentrations of O₃, CO, NO₂, and PM₁₀.¹² The nearest station in the SoCAB that monitors PM_{2.5} is located at 18330 Gault Street in Reseda (CARB No. 70074), while the nearest station in the SoCAB that monitors SO₂ is SRA 7 located at 228 West Palm Avenue in Burbank (CARB No. 70069).

Table 3.3-4, Ambient Pollutant Concentrations, Santa Clarita/Placerita Monitoring Station and Nearest Monitoring Stations, lists the measured ambient pollutant concentrations and the violations of state and federal standards that have occurred at the monitoring station from 2006 through 2008, the most recent years in which data is available from the SCAQMD. As shown, the monitoring station has registered values above state and federal standards for O₃, the state standard for PM₁₀, and the federal standard for PM_{2.5}. Values for lead and sulfate are not presented in the table below since ambient concentrations are well below the state standards. Hydrogen sulfide, vinyl chloride, and visibility reducing particles were not monitored by CARB or the SCAQMD in Los Angeles County during the period of 2006 to 2008.

**Table 3.3-4
Ambient Pollutant Concentrations, Santa Clarita/Placerita Monitoring Station
and Nearest Monitoring Stations**

Pollutant	Standards ¹	Year		
		2006	2007	2008
OZONE (O₃)				
Maximum 1-hour concentration monitored (ppm)		0.160	0.135	0.160
Maximum 8-hour concentration monitored (ppm)		0.120	0.110	0.131
Number of days exceeding state 1-hour standard	0.09 ppm	62	31	54
Number of days exceeding state 8-hour standard	0.070 ppm	64	64	81
Number of days exceeding federal 8-hour standard ²	0.075 ppm	40	44	60
NITROGEN DIOXIDE (NO₂)				
Maximum 1-hour concentration monitored (ppm)		0.08	0.08	0.07
Annual average concentration monitored (ppm)		0.018	0.019	0.017
Number of days exceeding state 1-hour standard	0.18 ppm	0	0	0

¹⁰ SRA 15, which covers the San Gabriel Mountains area, overlies a portion of the Planning Area; however, ambient air quality conditions are not monitored in SRA 15. Therefore, the air pollutant concentrations identified at the Santa Clarita/Placerita Monitoring Station are considered representative of the Planning Area.

¹¹ The specific address is 22224 Placerita Canyon Road in Santa Clarita.

¹² As late as 1991, this station also monitored SO₂ pollutant concentrations for the Santa Clarita Valley.

Pollutant	Standards ¹	Year		
		2006	2007	2008
Maximum 1-hour concentration monitored (ppm)		2	2	2
Maximum 8-hour concentration monitored (ppm)		1.3	1.2	1.1
Number of days exceeding 1-hour standard	20 ppm	0	0	0
Number of days exceeding 8-hour standard	9.0 ppm	0	0	0
SULFUR DIOXIDE (SO₂)				
Maximum 1-hour concentration monitored (ppm)		0.01	0.01	0.01
Maximum 24-hour concentration monitored (ppm)		0.004	0.003	0.003
Number of days exceeding state 1-hour standard	0.25 ppm	0	0	0
Number of days exceeding state 24-hour standard	0.04 ppm	0	0	0
RESPIRABLE PARTICULATE MATTER (PM₁₀)				
Maximum 24-hour concentration monitored (µg/m ³)		53	131	91
Annual average concentration monitored (µg/m ³)		23.4	29.9	25.8
Number of samples exceeding state standard	50 µg/m ³	1	5	2
Number of samples exceeding federal standard	150 µg/m ³	0	0	0
FINE PARTICULATE MATTER (PM_{2.5})				
Maximum 24-hour concentration monitored (µg/m ³)		44.1	43.3	50.5
Annual average concentration monitored (µg/m ³)		12.9	13.1	11.9
Number of samples exceeding federal standard	35 µg/m ³	1	1	2

Sources: South Coast Air Quality Management District, "Historical Data by Year," <http://www.aqmd.gov/smog/historicaldata.htm>. 2010; California Air Resources Board, "Air Quality Data Statistics," <http://www.arb.ca.gov/adam/>. 2010.

¹ Parts by volume per million of air (ppm), micrograms per cubic meter of air (µg/m³), or annual arithmetic mean (aam).

² The 8-hour federal O₃ standard was revised from 0.08 ppm to 0.075 ppm in March 2008. The statistics shown are based on the 2008 standard of 0.075 ppm.

South Central Coast Air Basin

The Ventura County Air Pollution Control District monitors air pollutant concentrations in the Santa Clara River Valley at a station on Pacific Avenue in the community of Piru (CARB No. 56450). This station is located approximately 5.5 miles west of the Los Angeles/Ventura County line and monitors emission levels of O₃ and PM_{2.5}, both of which are subject to regional transport.

Table 3.3-5, Ambient Pollutant Concentrations, Piru Monitoring Station, lists the measured ambient pollutant concentrations and the violations of state and federal standards that have occurred at the monitoring station from 2006 through 2008. As shown, the monitoring station registered values above state and federal standards for O₃ for all years represented in the table.

**Table 3.3-5
Ambient Pollutant Concentrations, Piru Monitoring Station**

Pollutant	Standards ¹	Year		
		2006	2007	2008
OZONE (O₃)				
Maximum 1-hour concentration monitored (ppm)		0.117	0.096	0.097
Maximum 8-hour concentration monitored (ppm)		0.094	0.083	0.084
Number of days exceeding state 1-hour standard	0.09 ppm	8	2	1
Number of days exceeding state 8-hour standard	0.070 ppm	44	13	29
Number of days exceeding federal 8-hour standard ²	0.075 ppm	21	4	11
PARTICULATE MATTER (PM_{2.5})				
Maximum 24-hour concentration monitored (µg/m ³) ³		28.0	34.3	29.4
Annual average concentration monitored (µg/m ³)		9.3	10.1	9.7
Number of samples exceeding federal standard	35 µg/m ³	0	0	0

Source: California Air Resources Board, "Air Quality Data Statistics," <http://www.arb.ca.gov/adam/>. 2010.

¹ Parts by volume per million of air (ppm), micrograms per cubic meter of air (µg/m³), or annual arithmetic mean (aam).

² The 8-hour federal O₃ standard was revised from 0.08 ppm to 0.075 ppm in March 2008. The statistics shown are based on the 2008 standard of 0.075 ppm.

³ Based on samplers using federal reference or equivalent methods.

Air Quality Attainment Designations

The US EPA is responsible for enforcing the federal CAA and the NAAQS. CARB is the state agency charged with coordinating efforts to attain and maintain the NAAQS and the CAAQS. Both agencies designate air basins as being in "attainment" or "nonattainment" for each of the criteria pollutants. The determination of whether an area meets the state and federal standards is based on long-term air quality monitoring data.

Attainment Areas

Attainment areas are those with air quality that is better than the standards shown in **Table 3.3-2**. Under the CCAA, an area is in attainment for a particular pollutant if the CAAQS for that pollutant was not violated at any site in the area during a three-year period.¹³ Under the CAA, an area is in attainment for a

¹³ California Air Resources Board. "Area Designations." <http://www.arb.ca.gov/desig/adm/Define.htm>. 2003.

particular pollutant if the area meets the national primary or secondary ambient air quality standard for that pollutant¹⁴.

Nonattainment Areas

Under the CCAA, an area is in nonattainment for a particular pollutant if there was at least one violation of the CAAQS for that pollutant in the area.¹⁵ Under the CAA, a nonattainment area for a pollutant is any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the primary or secondary NAAQS for that pollutant.¹⁶ Air basins designated as nonattainment for the ozone-8 hour NAAQS are ranked as marginal, moderate, serious, severe, or extreme depending on the area's 8-hour design value calculated using the most recent three years of data. Air basins designated as nonattainment for the CO NAAQS are ranked as not classified, moderate, or serious.¹⁷

CARB has another subcategory referred to as nonattainment/transitional. This designation refers to nonattainment areas that are close to attaining the CAAQS for the pollutant in nonattainment.¹⁸

Maintenance Areas

Maintenance areas are former nonattainment areas with air quality that meets the ambient air quality standards and meets the Clean Air Act deadline and are required to have in place a Maintenance Plan to demonstrate to the US EPA that the former nonattainment area can continue to maintain air quality below the standards. The plan is very similar to an Attainment Plan, in that it must use an analysis of data to show that the prior years were not an anomaly.

Unclassified Areas

Some areas are unclassified, which means there is insufficient monitoring data for supporting an attainment or nonattainment designation. Unclassified areas are typically treated as being in attainment.

¹⁴ United States Environmental Protection Agency. "Green Book Designations." <http://www.epa.gov/airprog/oar/oaqps/greenbk/define.html>. 2008a.

¹⁵ California Air Resources Board. "Area Designations." <http://www.arb.ca.gov/desig/adm/Define.htm>. 2003.

¹⁶ United States Environmental Protection Agency. "Green Book Designations." <http://www.epa.gov/airprog/oar/oaqps/greenbk/define.html>. 2008a.

¹⁷ United States Environmental Protection Agency. 2008a. "Green Book Designations." <http://www.epa.gov/airprog/oar/oaqps/greenbk/define.html>. 2008a.

¹⁸ California Air Resources Board. "Area Designations." <http://www.arb.ca.gov/desig/adm/Define.htm>. 2003.

Nonattainment Classifications

Nonattainment areas are classified according to the degree of severity of the air quality violation. In general, areas that exceed the NAAQS by a substantial margin are given more time under the CAA to attain the standard. The classifications are based on design values established for the nonattainment area for each nonattainment pollutant. As discussed in the next paragraph, the Basin is designated as nonattainment/extreme for the ozone NAAQS and nonattainment/serious for the PM₁₀ NAAQS. The nonattainment/extreme ozone designation means that the area has a design value of 0.187 parts per million (ppm) and above and has until 2024 to attain the standard. However, as discussed later in this section, the SCAQMD requested US EPA's approval of a voluntary "bump-up" to the "extreme" nonattainment classification for the Basin even though its design value was less than 0.187 ppm. This would allow for the attainment demonstration to rely on emission reductions from measures that anticipate the development of new technologies or improvement of existing control technologies. A voluntary bump-up is permissible under the CAA and means that the SCAQMD is required to impose more stringent control measures and regulations consistent with the extreme classification. The nonattainment/serious PM₁₀ designation means that the area would likely face difficulty in attaining the standard according to the US EPA (PM₁₀ only has moderate and serious classifications).

South Coast Air Basin Attainment Status

Table 3.3-6, South Coast Air Basin Attainment Status, NAAQS, and **Table 3.3-7, South Coast Air Basin Attainment Status, CAAQS**, identifies the Basin's attainment status relative to the primary NAAQS and the CAAQS, respectively. Because the attainment/nonattainment designation is pollutant-specific, an area may be classified as nonattainment for one pollutant and attainment for another. Similarly, because the state and federal ambient air quality standards differ, an area could be classified as attainment under the federal standards and as nonattainment under the state standards for the same pollutant. As shown in **Table 3.3-6**, the SoCAB is in nonattainment for the federal standards for ozone, PM₁₀, and PM_{2.5}. As shown in **Table 3.3-7**, the air basin is in nonattainment for the state standards of ozone, NO₂, PM₁₀, PM_{2.5}, and lead.

States with basins that are not in attainment with the NAAQS are required to submit a State Implementation Plan (SIP) that describes how the air basin will achieve the federal standards by specified dates.

Table 3.3-6
South Coast Air Basin Attainment Status, NAAQS
(Los Angeles County)

Pollutant	Designation/Classification
Ozone (O ₃)	Nonattainment/Extreme
Carbon Monoxide (CO)	Attainment/Maintenance
Nitrogen Dioxide (NO ₂)	Attainment/Maintenance
Sulfur Dioxide (SO ₂)	Attainment
Respirable Particulate Matter (PM ₁₀)	Nonattainment/Serious
Fine Particulate Matter (PM _{2.5})	Nonattainment
Lead (Pb)	Attainment

Source: US Environmental Protection Agency, "Region 9: Air Programs, Air Quality Maps," http://www.epa.gov/region9/air/maps/maps_top.html. 2010.

Table 3.3-7
South Coast Air Basin Attainment Status, CAAQS

Pollutant	Designation/Classification
Ozone (O ₃)	Nonattainment ¹
Carbon Monoxide (CO)	Attainment
Nitrogen Dioxide (NO ₂)	Nonattainment
Sulfur Dioxide (SO ₂)	Attainment
Respirable Particulate Matter (PM ₁₀)	Nonattainment
Fine Particulate Matter (PM _{2.5})	Nonattainment
Lead (Pb)	Nonattainment
Sulfates (SO ₄)	Attainment
Hydrogen Sulfide (H ₂ S)	Unclassified
Vinyl Chloride	Unclassified
Visibility-Reducing Particles	Unclassified

Source: California Air Resources Board, "Area Designations Maps/State and National," <http://www.arb.ca.gov/desig/adm/adm.htm>. 2010.

¹ CARB has not issued area classifications based on the new state 8-hour standard. The previous classification for the 1-hour ozone standard was Severe.

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Any facilities that house these sensitive receptors are considered sensitive land uses. In its *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning* (May 6, 2005), SCAQMD identifies the following sensitive land uses:

- schools, playgrounds, and childcare centers,
- long-term health care facilities,
- rehabilitation centers,
- convalescent centers,
- hospitals,
- retirement homes, and
- residences.

In its *Final Localized Significance Threshold Methodology*, SCAQMD defines sensitive receptors to be a receptor, such as residence, hospital, convalescent facility, where it is possible that an individual could remain for 24 hours. Commercial and industrial facilities and other land uses may be considered sensitive receptors for criteria pollutants with shorter averaging times (e.g., the 1-hour NO₂ or the 1- and 8-hour CO standards) if it is possible that an individual could remain in a particular location for the aforementioned lengths of time.¹⁹

REGULATORY FRAMEWORK

Air quality within the Basin is addressed through the efforts of various federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policymaking, education, and a variety of programs. The agencies primarily responsible for improving the air quality within the Basin are discussed below along with their individual responsibilities.

¹⁹ South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology* (July 2008), 3-2.

Regulations Governing Criteria Pollutants, Hazardous Air Pollutants, and Toxic Air Contaminants

The CAA is a federal law that requires the US EPA to develop and enforce regulations to protect the general public from exposure to airborne contaminants that are known to be hazardous to human health. As part of this requirement, the US EPA set the NAAQS, and has regulatory and enforcement jurisdiction over emission sources beyond state waters (outer continental shelf), and those that are under the exclusive authority of the federal government, such as aircraft, locomotives, and interstate trucking.

The CAA was originally adopted in 1970, but was amended most recently in 1990 with regulations that better protect the public's health and create more efficient methods of lowering pollutant emissions. The major areas of improvement resulting from the amendments include air basin designations (discussed previously), automobile/heavy-duty engine emissions, and toxic air pollutants. The amendments established more stringent standards for hydrocarbons, NO_x, and CO emissions in order to reduce O₃ and CO levels in heavily populated areas. Fuels became more strictly regulated, requiring new fuels to be less volatile, contain less sulfur (regarding diesel fuels), and have higher levels of oxygenates (oxygen-containing substances to improve fuel combustion). The 1990 amendments also require the US EPA to regulate 188 hazardous air pollutants (HAPs), which are carcinogenic, mutagenic, and/or reproductive toxicants. The air toxics program under the CAA involves locating all major (greater than 10 tons/year [tpy]) and area emission sources in order to implement Maximum Achievable Control Technology (MACT) to reduce HAP emissions and their associated health impacts.

The California Clean Air Act (CCAA) was signed into law in 1988 and, for the first time, clearly spelled out in statute California's air quality goals, planning mechanisms, regulatory strategies, and standards of progress. Health and Safety Code section 39606b specified the CAAQS as the maximum level and time of exposure in the outdoor air for a given air pollutant and which is protective of human health and public welfare. The CCAA also established a legal mandate for air basins to achieve the CAAQS by the earliest practical date.

As a branch of the Cal/EPA, CARB oversees air quality monitoring, planning, and control throughout California. It is primarily responsible for implementing the CCAA, ensuring conformance with CAA requirements, and for regulating emissions from motor vehicles and consumer products within the state. In addition, CARB sets the CAAQS and control measures for TACs. CARB approves the regional air quality management/attainment plans for incorporation into the SIP and is responsible for preparing those portions of the SIP related to mobile source emissions. CARB establishes new standards for vehicles

sold in California and for various types of equipment available commercially. It also sets fuel specifications to further reduce vehicular emissions.

CARB also makes area designations for O₃, CO, NO₂, SO₂, PM₁₀, PM_{2.5}, sulfates, lead, hydrogen sulfide, and visibility-reducing particles. Health and Safety Code Section 39607(e) requires CARB to establish and periodically review area designation criteria. These designation criteria provide the basis for CARB to designate areas of the state as “attainment,” “nonattainment,” or “unclassified” according to state standards. In addition, Health and Safety Code Section 39608 requires CARB to use the designation criteria to classify areas of the state and to annually review those area designations.

California Health and Safety Code (Section 39606) authorizes CARB to set the CAAQS and the California Clean Air Act (CCAA) established a legal mandate for air basins to achieve the CAAQS by the earliest practical date. The NAAQS and CAAQS are required to be periodically revised based on the latest health-based research, and several revisions to the NAAQS have occurred over the past several years, with the most recent being revisions to the ozone and PM_{2.5}. In 2002, CARB adopted recommendations for revisions to the PM₁₀ standard and established a new PM_{2.5} annual standard. CARB also reviewed and recommended revisions to the ozone and NO₂ standards, which were adopted and went into effect on May 17, 2006 and March 20, 2008, respectively.

Along with setting and enforcing the CAAQS, CARB also sets the standards and control measures for TACs; approves the regional air quality management/attainment plans for incorporation into the SIP; establishes new standards for vehicles sold in California and for various types of commercially available equipment; and sets fuel specifications to further reduce vehicular emissions.

Regulations Governing Non-Attainment Areas

States with basins that are not in attainment with the NAAQS are required to submit a SIP that describes how the air basin will achieve the federal standards by specified dates. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. SIPs are not single documents, but are a compilation of state regulations, air quality management/attainment plans, programs, and air district rules that are continuously revised to meet CAA amendment requirements.

The air quality management/attainment plans for areas that are not in attainment with the NAAQS are authored by CARB, the local air districts, and other agencies. In general, the plans describe ambient air data and trends; provide a baseline emissions inventory; and project future year air emissions, which account for growth projections and already adopted control measures. The plans also include a

comprehensive control strategy of measures needed to reach attainment, which may include interim milestones for progress toward attainment.

Upon completion, the plans are submitted to CARB for final review and approval. Once the plans are approved, CARB forwards them to the US EPA as a SIP revision. The US EPA reviews the plans to determine if they conform to the 1990 amendments and if would achieve the air quality goals of the nonattainment area. After the US EPA approves the plans, they are published in the Federal Register. The preparation of attainment plans, review, and approval are an ongoing process within the state of California, as well as in other states with nonattainment areas.

Regional Regulations Governing Air Emissions

South Coast Air Quality Management District

The management of air quality in the South Coast Air Basin is the responsibility of the SCAQMD. This responsibility was given to SCAQMD by the state legislature's adoption of the 1977 Lewis-Presley Air Quality Management Act, which merged four county air pollution control bodies into one regional district. Under the Lewis-Presley Air Quality Act, SCAQMD is responsible for bringing air quality in the areas under its jurisdiction into conformity with federal and state air quality standards. Specifically, SCAQMD is responsible for monitoring ambient air pollutant levels throughout the Basin and for developing and implementing attainment strategies to ensure that future emissions will be within federal and state standards. The SCAQMD primarily regulates emissions from stationary sources, such as manufacturing and power generation. Mobile sources, such as buses, automotive vehicles, trains, and airplanes, are largely out of the SCAQMD's jurisdiction and are up to CARB and the US EPA to regulate. In order to achieve air quality standards, the SCAQMD adopts an Air Quality Management Plan (AQMP) that serves as a guideline to bring pollutant concentrations into attainment with federal and state standards. The SCAQMD determines if certain rules and control measures are appropriate for their specific region according to technical feasibility, cost effectiveness, and the severity of nonattainment. Once the SCAQMD has adopted the proper rules, control measures, and permit programs, it is responsible to implement and enforce compliance with those rules, control measures, and programs.

SCAQMD CEQA Guidance Documents

In 1993, the SCAQMD prepared its *California Environmental Quality Act (CEQA) Air Quality Handbook* to assist local government agencies and consultants in preparing environmental documents for projects subject to CEQA. Minor revisions to the document were made in November 1993. The SCAQMD is in the process of developing an *Air Quality Analysis Guidance Handbook* to replace the *CEQA Air Quality*

Handbook.²⁰ The handbook describes the criteria that SCAQMD uses when reviewing and commenting on the adequacy of environmental documents. The handbook recommends thresholds of significance in order to determine if a project will have a significant adverse environmental impact. Other important contents are methodologies for predicting project emissions and mitigation measures that can be taken to avoid or reduce air quality impacts. Although the Governing Board of the SCAQMD has adopted the *CEQA Air Quality Handbook*, and is in the process of developing a replacement handbook, it does not, nor does it intend to, supersede a local jurisdiction's CEQA procedures.²¹

While the *Air Quality Analysis Guidance Handbook* is being developed, supplemental information has been adopted by the SCAQMD. These include revisions to the air quality significance thresholds and a new procedure referred to as "localized significance thresholds," which has been added as a significance threshold under the *Final Localized Significance Threshold Methodology*.²² According to the SCAQMD, the localized significance thresholds "are applicable at the project-specific level and generally are not applicable to regional projects such as local General Plans unless specific projects are identified in the General Plans."²³ Therefore, this analysis does not explicitly assess compliance with the localized significance thresholds; however, implementing projects developed within the Planning Area would assess compliance in accordance with the Lead Agency's discretionary authority.

The SCAQMD has recommended that lead agencies not use the screening tables in the *CEQA Air Quality Handbook's* Chapter 6 because the tables were derived using an obsolete version of CARB's mobile source emission factor inventory and are also based on outdated trip generation rates from a prior edition of the Institute of Transportation Engineer's Trip Generation Handbook.²⁴ The SCAQMD has also recommended that lead agencies not use the on-road mobile source emission factors in Table A9-5-J1 through A9-5-L as they are obsolete, and instead recommends using on-road mobile source emission factors approved by the CARB.²⁵ The outdated and obsolete information were not used in this analysis.

²⁰ South Coast Air Quality Management District, "Air Quality Analysis Guidance Handbook," <http://www.aqmd.gov/CEQA/hdbk.html>. 2009.

²¹ South Coast Air Quality Management District, "Frequently Asked CEQA Questions," <http://www.aqmd.gov/ceqa/faq.html>. 2007.

²² South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, (2008).

²³ South Coast Air Quality Management District. "Final Localized Significance Threshold Methodology." (June 2008) 1-1. <http://www.aqmd.gov/ceqa/handbook/1st/1st.html>.

²⁴ South Coast Air Quality Management District. "CEQA Air Quality Handbook." (1993). <http://www.aqmd.gov/ceqa/oldhdbk.html>. 2007.

²⁵ South Coast Air Quality Management District. "EMFAC 2007 (v2.3) Emission Factors (On-Road)." <http://www.aqmd.gov/CEQA/handbook/onroad/onroad.html>. 2008.

The SCAQMD offers further guidance to jurisdictions in its *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning* (May 6, 2005). This guidance document provides suggested policies that local governments can use to prevent or reduce potential air pollution impacts and protect public health in their General Plans or through local planning. The objective of the document is to facilitate collaboration between the local governments and the SCAQMD.

The applicable portions of the *CEQA Air Quality Handbook*, the *Air Quality Analysis Guidance Handbook* supplemental information, and *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning* were used in preparing the air quality analysis in this section.

SCAQMD Air Quality Management Plan

The SCAQMD is required to produce plans describing how air quality will be improved. The CCAA requires that these plans be updated triennially in order to incorporate the most recent available technical information. In addition, the US EPA requires that transportation conformity budgets be established based on the most recent planning assumptions (i.e., within the last five years). Plan updates are necessary to ensure continued progress toward attainment and to avoid a transportation conformity lapse and associated federal funding losses. A multi-level partnership of governmental agencies at the federal, state, regional, and local levels implement the programs contained in these plans. Agencies involved include the US EPA, CARB, local governments, the Southern California Association of Governments (SCAG), and the SCAQMD.

The SCAQMD is the agency responsible for preparing the AQMP for the Basin. Since 1979, a number of AQMPs have been prepared. The SCAQMD adopted the Final 2007 Air Quality Management Plan (2007 AQMP) on June 1, 2007. CARB approved the 2007 AQMP as the comprehensive SIP component for the basin on September 27, 2007. Because the 2007 AQMP has been approved by the SCAQMD and CARB, it is an “applicable regional plan” in terms of CEQA requirements for assessing plan consistency. Federal approval is only relevant as to the federal CAA components of the 2007 AQMP. Like previous basin AQMPs, the 2007 AQMP includes elements that exceed federal requirements.

The 2007 AQMP for the Basin (and those portions of the Salton Sea Air Basin under the SCAQMD’s jurisdiction) is a comprehensive program that will lead these areas into compliance with the NAAQS and CAAQS for ozone and PM_{2.5}. In addition, as part of the 2007 AQMP, the SCAQMD requested US EPA’s approval of a “bump-up” to the “extreme” nonattainment classification for the basin, which would extend the attainment date to 2024 and allow for the attainment demonstration to rely on emission reductions from measures that anticipate the development of new technologies or improvement of

existing control technologies. The US EPA approved the voluntary extreme nonattainment redesignation request on April 15, 2010.

Although PM_{2.5} plans for nonattainment areas were due in April 2008, the O₃ and PM_{2.5} plans are still being processed with the US EPA. Nonetheless, the 2007 AQMP also focuses on attainment strategies for the PM_{2.5} standard through stricter control of sulfur oxides, directly emitted PM_{2.5}, NO_x, and VOCs. The need to commence PM_{2.5} control strategies is due to the attainment date for PM_{2.5} (2015) being much earlier than that for ozone (2024 for the extreme designation). Control measures and strategies for PM_{2.5} will also help control ozone generation in the region because PM_{2.5} and ozone share similar precursors (e.g., NO_x). The District has integrated PM_{2.5} and ozone reduction control measures and strategies in the 2007 AQMP. In addition, the AQMP focuses on reducing VOC emissions, which have not been reduced at the same rate as NO_x emissions in the past. Hence, the Basin has not achieved the reductions in ozone as were expected in previous plans. The AQMP was based on assumptions provided by both CARB and SCAG in the 2007 Emission Factors (EMFAC2007) motor vehicle model and the most recent demographics information, respectively.

SCAQMD Rules and Regulations

The SCAQMD is responsible for limiting the amount of emissions that can be generated throughout the Basin by various stationary, area, and mobile sources. Specific rules and regulations have been adopted by the SCAQMD Governing Board which limit the emissions that can be generated by various uses/activities and identify specific pollution reduction measures that must be implemented in association with various uses and activities. These rules not only regulate the emissions of the federal and state criteria pollutants but also TACs and acutely hazardous materials. The rules are also subject to ongoing refinement by SCAQMD.

Among the SCAQMD rules that are noteworthy and would be applicable to many land use projects that could be developed within the Planning Area are Rule 403 (Fugitive Dust), Rule 1113 (Architectural Coatings), and Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities). Rule 403 requires the use of stringent best available control measures (BACM) to minimize PM₁₀ emissions during grading and construction activities. Rule 1113 will require reductions in the VOC content of coatings, with a substantial reduction in the VOC content limit for flat coatings in July 2008. Compliance with SCAQMD Rule 1403 requires that the owner or operator of any demolition or renovation activity to have an asbestos survey performed prior to demolition and provide notification to the SCAQMD prior to commencing demolition activities.

Other rules will apply on a case-by-case basis; however, Rules 403 and 1113 typically apply to all development; Rule 1403 typically applies to redevelopment projects where demolition of pre-1978 structures is involved.

Additional details regarding these rules and other potentially applicable rules are presented below. Other rules may also be applicable to land uses developed within the Planning Area on a case-by-case basis.

- **Rule 403 (Fugitive Dust)** – This rule requires fugitive dust sources to implement BACM for all sources and all forms of visible particulate matter are prohibited from crossing any property line. SCAQMD Rule 403 is intended to reduce PM₁₀ emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust (see also Rule 1186).
- **Rule 1113 (Architectural Coatings)** – This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.
- **Rule 1121 (Control of Nitrogen Oxides from Residential Type, Natural Gas-Fired Water Heaters)** – This rule prescribes NO_x emission limits for natural gas-fired water heaters with heat input rates less than 75,000 Btu per hour. It applies to manufacturers, distributors, retailers, and installers of natural gas-fired water heaters. In lieu of meeting these NO_x limits, this rule allows emission mitigation fees to be collected from water heater manufacturers to fund stationary and mobile source emission reduction projects targeted at offsetting NO_x emissions from water heaters that do not meet Rule 1121 emission standards.
- **Rule 1146.2 (Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters)** – This rule requires manufacturers, distributors, retailers, refurbishers, installers and operators of new and existing units to reduce NO_x emissions from natural gas-fired water heaters, boilers, and process heaters as defined in this rule.
- **Rule 1186 (PM₁₀ Emissions from Paved and Unpaved Roads, and Livestock Operations)** – This rule applies to owners and operators of paved and unpaved roads and livestock operations. The rule is intended to reduce PM₁₀ emissions by requiring the cleanup of material deposited onto paved roads, use of certified street sweeping equipment, and treatment of high-use unpaved roads (see also Rule 403).
- **Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities)** – This rule requires owners and operators of any demolition or renovation activity and the associated disturbance of asbestos-containing materials, any asbestos storage facility, or any active waste disposal site to implement work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials.

Stationary emissions sources subject to these rules are regulated through SCAQMD's permitting process. Through this permitting process, SCAQMD also monitors the amount of stationary emissions being

generated and uses this information in developing AQMPs. The project would be subject to SCAQMD rules and regulations to reduce specific emissions and to mitigate potential air quality impacts.

Southern California Association of Governments

SCAG is a council of governments for the Counties of Ventura, Los Angeles, Orange, Riverside, San Bernardino, and Imperial. As a regional planning agency, SCAG serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. SCAG also serves as the regional clearinghouse for projects requiring environmental documentation under federal and state law. In this role, SCAG reviews projects to analyze their impacts on SCAG's regional planning efforts.

Although SCAG is not an air quality management agency, it is responsible for several air quality planning issues. Specifically, as the designated Metropolitan Planning Organization (MPO) for the Southern California region, it is responsible, pursuant to Section 176(c) of the 1990 CAA Amendments, for providing current population, employment, travel, and congestion projections for regional air quality planning efforts and for determining conformity with the applicable air quality management plan. It is required to quantify and document the demographic and employment factors influencing expected transportation demand, including land use forecasts. Pursuant to California Health and Safety Code Section 40460 (b), SCAG is also responsible for preparing and approving portions of the basin's air quality management plans relating to demographic projections, and integrated regional land use, housing, employment, and transportation programs, measures, and strategies. Though the most recent population, housing, and transportation measures and strategies are contained in the 2004 Regional Transportation Plan, the current air quality management plan was adopted in 2003 and was based on the Growth Management Chapter of SCAG's Regional Comprehensive Plan and Guide (RCPG).

Local Level Control of Air Emissions

Local governments, such as the City of Santa Clarita and County of Los Angeles, share the responsibility to implement or facilitate some of the control measures of the AQMP. These governments have the authority to reduce air pollution through their police power and land use decision-making authority. Specifically, local governments are responsible for the mitigation of emissions resulting from land use decisions and for the implementation of transportation control measures as outlined in the AQMP. The AQMP assigns local governments certain responsibilities to assist the Basin in meeting air quality goals and policies. In general, the first step towards assigning a local government's responsibility is accomplished by identifying the air quality goals, policies, and implementation measures in its general

plan. The City of Santa Clarita has done this through its proposed *General Plan Conservation and Open Space Element* and the County of Los Angeles has done this through its proposed *Santa Clarita Valley Area Plan Conservation and Open Space Element*,

Through capital improvement programs, local governments can fund infrastructure that contributes to improved air quality, by requiring improvements such as bus turnouts, energy-efficient streetlights, and synchronized traffic signals. In accordance with CEQA requirements and the CEQA review process, local governments assess air quality impacts, require mitigation of potential air quality impacts by conditioning discretionary permits, and monitor and enforce implementation of such mitigation.

THRESHOLDS OF SIGNIFICANCE

Based on the thresholds of significance identified in Appendix G of the 2005 *CEQA Guidelines* and the City of Santa Clarita Environmental Guidelines, a project would have a significant effect on the environment if it would:

- (a) conflict with or obstruct implementation of the applicable air quality plan;
- (b) violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- (c) result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- (d) expose sensitive receptors to substantial pollutant concentrations; and/or
- (e) create objectionable odors affecting a substantial number of people.

Both the City of Santa Clarita and County of Los Angeles typically refer to the thresholds recommended by the SCAQMD in its *CEQA Air Quality Handbook*. The following discusses the thresholds utilized in this analysis for both construction and operational emissions.

Construction Emission Thresholds

The SCAQMD recommends that projects with construction-related emissions that exceed any of the following emissions thresholds should be considered significant:²⁶

- 75 pounds per day of VOC

²⁶ South Coast Air Quality Management District, *CEQA Air Quality Handbook*, (1993) 6-4.

- 100 pounds per day of NO_x
- 550 pounds per day of CO
- 150 pounds per day of SO_x
- 150 pounds per day of PM₁₀
- 55 pounds per day of PM_{2.5}

In addition to the above listed emission-based thresholds, the SCAQMD also recommends that the potential impacts on ambient air concentrations due to construction emissions from project-level proposed projects be evaluated.²⁷

Operational Emissions

The SCAQMD recommends that projects with operational-related emissions that exceed any of the following emissions thresholds should be considered significant:

- 55 pounds per day of VOC
- 55 pounds per day of NO_x
- 550 pounds per day of CO
- 150 pounds per day of SO_x
- 150 pounds per day of PM₁₀
- 55 pounds per day of PM_{2.5}

For the proposed Area Plan and General Plan, the analysis compares the air emissions from the proposed plans to emissions from the existing conditions. In addition to the operational emission significance thresholds, the SCAQMD has prepared **Additional Indicators of Potential Air Quality Impacts** to determine the significance of a proposed development.

²⁷ LSTs are not applicable regional projects such as general plans. South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology* (July 2008) 1-1.

Additional Indicators of Potential Air Quality Impacts

The SCAQMD recommends that projects meeting any of the following criteria also be considered to have significant air quality impacts.²⁸

- Project could interfere with the attainment of the federal or state ambient air quality standards by either violating or contributing to an existing or projected air quality violation.
- Project could result in population increases within an area which would be in excess of that projected by SCAG in the AQMP, or increase the population in an area where SCAG has not projected that growth for the project's buildout year.
- Project could generate vehicle trips that cause a CO hotspot or project could be occupied by sensitive receptors that are exposed to a CO hotspot.
- Project will have the potential to create, or be subjected to, an objectionable odor that could impact sensitive receptors.
- Project will have hazardous materials on site and could result in an accidental release of toxic air emissions or acutely hazardous materials posing a threat to public health and safety.
- Project could emit a TAC regulated by SCAQMD rules or that is on a federal or state air toxic list.
- Project could be occupied by sensitive receptors within 0.25 mile of an existing facility that emits air toxics identified in SCAQMD Rule 1401.
- Project could emit carcinogenic or TACs that individually or cumulatively exceed the maximum individual cancer risk of 10 in 1 million.

Cumulative Emission Significance Thresholds

In large part, the SCAQMD 2003 and 2007 AQMPs were prepared to accommodate growth, to meet state and federal air quality standards, and to minimize the fiscal impact that pollution control measures have on the local economy. The *CEQA Air Quality Handbook* identifies three possible methods to determine the cumulative significance of land use projects.²⁹ These include:

- Reduce the rate of growth in average daily trips or vehicle miles traveled compared to rate of population growth
- 1 percent per year reduction in project emissions of VOC, NO_x, CO, SO_x, and PM₁₀ (*method no longer supported by the SCAQMD*)

²⁸ South Coast Air Quality Management District, *CEQA Air Quality Handbook*, (1993) 6-2 to 6-3.

²⁹ South Coast Air Quality Management District, *CEQA Air Quality Handbook*, (1993) 9-12; Written communication with Steve Smith, Program Supervisor, South Coast Air Quality Management District, November 20, 2003.

- 1.5 average vehicle ridership, or average vehicle occupancy, if a transportation project (*underlying SCAQMD regulation repealed*)

These methods are based on performance standards and emission reduction targets necessary to attain the federal and state air quality standards identified in the AQMP. However, the second method is no longer recommended and supported by the SCAQMD and the third method is not applicable as the SCAQMD repealed the underlying regulation after the *CEQA Air Quality Handbook* was published. Therefore, the only viable SCAQMD method is based on whether the rate of growth in average daily trips exceeds the rate of growth in population (first item above).

IMPACT ANALYSIS

This impact analysis section evaluates the potential effects of the proposed County Area Plan policies and proposed City General Plan goals, objectives, and policies on air quality within the OVOV Planning Area, relative to each of the recommended significance criteria identified above.

URBEMIS2007 Version 9.2.4, a computer model designed to estimate regional air emissions from new development projects in California, was used to estimate construction and operational emissions from future development in the OVOV Planning Area under the County's existing Area Plan and the City's existing General Plan and from future development in the OVOV Planning area under the County's proposed Area Plan and the City's proposed General Plan. Construction emissions calculations are based on URBEMIS2007 defaults for the SoCAB. The amount of redevelopment and demolition that would occur during OVOV Planning Area buildout is unknown and demolition emissions are not estimated. Vehicle trip rates used to calculate project operational emissions are from the project traffic study. Detailed calculations of the operational emissions are found in **Appendix 3.3**.

Construction Impacts

Impact 3.3-1: Buildout of the proposed Area Plan and General Plan would result in potentially significant construction emission impacts if it would violate any air quality standards or contribute substantially to an existing or projected air quality violation.

Future development in the OVOV Planning Area would require site clearing and waste hauling; trenching for utilities and excavation; pavement and asphalt installation; building and hardscape construction; and architectural coatings. Construction emissions would principally be VOCs, NO_x, CO,

SO_x, PM₁₀, and PM_{2.5} from heavy-duty construction equipment exhaust; PM₁₀ and PM_{2.5} fugitive dust from site clearing, trenching, and excavation; and VOCs from asphalt paving and architectural coating.

Off-site emissions during the construction phase normally consist of exhaust emissions and entrained paved road dust (PM₁₀ and PM_{2.5}) from construction equipment delivery, demolition and construction waste hauling to separation and/or disposal facilities, material delivery, and construction worker commute trips if not mitigated.

Exposure to asbestos and/or lead paint during demolition would result in a significant air quality impact. Frequently encountered types of asbestos-containing materials (ACM) used in building construction include floor tile and mastic, textured ceiling plaster, wallboard and joint compound, insulation, and many other building materials in common use prior to 1981. Materials that contain over 1 percent asbestos fibers are considered regulated asbestos-containing material (ACM) and must be handled according to US EPA and Occupational Safety and Health Administration (OSHA) regulations. It is also regulated by SCAQMD's Rule 1403. In 1978, the federal government limited the use of lead-based paint, particularly in residential applications. Although usage was allowed to continue in many commercial settings, use of lead paint has declined. Buildings developed prior to the generally accepted 1978 lead-based paint determination date have the potential for lead-based paint if not mitigated.

Construction emissions were estimated using the URBEMIS2007 model. A number of variables are input into the URBEMIS2007 model including the construction schedule, the type of construction equipment required to build the project, emission factors for each piece of equipment, grading amounts, soil hauling amounts, and asphalt paving amounts. Because the proposed project encompasses development over an extended period, it is not possible to have specific information regarding the exact types of equipment that would be used and the actual amount of construction activity that would take place. Therefore, it was assumed that construction would be ongoing in a relatively evenly distributed building schedule.

In cases where other specific information is not available, the SCAQMD and CARB have recommended that default variables be used in the URBEMIS2007 model. The emission factors for each type of construction equipment were obtained from CARB's EMFAC2007 model and OFFROAD2007 model, both of which are incorporated as part of the URBEMIS2007 model. The EMFAC2007 model generates emissions factors for on-road mobile sources (e.g., passenger vehicles and on-road trucks) and the OFFROAD2007 model generates emission factors for off-road sources (e.g., construction equipment). Other emission factors, such as for fugitive dust emissions, are based on SCAQMD-approved factors, which are also incorporated into the URBEMIS2007 model. Emissions due to worker and vendor trips are based on the amount of building square footage and the number of residential units under construction.

The emission calculations assume the use of standard construction practices such as compliance with SCAQMD Rule 403 (Fugitive Dust). Compliance with Rule 403 is mandatory for all construction projects. In the URBEMIS2007 model, the emission calculations take into account compliance with Rule 403 by incorporating the watering of exposed surfaces and unpaved. Rule 403 contains other best available control measures that would reduce fugitive dust emissions; however, they are not accounted for in the available URBEMIS2007 modeling options. The results of the URBEMIS2007 modeling are shown in **Table 3.3-8, Estimated Maximum Construction Emissions Under Proposed Area Plan and General Plan (Unmitigated)**.

Table 3.3-8
Estimated Maximum Construction Emissions
Under Proposed Area Plan and General Plan (Unmitigated)

Construction Year	Emissions in Pounds per Day					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Maximum Daily Emissions in Any Year	2,100	12,960	21,570	30	32,100	7,120
SCAQMD Threshold	75	100	550	150	150	55
Exceeds Threshold?	YES	YES	YES	NO	YES	YES

*Source: Impact Sciences, Inc. Emissions calculations are provided in Appendix 3.3.
Totals in the table may not appear to add exactly due to rounding in the computer model calculations.*

As shown in **Table 3.3-8**, the estimated maximum construction emissions for buildout of the proposed Area Plan and General Plan would exceed the SCAQMD's construction thresholds for VOC, NO_x, CO, PM₁₀, and PM_{2.5}. Construction air quality impacts would be considered potentially significant.

Goals LU 1, C 3, and CO 8 would reduce air emissions by discouraging urban sprawl into rural areas and infrastructure construction; reducing vehicle trips and emissions through effective management of travel demand, transportation systems, and parking; promoting parking management strategies; and ensuring development considers location efficiency, and environmental preservation. These goals are supported by (**Objectives LU 1.1, C 3.3, and CO 8.3 and Policies LU 1.1.3, LU 1.1.5, C 3.3.1, and CO 8.3.1**).

Goals LU 2 and C 3 would reduce VOCs emissions from off-gassing from pavement during construction by encouraging parking alternatives in mixed-use developments and by reducing parking requirements where appropriate (**Objectives LU 2.3 and C 3.3; Policies LU 2.3.6 and C 3.3.1**).

Objective LU 6.1 and Policy LU 6.1.3 would reduce fugitive dust emissions during construction by requiring compatible hillside management techniques that limit site disturbance.

Goal CO 1 is to achieve a balance between social and economic needs of Santa Clarita Valley residents and protection of the natural environment. **Objective CO 1.4** and **Policy CO 1.4.1** would minimize the long-term impacts posed by harmful chemical and biological materials and in cooperation with appropriate agencies identify pollution sources and adopt strategies to reduce emissions into air and water bodies.

Goal CO 1 would reduce emissions from processing of raw materials by promoting use of recycled content building materials during construction (**Objective CO 1.3; Policy CO 1.3.2**).

Proposed Area Plan Policies and Proposed General Plan Goals, Objectives, and Policies

The policies provided below are similar for the County's Area Plan and City's General Plan. The County is evaluating its Area Plan policies while the City is evaluating its General Plan goals, objectives, and policies.

Goal LU 1: An interconnected Valley of Villages providing diverse lifestyles, surrounded by a greenbelt of natural open space.

Objective LU 1.1: Maintain an urban form for the Santa Clarita Valley that preserves an open space greenbelt around the developed portions of the Valley, protects significant resources from development, and directs growth to urbanized areas served with infrastructure.

Policy LU 1.1.3: Discourage urban sprawl into rural areas by limiting non-contiguous, "leap-frog" development outside of areas designated for urban use.

Policy LU 1.1.5: Increase infill development and re-use of underutilized sites within and adjacent to developed urban areas to achieve maximum benefit from existing infrastructure and minimize loss of open space, through redesignation of vacant sites for higher density and mixed use, where appropriate.

Goal LU 2: A mix of land uses to accommodate growth, supported by adequate resources and maintaining community assets.

Objective LU 2.3: Increase mixed-use development to create more livable neighborhoods, walkable business districts, and to reduce vehicle trips, while ensuring land use compatibility, through the following policies:

Policy LU 2.3.6: Provide parking alternatives in mixed-use developments, including subterranean parking and structured parking to limit the amount of surface area devoted to vehicle storage.

Objective LU 6.1: Maintain the natural beauty of the Santa Clarita Valley’s hillsides, significant ridgelines, canyons, oak woodlands, rivers and streams.

Policy LU 6.1.3: Ensure that new development in hillside areas is designed to protect the scenic backdrop of foothills and canyons enjoyed by Santa Clarita Valley communities, through requiring compatible hillside management techniques that may include but are not limited to density-controlled development (clustering) subject to the limitations in Policy LU 1.3.5; contouring and landform grading; revegetation with native plants; limited site disturbance; avoidance of tall retaining and build-up walls; use of stepped pads; and other techniques as deemed appropriate.

Goal C 3: Reduction of vehicle trips and emissions through effective management of travel demand, transportation systems, and parking.

Objective C 3.3: Make more efficient use of parking and maximize economic use of land, while decreasing impervious surfaces in urban areas, through parking management strategies.

Policy C 3.3.1: Evaluate parking standards and reduce requirements where appropriate, based on data showing that requirements are in excess of demand.

Goal CO 1: A balance between the social and economic needs of Santa Clarita Valley residents and protection of the natural environment, so that these needs can be met in the present and in the future.

Objective CO 1.3: Conserve and make more efficient use of non-renewable resource systems, such as fossil fuels, minerals, and materials.

Policy CO 1.3.2: Promote reducing, reusing, and recycling in all Land Use designations and cycles of development.

Objective CO 1.4: Minimize the long-term impacts posed by harmful chemical and biological materials on environmental systems.

Policy CO 1.4.1: In cooperation with other appropriate agencies, identify pollution sources and adopt strategies to reduce emissions into air and water bodies.

Goal CO 8: Development designed to improve energy efficiency, reduce energy and natural resource consumption, and reduce emissions of greenhouse gases. (Guiding Principle #11)

Objective CO 8.3: Encourage green building and sustainable development practices on private development projects, to the extent reasonable and feasible.

Policy CO 8.3.1: Evaluate development proposals for consistency with the ordinances developed through the County's Green Building Program.

Effectiveness of Proposed Area Plan Policies

The proposed Area Plan policies listed above are designed to reduce air emissions during construction by reducing the amount of infrastructure that would be required, reducing VOCs emissions from pavement, reducing fugitive dust emissions, encouraging use of recycled content building materials, and by cooperating with other appropriate agencies to identify pollution sources and adopt strategies to reduce their emissions. Implementation of these policies would reduce potential Area Plan air quality impacts under this criterion. However, individual project emissions could potentially exceed the thresholds.

Effectiveness of Proposed General Plan Goals, Objectives, and Policies

The proposed General Plan goals, objectives, and policies are designed to reduce air emissions during construction by reducing the amount of infrastructure that would be required, reducing VOCs emissions from pavement, reducing fugitive dust emissions, encouraging use of recycled content building materials, and by cooperating with other appropriate agencies to identify pollution sources and adopt strategies to reduce their emissions. Implementation of these goals, objectives, and policies would reduce potential General Plan air quality impacts under this criterion. However, individual project emissions could potentially exceed the thresholds.

Plan to Plan Analysis

The existing Area Plan and the proposed OVOV Area Plan incorporate goals, objectives and policies that would reduce air emissions through effective land use planning, or in the case of OVOV, implementation of Greenhouse Gas policies that would further reduce associated air quality impacts (i.e., measures that reduce greenhouse gas emissions usually have co-benefits of reducing criteria pollutant emissions). However, both Plans would potentially exceed emission during construction.

Operational Impacts

Impact 3.3-2 The proposed Area Plan and General Plan would result in a potentially significant impact if they would conflict with or obstruct implementation of the Final 2007 Air Quality Management Plan.

The proposed Area Plan and General Plan would result in a significant impact under this impact criterion if they cause population increases in excess of that projected by SCAG. The projected population of unincorporated OVOV Planning Area at Area Plan buildout (237,387) would not exceed the year 2035 population forecast (434,773) for the unincorporated North Los Angeles County subregion. The projected population of the City at General Plan buildout (275,000) is consistent with SCAG's year 2035 population forecast for the City (239,923); the difference of 35,077 residents is attributed to the population of the annexed SOI and to growth that would occur in the City's Planning Area after 2035. As a result, the population increases as a result of Area Plan and General Plan buildout would not be in excess of that projected by SCAG and impacts under this criterion would be less than significant.

Furthermore, with respect to SCAQMD's threshold to determine cumulative air quality impacts, the projected rate of population growth from **Section 3.19, Population and Housing**, was compared to the rate of ADT growth using information from the project traffic study (**Appendix 3.2**). Population growth

for the OVOV Planning Area is projected to increase from approximately 252,000 to 459,148 at buildout (a growth rate of approximately 75 percent), while the number of trip ends is expected to increase from 1,487,994 to 3,288,386 (a growth rate of approximately 120 percent). Since the rate of trip ends growth is greater than the rate of population growth, building of the proposed Area Plan and General Plan would result in a significant cumulative air quality impact.

Impacts under this criterion would be significant. **Goal CO 7**, clean air to protect human health and support healthy ecosystems, would further ensure that the Area Plan and General Plan would not conflict with or obstruct implementation of the Final 2007 Air Quality Management Plan. This would be ensured by promoting the mixed land use patterns and multi-modal circulation policies set forth in the Land Use and Circulation Element thereby limiting air emissions from transportation sources, by separating sensitive land uses from sources of toxic air emissions, and by coordinating with local, regional, state, and federal agencies to develop and implement regional air quality policies and programs (**Objectives CO 7.1, CO 7.2, and CO 7.3; Policies CO 7.1.1, CO 7.2.1, and CO 7.3.1**).

Proposed Area Plan Policies and Proposed General Plan Goals, Objectives, and Policies

The policies listed below are the same for the County's Area Plan and City's General Plan. The City is evaluating its General Plan goals, objectives, and policies while the County is evaluating its Area Plan policies.

Goal CO 7: Clean air to protect human health and support healthy ecosystems.

Objective CO 7.1: Reduce air pollution from mobile sources.

Policy CO 7.1.1: Through the mixed land use patterns and multi-modal circulation policies set forth in the Land Use and Circulation Elements, limit air pollution from transportation sources.

Policy CO 7.1.2: Support the use of alternative fuels.

Policy CO 7.1.3: Support alternative travel modes and new technologies, including infrastructure to support alternative fuel vehicles, as they become commercially available.

Objective CO 7.2: Apply guidelines to protect sensitive receptors from sources of air pollution as developed by the California Air Resources Board (CARB), where appropriate.

Policy CO 7.2.1: Ensure adequate spacing of sensitive land uses from the following sources of air pollution: high traffic freeways and roads; distribution centers; truck stops; chrome plating facilities; dry cleaners using perchloroethylene; and large gas stations, as recommended by CARB.

Objective CO 7.3: Coordinate with other agencies to plan for and implement programs for improving air quality in the South Coast Air Basin.

Policy CO 7.3.1: Coordinate with local, regional, state, and federal agencies to develop and implement regional air quality policies and programs.

Effectiveness of Proposed Area Plan Policies

Implementation of the above policies would further ensure that the Area Plan would not conflict with or obstruct implementation of the Final 2007 Air Quality Management Plan, and that air quality impacts under this criterion would be less than significant.

Effectiveness of Proposed General Plan Goals, Objectives, and Policies

Implementation of the aforementioned goals, objectives, and policies would further ensure that the General Plan would not conflict with or obstruct implementation of the Final 2007 Air Quality Management Plan and that air quality impact under this criterion would be less than significant.

Plan to Plan Analysis

The existing Area Plan and the proposed OVOV Area Plan incorporate policies that would ensure that either Plan would not conflict with the Air Quality Management Plan. Therefore, both Plans would be similar and have less than significant impacts.

Impact 3.3-3 Buildout of the proposed Area Plan and General Plan would result in a potentially significant air quality impact if they contributed substantial emissions of O₃ and PM_{2.5}, and PM₁₀ - emissions of which currently exceed state and/or federal standards, and by causing a cumulatively considerable net increase of O₃ (1 and 8 hour), PM₁₀, and PM_{2.5} for which the project region is nonattainment.

Operational air emissions would result from stationary and mobile sources. Stationary sources include “point sources,” which have one or more fixed emission sources at a single facility, and “area sources,” which include many small point sources from many different land uses. Point sources are usually associated with manufacturing and industrial uses, examples of which include refinery boilers or combustion equipment that produces electricity or processes heat. No large stationary sources are anticipated as part of the buildout of the plan area. Individually, an area source may have a less than significant impact on air quality; however, area sources could collectively have a significant impact. Examples of area sources include residential water heaters, painting operations, landscape maintenance equipment, and consumer products, such as barbecue lighter fluid or hair spray. “Mobile sources” refer to operational and evaporative emissions from motor vehicles. Mobile sources account for approximately 59 percent of the VOC emissions, 90 percent of the NO_x emissions, 95 percent of the CO emissions, 55 percent of the SO_x emissions, 15 percent of the PM₁₀ emissions, and 34 percent of the PM_{2.5} emissions found within the SoCAB.³⁰ Vehicle trips generated by the daily operational activities of the proposed development as presented in the project traffic study (**Appendix 3.2**) would contribute to mobile source emissions within the SoCAB.

Operational Emissions from Existing Conditions

Operational emissions under this scenario are for existing conditions modeled for year 2010 (see **Table 3.3-9, Operational Emissions from Existing Conditions**). The URBEMIS2007 model was used to quantify stationary and mobile source emissions of VOC, NO_x, CO, SO_x, PM₁₀, and PM_{2.5}. The URBEMIS2007 model also takes into account the planned uses, which include a wide array of land uses. The EMFAC2007 model, which is incorporated into URBEMIS2007, was used to quantify mobile source emissions. The average daily trips provided by the traffic impact analysis³¹ was used in the EMFAC2007 model to quantify the mobile source emissions from the existing conditions. Area source emissions were

³⁰ California Air Resources Board, “2008 Estimated Annual Average Emissions – South Coast Air Basin,” <http://www.arb.ca.gov/ei/maps/basins/absmap.htm>. 2009.

³¹ Austin-Foust Associates, Inc., *One Valley One Vision Valley-Wide Traffic Study*, (2010).

calculated based on SCAQMD emission factors for natural gas combustion, hearths, landscaping, consumer products, and architectural coatings incorporated in the URBEMIS2007 model.

The figures in **Table 3.3-9** do not reflect the emissions reductions that would occur as a result of the new Title 24 Building Energy Efficiency Standards for residential and non-residential buildings (Part 6 of the California Code of Regulations) that went into effect January 1, 2010. CEC estimates that implementation of the new standards will improve new construction energy performance by an average of 21 percent.

**Table 3.3-9
Operational Emissions from Existing Conditions**

Emissions Source	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Summertime Emissions in Pounds per Day						
Operational (Mobile) Sources	13,080	16,400	147,580	150	24,420	4,760
Area Sources	5,220	1,500	3,030	0	10	10
Total Emissions	18,300	17,900	150,610	150	24,430	4,770
Wintertime Emissions in Pounds per Day						
Operational (Mobile) Sources	14,610	19,750	142,090	120	24,420	4,760
Area Sources	16,210	2,450	32,380	90	4,900	4,720
Total Emissions	30,820	22,200	174,470	210	29,320	9,480

Source: Impact Sciences, Inc. Emissions calculations are provided in *Appendix 3.3*.
Values have been rounded to the nearest 10 pounds.

Operational Emissions from OVOV Planning Area Buildout

As stated above, the URBEMIS2007 model was used to quantify stationary and mobile source emissions of VOC, NO_x, CO, SO_x, PM₁₀, and PM_{2.5}. The average daily trips provided by the traffic impact analysis³² was used in the EMFAC2007 model to quantify the mobile source emissions from the proposed Plan. Area source emissions were calculated based on SCAQMD emission factors for natural gas combustion, hearths (natural gas only consistent with SCAQMD Rule 445), landscaping, consumer products, and architectural coatings incorporated in the URBEMIS2007 model.

Table 3.3-10, Estimated Maximum Operational Emissions Under Proposed Area Plan and General Plan (Unmitigated), shows that operational emissions of VOCs, SO_x, PM₁₀, and PM_{2.5} would result in an increase over existing emissions by 12 to 105 percent. Emissions of NO_x and CO are expected to decline in the future even with an increase in vehicle miles traveled due to newer automobile combustion emission

³² Austin-Foust Associates, Inc., *One Valley One Vision Valley-Wide Traffic Study*, (2010).

standards and fleet turnover (i.e., older more polluting automobiles being replaced by new models that meet more stringent emission standards). Operational air quality impacts would be considered potentially significant.

Table 3.3-10
Estimated Maximum Operational Emissions
Under Proposed Area Plan and General Plan (Unmitigated)

Emissions Source	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Summertime Emissions in Pounds per Day						
Existing Emissions¹	18,300	17,900	150,610	150	24,430	4,770
OVOV Emissions						
Operational (Mobile) Sources	10,290	9,000	100,620	300	48,970	9,500
Area Sources	10,200	2,490	5,020	0	10	10
Total OVOV Emissions	20,490	11,490	105,640	300	48,980	9,510
Net Increase in Emissions²	2,190	-6,410	-44,970	150	24,550	4,740
Percent Increase in Emissions	12%	-36%	-30%	100%	100%	99%
SCAQMD Threshold	55	55	550	150	150	55
Exceeds Threshold?	YES	NO	NO	YES	YES	YES
Wintertime Emissions in Pounds per Day						
Existing Emissions¹	30,820	22,200	174,470	210	29,320	9,480
OVOV Emissions						
Operational (Mobile) Sources	11,060	10,820	95,090	250	48,970	9,500
Area Sources	32,880	4,410	65,990	180	10,050	9,670
Total OVOV Emissions	43,940	15,230	161,080	430	59,020	19,170
Net Increase in Emissions²	13,120	-6,970	-13,390	220	29,700	9,690
Percent Increase in Emissions	43%	-31%	-8%	105%	101%	102%
SCAQMD Threshold	55	55	550	150	150	55
Exceeds Threshold?	YES	NO	NO	YES	YES	YES

Source: Impact Sciences, Inc. Emissions calculations are provided in Appendix 3.3.

¹ See Table 3.3-9, Operational Emissions from Existing Conditions.

² Total Emissions minus existing operational emissions from Table 3.3-9, Operational Emissions from Existing Conditions.

Values have been rounded to the nearest 10 pounds.

Using the SCAQMD's threshold to determine cumulative air quality impacts, the projected rate of population growth from Section 3.19, Population and Housing, was compared to the rate of trip ends growth using information from the project traffic study (Appendix 3.2). Population growth for the OVOV Planning Area is projected to increase from approximately 252,000 to 459,148 at buildout (a growth rate of

approximately 75 percent), while the number of trip ends is expected to increase from 1,487,994 to 3,288,386 (a growth rate of approximately 120 percent). Since the rate of trip ends growth is greater than the rate of population growth, buildout of the proposed Area Plan and General Plan would result in a significant cumulative air quality impact.

Several of the General Plan goals promote reduced mobile sources of these emissions by emphasizing reduced trips and trip lengths through an interconnected Valley of Villages (**Goal LU 1**), a mix of land uses (**Goal LU 2**), an emphasis on neighborhoods that are healthy and safe (**Goal LU 3**), a healthy economy (**Goal LU 4**), alternative transportation choices (**Goal LU 5**), and equitable and convenient access to services and facilities (**Goal LU 8**) that are provided in a timely manner and in appropriate locations (**Goal LU 9**). These goals are further supported by **Circulation Goals C 1 to C 7** that include an inter-connected network of circulation facilities, a well-maintained network of streets and highways, reduction of vehicle trips and emissions, rail service, bus transit, bikeway system, and walkable communities. **Goal C 4** would provide rail service to meet regional and inter-regional needs for convenient, cost-effective travel alternatives, which will be fully integrated into the Valley's circulation system and land use patterns. **Goal CO 7** and **Goal CO 8** would support alternative transportation modes and alternative fuel vehicles. Achievement of these goals would be accomplished through the implementation of **Objective LU 1.1, Policies LU 1.1.3, LU 1.1.5; Objective LU 1.2, Policy LU 1.2.13; Objective LU 2.1, Policy LU 2.1.2; Objective LU 2.3, Policies LU 2.3.2, LU 2.3.5; Objective LU 3.1, Policies LU 3.1.3, LU 3.1.7; Objective LU 3.2, Policies LU 3.2.1, LU 3.2.2; Objective LU 4.1, Policies LU 4.1.3; Objective LU 4.2, Policies LU 4.2.1, LU 4.2.2; Objective LU 4.4, Policy LU 4.4.3; Objective LU 4.5, Policy LU 4.5.4; Objective LU 5.1, Policies LU 5.1.3, LU 5.1.4, LU 5.1.5; Objective LU 5.2, Policies LU 5.2.1, LU 5.2.2, LU 5.2.3, LU 5.2.4, LU 5.2.5; Objective LU 8.1, Policies LU 8.1.2, LU 8.1.3; Objective LU 9.1, Policy LU 9.1.7; Objective C 1.1, Policies C 1.1.1, C 1.1.2, C 1.1.3, C 1.1.4, C 1.1.6, C 1.1.10, C 1.1.11, C 1.1.12, C 1.1.13; Objective C 1.2, Policies C 1.2.1, C 1.2.2, C 1.2.3, C 1.2.4, C 1.2.5, C 1.2.6, C 1.2.7, C 1.2.8, C 1.2.9, C 1.2.10, C 1.2.11, C 1.2.12; Objective C 1.3, Policies C 1.3.2, C 1.3.6; Objective C 2.2, Policies C 2.2.6, C 2.2.7; Objective C 2.3, Policy C 2.3.3; Objective C 3.1, Policies C 3.1.1, C 3.1.2, C 3.1.3, C 3.1.4, C 3.1.5, C 3.1.6, C 3.1.7; Objective C 3.2, Policies C 3.2.1, C 3.2.2, C 3.2.3, C 3.2.4; Objective C 3.3, Policies C 3.3.2, C 3.3.3, C 3.3.4, C 3.3.6, C 3.3.7; Objective C 4.1, Policies C 4.1.1, C 4.1.2, C 4.1.3, C 4.1.6, C 4.1.7; Objective C 4.2, Policy C 4.2.1, C 4.2.2, C 4.2.3; Objective C 5.1, Policies C 5.1.2, C 5.1.4; Objective C 5.2, Policies C 5.2.1, C 5.2.4, C 5.2.5; Objective C 5.3, Policies C 5.3.3, C 5.3.4; Objective C 5.4, Policy C 5.4.3; Objective C 6.1, Policy C 6.1.5; Objective C 6.2, Policies C 6.2.1, C 6.2.2, C 6.2.3; Objective C 7.1, Policies C 7.1.1, C 7.1.2, C 7.1.3, C 7.1.4, C 7.1.5, C 7.1.6, C 7.1.7, C 7.1.8, C 7.1.9, C 7.1.10; Objective CO 1.2, Policy CO 1.2.1; Objective CO 1.5, Policy CO 1.5.7, Objective CO 7.1, Policies CO 7.1.1, CO 7.1.2, CO 7.1.3; and Objective CO 8.2, Policies CO 8.2.7 and CO 8.2.13.**

Furthermore, **Goals LU 4, LU 7, CO 1, CO 3, CO 4, CO 7, CO 8, and CO 10** would reduce stationary sources of these emissions predominantly through energy conservation. These goals would be achieved through **Objective LU 4.5, Policy LU 4.5.3; Objective LU 7.1, Policies LU 7.1.2, LU 7.1.3, LU 7.1.4; Objective CO 1.1, Policy CO 1.1.1; Objective CO 1.2, Policy CO 1.2.1; Objective CO 1.3, Policies CO 1.3.1, CO 1.3.3, CO 1.3.4; Objective CO 1.4, Policy CO 1.4.1; Objective CO 1.5, Policy CO 1.5.1, CO 1.5.7; Objective CO 3.1, Policy CO 3.1.11; Objective CO 3.6, Policy CO 3.6.1; Objective CO 4.1, Policy 4.1.6; Objective CO 4.3, Policy CO 4.3.4; Objective CO 7.2, Policy CO 7.2.1; Objective CO 7.3, Policy CO 7.3.1; Objective CO 8.1, Policies CO 8.1.1, CO 8.1.3, CO 8.1.4, CO 8.1.5; Objective CO 8.2, Policies CO 8.2.1, CO 8.2.2, CO 8.2.3, CO 8.2.5, CO 8.2.6, CO 8.2.8, CO 8.2.9, CO 8.2.10, CO 8.2.12, CO 8.2.14; Objective CO 8.3, Policies CO 8.3.1, CO 8.3.2, CO 8.3.3, CO 8.3.4, CO 8.3.5, CO 8.3.6, CO 8.3.7, CO 8.3.8, CO 8.3.9, CO 8.3.10, CO 8.3.12; Objective CO 10.1, Policy CO 10.1.17; and Objective CO 10.2; Policy CO 10.2.1.**

Proposed Area Plan Policies and Proposed General Plan Goals, Objectives and Policies

Goal LU 1: An interconnected Valley of Villages providing diverse lifestyles, surrounded by a greenbelt of natural open space.

Objective LU 1.2: Maintain the distinctive community character of villages and neighborhoods throughout the planning area by establishing uses, densities, and design guidelines appropriate to the particular needs and goals of each area, including but not limited to the following:

Policy LU 1.2.13: Encourage use of the Specific Plan process to plan for cohesive, vibrant, pedestrian-oriented communities with mixed uses, access to public transit, and opportunities for living and working within the same community.

Goal LU 2: A mix of land uses to accommodate growth, supported by adequate resources and maintaining community assets.

Objective LU 2.1: Provide adequate, suitable sites for housing, employment, business, shopping, public facilities, public utility facilities, and community services to meet current needs and the anticipated needs of future growth.

Policy LU 2.1.2: On the Land Use Map, integrate land use designations in a manner that promotes healthy, walkable communities, by providing an appropriate mix of residential and service uses in proximity to one another.

Objective LU 2.3: Increase mixed-use development to create more livable neighborhoods, walkable business districts, and to reduce vehicle trips, while ensuring land use compatibility, through mixed-use zoning:

Policy LU 2.3.2: Either vertical or horizontal integration of uses shall be allowed in a mixed use development, with an emphasis on tying together the uses with appropriate pedestrian linkages.

Policy LU 2.3.5: Mixed use developments shall be designed to create a pedestrian-scale environment through appropriate street and sidewalk widths, block lengths, relationship of buildings to streets, and use of public spaces.

Goal LU 3: Healthy and safe neighborhoods for all residents.

Objective LU 3.1: Provide for a diversity of housing types available to provide safe and suitable homes for all economic levels, household sizes, age groups, and special needs groups within the community.

Policy LU 3.1.3: Promote opportunities for live-work units to accommodate residents with home-based businesses.

Policy LU 3.1.7: Promote development of housing for students attending local colleges, in consideration of access to campuses to the extent practicable.

Objective LU 3.2: Promote walkable neighborhoods that provide safe access to community services and essential services.

Policy LU 3.2.1: Require provision of adequate walkways in urban residential neighborhoods that provide safe and accessible connections to destinations such as schools, parks, and neighborhood commercial centers.

Policy LU 3.2.2: In planning residential neighborhoods, include pedestrian linkages, landscaped parkways with sidewalks, and separated trails for pedestrians and bicycles, where appropriate and feasible.

Goal LU 4: A diverse and healthy economy.

Objective LU 4.1: Promote creation of strong regional and local economies.

Policy LU 4.1.3: Direct business creation and expansion for larger companies within and adjacent to existing and planned business centers and major transportation corridors.

Objective LU 4.2: Promote job creation, focusing on employment generators in the technical and professional sectors.

Policy LU 4.2.1: Pursue business attraction and expansion programs for clean industries that provide job opportunities for local residents, particularly in the areas of film/entertainment, biotechnology, aerospace, and technology.

Policy LU 4.2.2: Achieve a balanced ratio of jobs to housing through business expansion and economic development programs, with a goal of at least 1.5 jobs per household.

Objective LU 4.4: Expand infrastructure to attract and sustain new business.

Policy LU 4.4.3: Evaluate the feasibility of connecting business activity centers throughout the Santa Clarita Valley with light rail, to provide increased mobility and access for customers and employees between the Valencia Town Center, Whittaker Berrite property, Newhall, Valencia Industrial Center, Magic Mountain and Entrada, Newhall Ranch, and other areas as deemed appropriate.

Objective LU 4.5: Ensure creation of attractive and technology-friendly business environments to attract tenants and employees.

Policy LU 4.5.3: Promote the inclusion of state-of-the-art technology within business complexes for telecommunications, heating and cooling, water and energy conservation, and other similar design features.

Policy LU 4.5.4: Encourage the provision of support services for employees within business park areas, such as dining and personal services where appropriate, to reduce vehicle trips and promote pedestrian-friendly work environments.

Goal LU 5: Enhanced mobility through alternative transportation choices and land use patterns.

Objective LU 5.1: Provide for alternative travel modes linking neighborhoods, commercial districts, and job centers.

Policy LU 5.1.1: Require safe, secure, clearly-delineated, adequately illuminated walkways and bicycle facilities in all commercial and business centers.

Policy LU 5.1.2: Require connectivity between walkways and bikeways serving neighborhoods and nearby commercial areas, schools, parks, and other supporting services and facilities.

Policy LU 5.1.3: Ensure that adequate bus turnouts, served by walkways and comfortable, safe, and convenient waiting facilities, are provided for transit users within residential, shopping, and business developments.

Objective LU 5.2: Coordinate land use designations with support services and public transit in order to encourage vehicle trip reduction.

Policy LU 5.2.1: Designate higher-density residential uses in areas served by public transit and a full range of support services.

Policy LU 5.2.2: Provide for location of neighborhood commercial uses in proximity to the neighborhoods they serve, to encourage cycling and walking to local stores.

Policy LU 5.2.3: Promote location of non-polluting businesses providing employment opportunities in proximity to neighborhoods, to encourage walking to work.

Policy LU 5.2.4: Encourage transit-oriented development (TOD) through designation of land uses that allow compact, mixed-use development in proximity to rail stations and multi-modal transit facilities, in conformance with applicable policies.

Policy LU 5.2.5: Encourage the mix of compatible uses in areas where, though not served by rail or transit, mixed uses will achieve more walkable neighborhoods and trip reduction, in conformance with applicable policies.

Goal LU 7: Environmentally responsible development through site planning, building design, waste reduction, and responsible stewardship of resources.

Objective LU 7.1: Achieve greater energy efficiency in building and site design.

Policy LU 7.1.2: Promote the use of solar panels and other renewable energy sources in all projects.

Policy LU 7.1.3: Encourage development of energy-efficient buildings, and discourage construction of new buildings for which energy efficiency cannot be demonstrated.

Policy LU 7.1.4: Support the establishment of energy-efficient industries in the Santa Clarita Valley.

Goal LU 8: Equitable and convenient access to social, cultural, educational, civic, medical, and recreational facilities and opportunities for all residents.

Objective LU 8.1: Work with service providers to plan for adequate community facilities and services to meet the needs of present and future residents.

Policy LU 8.1.2: Implement a master plan for trails throughout the Santa Clarita Valley to serve all residents.

Policy LU 8.1.3: Implement a master plan for parks, with special focus on provision of additional playfields for youth sports in locations accessible to underserved neighborhoods.

Goal LU 9: Adequate public facilities and services, provided in a timely manner and in appropriate locations to serve existing and future residents and businesses.

Objective LU 9.1: Coordinate land use planning with provision of adequate public services and facilities to support development.

Policy LU 9.1.7: Provide for location of additional waste transfer stations and other facilities to promote recycling and reuse of materials within Industrial designations on the Land Use Map, subject to the provisions of the County Zoning Ordinance.

Goal C 1: An inter-connected network of circulation facilities that integrates all travel modes, provides viable alternatives to automobile use, and conforms with regional plans.

Objective C 1.1: Provide multi-modal circulation systems that move people and goods efficiently while protecting environmental resources and quality of life.

Policy C 1.1.1: Reduce dependence on the automobile, particularly single-occupancy vehicle use, by providing safe and convenient access to transit, bikeways, and walkways.

Policy C 1.1.2: Promote expansion of alternative transportation options to increase accessibility to all demographic and economic groups throughout the community, including mobility-impaired persons, senior citizens, low-income persons, and youth.

Policy C 1.1.3: Work with local and regional agencies and employers to promote an integrated, seamless transportation system that meets access needs, including local and regional bus service, dial-a-ride, taxis, rail, van pools, car pools, bus pools, bicycling, walking, and automobiles.

- Policy C 1.1.4:** Promote public health through provision of safe, pleasant, and accessible walkways, bikeways, and multi-purpose trail systems for residents.
- Policy C 1.1.6:** Provide adequate facilities for multi-modal travel, including but not limited to bicycle parking and storage, expanded park-and-ride lots, and adequate station and transfer facilities in appropriate locations.
- Policy C 1.1.10:** Provide for flexibility in the transportation system to accommodate new technology as it becomes available, in order to reduce trips by vehicles using fossil fuels where feasible and appropriate.
- Policy C 1.1.11:** Promote use of multi-modal facilities by providing adequate and attractive way-finding programs directing users to transit stations, park-and-ride lots, bicycle storage, and other facilities.
- Policy C 1.1.12:** Encourage the City of Santa Clarita to implement recommendations of its Non-Motorized Transportation Plan to expand opportunities for alternative travel modes.
- Policy C 1.1.13:** Design new activity centers and improve existing activity centers to prioritize walking, bicycling and circulator transit for internal circulation of person-travel.
- Objective C 1.2:** Coordinate land use and circulation planning to achieve greater accessibility and mobility for users of all travel modes.
- Policy C 1.2.1:** Develop coordinated plans for land use, circulation, and transit to promote transit-oriented development that concentrates higher density housing, employment, and commercial areas in proximity to transit corridors.
- Policy C 1.2.2:** Create walkable communities, with paseos and walkways connecting residential neighborhoods to multi-modal transportation services such as bus stops and rail stations.

- Policy C 1.2.3:** Require that new commercial and industrial development provide walkway connections to public sidewalks and transit stops, where available.
- Policy C 1.2.4:** Consider location, availability, and accessibility of transit in evaluating new development plans.
- Policy C 1.2.5:** In mixed use projects, require compact development and a mix of land uses to locate housing, workplaces, and services within walking or bicycling distance of each other.
- Policy C 1.2.6:** Provide flexible standards for parking and roadway design in transit-oriented development areas to promote transit use, where appropriate.
- Policy C 1.2.7:** In pedestrian-oriented areas, provide a highly connected circulation grid with relatively small blocks to encourage walking.
- Policy C 1.2.8:** Provide safe pedestrian connections across barriers, which may include but are not limited to major traffic corridors, drainage and flood control facilities, utility easements, grade separations, and walls.
- Policy C 1.2.9:** Emphasize providing right-of-way for non-vehicular transportation modes so that walking and bicycling are the easiest, most convenient modes of transportation available for short trips.
- Policy C 1.2.10:** Protect communities by discouraging the construction of facilities that sever residential neighborhoods.
- Policy C 1.2.11:** Reduce vehicle miles traveled (VMT) through the use of smart growth concepts.
- Policy C 1.2.12:** Balance the anticipated volume of people and goods movement with the need to maintain a walkable and bicycle friendly environment.

- Objective C 1.3:** Ensure conformance of the Circulation Plan with regional transportation plans.
- Policy C 1.3.2:** Through trip reduction strategies and emphasis on multi-modal transportation options, contribute to achieving the air quality goals of the South Coast Air Quality Management District Air Quality Management Plan.
- Policy C 1.3.6:** Support the expansion of Palmdale Regional Airport and the extension of multi-modal travel choices between the airport and the Santa Clarita Valley, in conformance with regional planning efforts.
- Policy C 1.3.7:** Apply for regional, State, and Federal grants for bicycle and pedestrian infrastructure projects.
- Goal C 2:** A unified and well-maintained network of streets and highways which provides safe and efficient movement of people and goods between neighborhoods, districts, and regional centers, while maintaining community character.
- Objective C 2.2:** Adopt and apply consistent standards throughout the Santa Clarita Valley for street design and service levels, which promote safety, convenience, and efficiency of travel.
- Policy C 2.2.6:** Within residential neighborhoods, promote the design of “healthy streets” which may include reduced pavement width, shorter block length, provision of on-street parking, traffic-calming devices, bike routes, and pedestrian connectivity, landscaped parkways, and canopy street trees.
- Policy C 2.2.7:** Where practical, encourage the use of grid or modified grid street systems to increase connectivity and walkability; where cul-de-sacs are provided, promote the use of walkways connecting cul-de-sac bulbs to adjacent streets and/or facilities to facilitate pedestrian access; where street connectivity is limited and pedestrian routes are spaced over 500 feet apart, promote

the use of intermediate pedestrian connections through or between blocks.

Objective C 2.3: Balance the needs of congestion relief with community values for aesthetics and quality of life.

Policy C 2.3.3: When evaluating road widening projects, consider the impacts of additional traffic, noise, and fumes on adjacent land uses and use context-sensitive design techniques where appropriate.

Objective C 2.4: Allow trucks to utilize only major and secondary highways as through routes, to minimize impacts of truck traffic on surface streets and residential neighborhoods.

Policy C 2.4.2: Establish adequate setbacks from major and secondary highways for sensitive receptors and sensitive uses, so as to adverse impacts on these individuals and uses from noise and air pollution caused by truck traffic.

Goal C 3: Reduction of vehicle trips and emissions through effective management of travel demand, transportation systems, and parking.

Objective C 3.1: Promote the use of travel demand management strategies to reduce vehicle trips.

Policy C 3.1.1: In evaluating new development projects, require trip reduction measures as feasible to relieve congestion and reduce air pollution from vehicle emissions.

Policy C 3.1.2: Promote home-based businesses and live-work units as a means of reducing home-to-work trips.

Policy C 3.1.3: Promote the use of flexible work schedules and telecommuting to reduce home to work trips.

Policy C 3.1.4: Promote the use of employee incentives to encourage alternative travel modes to work.

Policy C 3.1.5: Promote the use of van pools, car pools, and shuttles to encourage trip reduction.

Policy C 3.1.6: Promote the provision of showers and lockers within businesses and employment centers, in order to encourage opportunities for employees to bicycle to work.

Policy C 3.1.7: Encourage special event center operators to advertise and offer discounted transit passes with event tickets.

Objective C 3.2: Encourage reduction in airborne emissions from vehicles through use of clean vehicles and transportation system management.

Policy C 3.2.1: Adopt clean vehicle purchase policies for City and County fleets.

Policy C 3.2.2: Continue to enhance signal timing and synchronization to allow for free traffic flow, minimizing idling and vehicle emissions.

Policy C 3.2.3: When available and feasible, provide opportunities and infrastructure to support use of alternative fuel vehicles and travel devices.

Policy C 3.2.4: The City and County will encourage new commercial and retail developments to provide prioritized parking for electric vehicles and vehicles using alternative fuels.

Objective C 3.3: Make more efficient use of parking and maximize economic use of land, while decreasing impervious surfaces in urban areas, through parking management strategies.

Policy C 3.3.2: In pedestrian-oriented, high density mixed use districts, provide for common parking facilities to serve the district, where appropriate.

Policy C 3.3.3: Promote shared use of parking facilities between businesses with complementary uses and hours, where feasible.

Policy C 3.3.4: Within transit-oriented development projects, provide incentives such as higher floor area ratio and/or lower parking requirements for commercial development that provides transit and ride-share programs.

Policy C 3.3.6: In the development review process, prioritize direct pedestrian access between building entrances, sidewalks, and transit stops, by placing parking behind buildings where possible, to the sides of buildings when necessary, and always away from street intersections.

Policy C 3.3.7: Create parking benefit districts which invest meter revenues in pedestrian infrastructure and other public amenities wherever feasible.

Goal C 4: Rail service to meet regional and inter-regional needs for convenient, cost-effective travel alternatives, which are fully integrated into the Valley's circulation systems and land use patterns.

Objective C 4.1: Maximize the effectiveness of Metrolink's commuter rail service through provision of support facilities and land planning.

Policy C 4.1.1: Develop permanent Metrolink facilities with an expanded bus transfer station and additional park-and-ride spaces at the Via Princessa station, or other alternative location as deemed appropriate to meet the travel needs of residents on the Valley's east side.

Policy C 4.1.2: Coordinate with other agencies to facilitate extension of a passenger rail line from the Santa Clarita Station to Ventura County, which may be used for Metrolink service.

Policy C 4.1.3: Continue to expand and improve commuter services, including park-and-ride lots, bicycle parking and storage, and waiting facilities, at all Metrolink stations.

Policy C 4.1.6: Provide incentives to promote transit-oriented development near rail stations.

Policy C 4.1.7: Facilitate coordination of planning for any future high speed regional rail systems in the Valley with Metrolink services.

Objective C 4.2: Access to a high speed rail system connecting the Santa Clarita Valley with other regions, and other regional rail service connections.

Policy C 4.2.1: Continue to work with the Orange Line Development Authority (OLDA) to plan for development of an environmentally sensitive, high speed transportation system with a route through the Santa Clarita Valley, including a regional transit hub with associated infrastructure that would provide connections to the Los Angeles Basin, Palmdale Regional Airport, and other destinations.

Policy C 4.2.2: Coordinate with other agencies as needed to facilitate planning for other high-speed rail alternatives in the Santa Clarita Valley.

Policy C 4.2.3: Promote and encourage the expansion of Amtrak Rail Service to the Santa Clarita Valley.

Goal C 5: Bus transit service as a viable choice for all residents, easily accessible and serving destinations throughout the Valley.

Objective C 5.1: Ensure that street patterns and design standards accommodate transit needs.

Policy C 5.1.2: For private gated communities, require the developer to accommodate bus access through the entry gate, or provide bus waiting facilities at the project entry with pedestrian connections to residential streets, where appropriate.

Policy C 5.1.4: Provide for location of bus stops within ¼-mile of residential neighborhoods, and include paved bus waiting areas in street improvement plans wherever appropriate and feasible.

Objective C 5.2: Maximize the accessibility, safety, convenience, and appeal of transit stops.

Policy C 5.2.1: Require paved waiting areas, accessible by paved walkways and reasonably direct pedestrian routes, for bus stops in new development; and provide for retrofitting of existing bus stops, where feasible and practicable.

Policy C 5.2.4: Enhance way-finding signage along walkways and paseos to direct pedestrians to transit stops.

Policy C 5.2.5: Complementary transportation modes should be interconnected at intermodal transit centers, including provisions for bicycles on buses, bicycle parking at transit centers, and park-and-ride at transit stops.

Objective C 5.3: Explore opportunities to improve and expand bus transit service.

Policy C 5.3.3: Evaluate the feasibility of providing “fly-away” bus transit service to airports located at Burbank, Palmdale, and Los Angeles, and implement this program when warranted by demand.

Policy C 5.3.4: Evaluate the feasibility of providing bus rapid transit (BRT) for key transit corridors when light-rail is not feasible or cost effective.

Objective C 5.4: Provide adequate funding to expand transit services to meet the needs of new development in the Valley.

Policy C 5.4.3: Seek funding for transit system expansion and improvement from all available sources, including local, state, and federal programs and grants.

Goal C 6: A unified and well-maintained bikeway system with safe and convenient routes for commuting, recreational use, and utilitarian travel, connecting communities and the region.

Objective C 6.1: Adopt and implement a coordinated master plan for bikeways for the Valley, including both City and County areas, to make bicycling an attractive and feasible mode of transportation.

Policy C 6.1.5: Plan for continuous bikeways to serve major destinations, including but not limited to regional shopping areas, college campuses, public buildings, parks, and employment centers.

Objective C 6.2: Encourage provision of equipment and facilities to support the use of bicycles as an alternative means of travel.

Policy C 6.2.1: Require bicycle parking, which can include bicycle lockers and sheltered areas at commercial sites and multi-family housing complexes for use by employees and residents, as well as customers and visitors.

Policy C 6.2.2: Provide bicycle racks on transit vehicles to give bike-and-ride commuters the ability to transport their bicycles.

Policy C 6.2.3: Promote the inclusion of services for bicycle commuters, such as showers and changing rooms, as part of the development review process for new development or substantial alterations of existing commercial or industrial uses, where appropriate.

Goal C 7: Walkable communities, in which interconnected walkways provide a safe, comfortable, and viable alternative to driving for local destinations.

Objective C 7.1: A continuous, integrated system of safe and attractive pedestrian walkways, paseos and trails linking residents to parks, open space, schools, services, and transit.

Policy C 7.1.1: In reviewing new development proposals, consider pedestrian connections within and between developments as an integral component of the site design, which may include seating, shading, lighting, directional signage, accessibility, and convenience.

- Policy C 7.1.2:** For existing walled subdivisions, extend pedestrian access to connect these neighborhoods to transit and services through public education and by facilitating retrofitted improvements where feasible.
- Policy C 7.1.3:** Where feasible and practical, consider grade separated facilities to provide pedestrian connections across arterial streets, flood control channels, utility easements, and other barriers.
- Policy C 7.1.4:** Identify and develop an improvement program to connect existing walkways and paseos to transit and services, where needed and appropriate.
- Policy C 7.1.5:** In new commercial development, provide for direct, clearly delineated, and preferably landscaped pedestrian walkways from transit stops and parking areas to building entries, and avoid placement of uses (such as drive-through facilities) in locations that would obstruct pedestrian pathways.
- Policy C 7.1.6:** Encourage placement of building entries in locations accessible to public sidewalks and transit.
- Policy C 7.1.7:** Utilize pedestrian-oriented scale and design features in areas intended for pedestrian use.
- Policy C 7.1.8:** Upgrade streets that are not pedestrian-friendly due to lack of sidewalk connections, safe street crossing points, vehicle sight distance, or other design deficiencies.
- Policy C 7.1.9:** Promote pedestrian-oriented street design through traffic-calming measures where appropriate, which may include but are not limited to bulb-outs or chokers at intersections, raised crosswalks, refuge islands, striping, and landscaping.
- Policy C 7.1.10:** Continue to expand and improve the Valley's multi-use trail system to provide additional routes for pedestrian travel.

Goal CO 1: A balance between the social and economic needs of Santa Clarita Valley residents and protection of the natural environment, so that these needs can be met not both in the present and in the future.

Objective CO 1.1: Protect the capacity of the natural “green” infrastructure to absorb and break down pollutants, cleanse air and water, and prevent flood and storm damage.

Policy CO 1.1.1: In making land use decisions, consider the complex, dynamic, and interrelated ways that natural and human systems interact, such as the interactions between energy demand, water demand, air and water quality, and waste management.

Objective CO 1.2: Promote more sustainable utilization of renewable resource systems.

Policy CO 1.2.1: Improve the community’s understanding of renewable resource systems that occur naturally in the Santa Clarita Valley, including systems related to hydrology, energy, ecosystems, and habitats, and the interrelationships between these systems, through the following measures:

- c. Provide information to decision-makers about the interrelationship between traffic and air quality, ecosystems and water quality, land use patterns and public health, and other similar interrelationships between renewable resource systems in order to ensure that decisions are based on an understanding of these concepts.

Objective CO 1.3: Conserve and make more efficient use of non-renewable resource systems, such as fossil fuels, minerals, and materials.

Policy CO 1.3.1: Explore, evaluate, and implement methods to shift from using non-renewable resources to use of renewable resources in all aspects of land use planning and development.

Policy CO 1.3.3: Provide informational material to the public about programs to conserve non-renewable resources and recover materials from the waste stream.

Policy CO 1.3.4: Promote and encourage cogeneration projects for commercial and industrial facilities, provided they meet all applicable environmental quality standards, including those related to air and noise, and provide a net reduction in greenhouse gas (GHG) emissions associated with energy production.

Objective CO 1.4: Minimize the long-term impacts posed by harmful chemical and biological materials on environmental systems.

Policy CO 1.4.1: In cooperation with other appropriate agencies, identify pollution sources and adopt strategies to reduce emissions into air and water bodies.

Objective CO 1.5: Manage urban development and human-built systems to minimize harm to ecosystems, watersheds, and other natural systems, such as urban runoff treatment trains that infiltrate, treat, and remove direct connections to impervious areas.

Policy CO 1.5.1: Promote the use of environmentally-responsible building design and efficiency standards in new development, and provide examples of these standards in public facilities, pursuant to the County's Green Building Program.

Policy CO 1.5.7: Consider the principles of environmental sustainability, trip reduction, walkability, stormwater management, and energy conservation at the site, neighborhood, district, city, and regional level, in land use decisions.

Goal CO 3: Conservation of biological resources and ecosystems, including sensitive habitats and species.

Objective CO 3.1: In review of development plans and projects, encourage conservation of existing natural areas and restoration of damaged natural vegetation to provide for habitat and biodiversity.

Policy CO 3.1.11: Promote use of pervious materials or porous concrete on sidewalks to allow for planted area infiltration, allow oxygen to

reach tree roots (preventing sidewalk lift-up from roots seeking oxygen), and mitigate tree-sidewalk conflicts, in order to maintain a healthy mature urban forest.

Objective CO 3.6: Minimize impacts of human activity and the built environment on natural plant and wildlife communities.

Policy CO 3.6.1: Minimize light trespass, sky-glow, glare, and other adverse impacts on the nocturnal ecosystem by limiting exterior lighting to the level needed for safety and comfort; reduce unnecessary lighting for landscaping and architectural purposes, and encourage reduction of lighting levels during non-business nighttime hours.

Goal CO 4: An adequate supply of clean water to meet the needs of present and future residents and businesses, balanced with the needs of natural ecosystems.

Objective CO 4.1: Promote water conservation as a critical component of ensuring adequate water supply for Santa Clarita Valley residents and businesses.

Policy CO 4.1.6: Support amendments to the County Building Code that would promote upgrades to water and energy efficiency when issuing permits for renovations or additions to existing buildings.

Objective CO 4.3: Limit disruption of natural hydrology by reducing impervious cover, increasing on-site infiltration, and managing stormwater runoff at the source.

Policy CO 4.3.4: Encourage and promote the use of new materials and technology for improved stormwater management, such as pervious paving, green roofs, rain gardens, and vegetated swales.

Goal CO 7: Clean air to protect human health and support healthy ecosystems.

Objective CO 7.1: Reduce air pollution from mobile sources.

Policy CO 7.1.1: Through the mixed land use patterns and multi-modal circulation policies set forth in the Land Use and Circulation Elements, limit air pollution from transportation sources.

Policy CO 7.1.2: Support the use of alternative fuel vehicles.

Policy CO 7.1.3: Support alternative travel modes and new technologies, including infrastructure to support alternative fuel vehicles, as they become commercially available.

Objective CO 7.2: Apply guidelines to protect sensitive receptors from sources of air pollution as developed by the California Air Resources Board (CARB), where appropriate.

Policy CO 7.2.1: Ensure adequate spacing of sensitive land uses from the following sources of air pollution: high traffic freeways and roads; distribution centers; truck stops; chrome plating facilities; dry cleaners using perchloroethylene; and large gas stations, as recommended by CARB.

Objective CO 7.3: Coordinate with other agencies to plan for and implement programs for improving air quality in the South Coast Air Basin.

Policy CO 7.3.1: Coordinate with local, regional, state, and federal agencies to develop and implement regional air quality policies and programs.

Goal CO 8: Development designed to improve energy efficiency, reduce energy and natural resource consumption, and reduce emissions of greenhouse gases. (Guiding Principle #11).

Objective CO 8.1: Comply with the requirements of State law, including AB 32, SB 375, and implementing regulations, to reach targeted reductions of greenhouse gas (GHG) emissions.

Policy CO 8.1.1: Create and adopt a Climate Action Plan within 18 months of the adoption date of the County's General Plan Update that meets State requirements and includes the following components:

- a. Plans and programs to reduce GHG emissions to State-mandated targets, including enforceable reduction measures;
- b. Mechanisms to ensure regular review of progress towards the emission reduction targets established by the Climate Action Plan;
- c. Procedures for reporting on progress to officials and the public;
- d. Procedures for revising the plan as needed to meet GHG emissions reduction targets; and
- e. Allocation of funding and staffing for Plan implementation.

After adoption of the Climate Action Plan, amend this Area Plan if necessary to ensure consistency with the adopted Climate Action Plan.

Policy CO 8.1.3: Implement the ordinances developed through the County's Green Building Program.

Policy CO 8.1.4: Provide information and education to the public about energy conservation and local strategies to address climate change.

Policy CO 8.1.5: Coordinate various activities within the community and appropriate agencies related to GHG emissions reduction activities.

Objective CO 8.2: Reduce energy and materials consumption and greenhouse gas emissions in public uses and facilities.

Policy CO 8.2.1: Ensure that all new County buildings, and all major renovations and additions, meet adopted green building standards, with a goal of achieving the LEED (Leadership in Energy and Environmental Design) Silver rating or above, or equivalent, where appropriate.

Policy CO 8.2.2: Ensure energy efficiency of existing public buildings through energy audits and repairs, and retrofit buildings with energy

efficient heating and air conditioning systems and lighting fixtures.

Policy CO 8.2.3: Support purchase of renewable energy for public buildings, which may include installing solar photovoltaic systems to generate electricity for County buildings and operations and other methods as deemed appropriate and feasible, in concert with other significant energy conservation efforts.

Policy CO 8.2.5: Support installation of photovoltaic and other renewable energy equipment on public facilities, in concert with significant energy conservation efforts.

Policy CO 8.2.6: Promote use of solar lighting in parks and along paseos and trails, where practical.

Policy CO 8.2.7: Support the use of sustainable alternative fuel vehicles for machinery and fleets, where practical, by evaluating fuel sources, manufacturing processes, maintenance costs, and vehicle lifetime use.

Policy CO 8.2.8: Promote the purchase of energy-efficient and recycled products, and vendors and contractors who use energy-efficient vehicles and products, consistent with adopted purchasing policies.

Policy CO 8.2.9: Reduce heat islands through installation of trees to shade parking lots and hardscapes, and use of light-colored reflective paving and roofing surfaces.

Policy CO 8.2.10: Support installation of energy-efficient traffic control devices, street lights, and parking lot lights.

Policy CO 8.2.12: Provide ongoing training to appropriate County employees on sustainable planning, building, and engineering practices.

Policy CO 8.2.13: Support trip reduction strategies for employees as described in the Circulation Element.

Policy CO 8.2.14: Reduce extensive heat gain from paved surfaces through development standards wherever feasible.

Objective CO 8.3: Encourage green building and sustainable development practices on private development projects, to the extent reasonable and feasible.

Policy CO 8.3.1: Evaluate development proposals for consistency with the ordinances developed through the County's Green Building Program.

Policy CO 8.3.2: Promote construction of energy efficient buildings through the certification requirements of the ordinances developed through the County's Green Building Program.

Policy CO 8.3.3: Promote energy efficiency and water conservation upgrades to existing non-residential buildings at the time of major remodel or additions.

Policy CO 8.3.4: Encourage new residential development to include on-site solar photovoltaic systems, or pre-wiring, in at least 50% of the residential units, in concert with other significant energy conservation efforts.

Policy CO 8.3.5: Encourage on-site solar generation of electricity in new retail and office commercial buildings and associated parking lots, carports, and garages, in concert with other significant energy conservation efforts.

Policy CO 8.3.6: Require new development to use passive solar heating and cooling techniques in building design and construction, which may include but are not be limited to building orientation, clerestory windows, skylights, placement and type of windows, overhangs to shade doors and windows, and use of light colored roofs, shade trees, and paving materials.

Policy CO 8.3.7: Encourage the use of trees and landscaping to reduce heating and cooling energy loads, through shading of buildings and parking lots.

Policy CO 8.3.8: Encourage energy-conserving heating and cooling systems and appliances, and energy-efficiency in windows and insulation, in all new construction.

Policy CO 8.3.9: Limit excessive lighting levels, and encourage a reduction of lighting when businesses are closed to a level required for security.

Policy CO 8.3.10: Provide incentives and technical assistance for installation of energy-efficient improvements in existing and new buildings.

Policy CO 8.3.12: Reduce extensive heat gain from paved surfaces through development standards wherever feasible.

Goal CO 10: Preservation of open space to meet the community's multiple objectives for resource preservation.

Objective CO 10.1: Identify areas throughout the Santa Clarita Valley which should be preserved as open space in order to conserve significant resources for long-term community benefit.

Policy CO 10.1.17: Allow alternative energy projects in areas designated for open space, where consistent with other uses and values.

Objective CO 10.2: Ensure the inclusion of adequate open space within development projects.

Policy CO 10.2.1: Encourage provision of vegetated open space on a development project's site, which may include shallow wetlands and ponds, drought tolerant landscaping, and pedestrian hardscape that includes vegetated areas.

Effectiveness of Proposed Area Plan Policies

The proposed policies would reduce mobile and stationary source emissions of pollutants that currently exceed state and/or federal standards, and for which the project region is nonattainment. However, individual project emissions could potentially exceed the thresholds.

Effectiveness of Proposed General Plan Goals, Objectives, and Policies

The proposed goals, objectives, and policies would reduce mobile and stationary source emissions of pollutants that currently exceed state and/or federal standards, and for which the project region is nonattainment. However, individual project emissions could potentially exceed the thresholds.

Plan to Plan Analysis

The existing Area Plan and the proposed OVOV Area Plan incorporate goals, objectives and policies that would reduce air emissions through effective land use planning or in the case of OVOV, implementation of Greenhouse Gas policies that would further reduce associated air quality impacts (i.e., measures that reduce greenhouse gas emissions usually have co-benefits of reducing criteria pollutant emissions). However, both Plans would potentially exceed emission during operation and impacts would be significant.

Impact 3.3-4: The proposed Area Plan and General Plan would have a potentially significant effect if they would expose sensitive receptors to substantial pollutant concentrations from CO hotspots and/or TACs regulated by SCAQMD.

The California Air Toxics Program establishes the process for the identification and control of toxic air contaminants and includes provisions to make the public aware of significant toxic exposures and for reducing risk. Four TACs pertinent to the proposed project include mobile source air toxins, CO, asbestos, lead, and polychlorinated biphenyls (PCBs).

Carbon Monoxide

Motor vehicles are a primary source of pollutants within the project vicinity. Traffic congested roadways and intersections have the potential to generate localized high levels of CO, where it concentrates at or near ground level because it does not readily disperse into the atmosphere. Ambient concentrations of CO that exceed state and/or federal standards are termed CO "hotspots." Intersections operating at LOS of E or F have the potential to create a CO hotspot.

There are no known CO hotspots in the OVOV Planning Area under existing conditions. According to Tables 4-2 and 4-3 of the project traffic report (**Appendix 3.2**), future levels of service at principal intersections at buildout under both the existing Area Plan and General Plan and under the proposed Area Plan and General Plan will either remain the same or improve. As a result, there would be no potential for future increases in CO concentrations and CO hotspots in the OVOV Planning Area and CO impacts under this criterion would be less than significant.

Mobile Source Air Toxics

CARB has determined that health effects are generally elevated near heavily traveled roadways. The CARB's *Air Quality and Land Use Handbook* states, "Air pollution studies indicate that living close to high traffic and the associated emissions may lead to adverse health effects beyond those associated with regional air pollution in urban areas."³³ The *Air Quality and Land Use Handbook* cites several studies linking adverse respiratory health effects (e.g., asthma) to proximity to roadways with heavy traffic densities, where the distances between the roadway and the receptors were 300 to 1,000 feet. Other studies suggest that such impacts diminish with distance, and a substantial benefit occurs if the separation distance is greater than 500 feet. CARB recommends that lead agencies, where possible, avoid citing new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day.³⁴ This recommendation is not mandated by state law, but only serves as a general guidance to lead agencies when considering land use projects. The *Air Quality and Land Use Handbook* states that it is up to lead agencies to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.³⁵

According to the SCAQMD, "exposure to vehicle-related air contaminants and the potential for adverse health effects is greatly reduced at approximately 300 feet from the edge of the roadway."³⁶ At 300 feet from the edge of a roadway, health effects approach background levels. At 500 feet from the edge of a roadway, health effects are equivalent to background levels. Impacts would be potentially significant if sensitive uses were located in close proximity to Interstate 5 or State Route 14 without mitigation.

³³ California Air Resources Board, *Air Quality and Land Use Handbook: A Community Health Perspective*, (2005).

³⁴ *Ibid.*, *Air Quality and Land Use Handbook*, (2005) 8-9. The 2002 study of impacts along the San Diego (I-405) Freeway and the Long Beach (I-710) Freeway cited by CARB in its *Air Quality and Land Use Handbook* found a substantial reduction in pollutant concentrations, relative exposure, and health risk beyond 300 feet.

³⁵ California Air Resources Board, *Air Quality and Land Use Handbook*, (2005) 4.

³⁶ South Coast Air Quality Management District, "Fact Sheet Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning," http://www.aqmd.gov/prdas/aqguide/fact_sheet.html. 2010.

Other Toxic Air Contaminants

Historic uses that operated within the OVOV Planning Area included activities that have the potential to release contaminants into the air. Potential toxic air contaminants on the site include asbestos, lead, and polychlorinated biphenyl's (PCBs). Each of these is discussed individually below.

Asbestos

Asbestos is a mineral with long, thin fibrous crystals. The inhalation of toxic asbestos fibers can cause serious illnesses, including malignant mesothelioma, lung cancer, and asbestosis (also called pneumoconiosis).

Building materials used between 1930 and 1981 have the potential to contain asbestos. Asbestos-containing materials (ACM) can include, but are not limited to wall insulation, acoustical ceiling texture, resilient floor coverings and mastic, wallboard and joint compounds, acoustic ceiling tiles, roofing materials, piping insulation, electrical insulation, and fireproofing materials. The plan area contains buildings that were built or remodeled prior to 1965; therefore, there is a potential for ACM in the structures.

Materials that contain over 1 percent asbestos fibers must be handled according to US EPA and Occupational Safety and Health Administration (OSHA) regulations. SCAQMD Rule 1403 – Asbestos Emissions from Demolition/Renovation Activities is intended to limit asbestos emissions from demolition or renovation of structures and the associated disturbance of asbestos-containing waste material generated or handled during these activities. The rule addresses the US EPA National Emission Standards for Hazardous Air Pollutants (NESHAP) and provides additional requirements to cover non-NESHAP areas. Compliance with Section 145 (a) of NESHAP, 40 CFR, Part 61, Subpart M requires that the owner or operator of any demolition or renovation activity to have an asbestos survey performed prior to demolition. Abatement of identified materials would occur prior to building removal. With implementation of existing rules and regulations, exposure to asbestos would be reduced to less than significant.

Rule 1403 requires the SCAQMD to be notified before demolition or renovation activity occurs. This notification includes a description of structures and methods utilized to determine the presence of asbestos or lack thereof. All asbestos-containing material found on the site must be removed prior to demolition or renovation activity in accordance with the requirements of Rule 1403. Compliance with Rule 1403 would ensure that asbestos-containing materials would be disposed of appropriately.

Compliance with the requirements of this measure would avoid a significant construction-related air quality impact in relation to demolition activities by preventing the release of asbestos emissions.

Lead

Lead is a poisonous metal that was commonly used in paint prior to 1978. Lead poisoning can cause neurological damage, developmental impairment, and other health problems. Because of its low reactivity and solubility, lead poisoning usually only occurs in cases when the paint is in poor condition or during its removal, particularly during sanding. Lead-based paint chips and particulates can enter the body through ingestion and inhalation.

In May 2010, CARB determined that the CAAQS for lead was exceeded in Central Los Angeles County (SRA 1). The exceedance was primarily the result of lead emissions from a lead-acid battery recycling facility in the City of Commerce. The SCAQMD currently maintains a network of three source-oriented lead monitors around the facility. Based on violations of the lead standard, the SCAQMD issued violation notices to the facility for failing to comply with SCAQMD rules and for exceeding the lead emissions standard during five consecutive months (December 2007 through April 2008). Concentrations during this period also exceeded the federal lead standard. Since this time, the SCAQMD monitors show concentrations that are much lower, although they still exceed the revised federal lead standard of 0.15 $\mu\text{g}/\text{m}^3$ calculated as a rolling three-month average. No other monitors in the SoCAB indicate lead exceedances. The OVOV Planning Area is not located in the vicinity of the lead exceedance in the City of Commerce. Motor vehicles and paints used to be a source of lead; however, unleaded fuel and unleaded paints have virtually eliminated lead emissions from residential and commercial land use developments.

The Consumer Products Safety Commission (CPSC) banned lead-based paint for residential use in 1978. Although usage was allowed to continue in many commercial settings, use of lead paint has declined. The Plan Area contains buildings that were built or remodeled prior to 1965; therefore, there is a potential for lead-based paint on the project site. In addition, zoning designations within the Planning Area allow for light industrial and industrial uses, which could allow for facilities that manufacture or rebuild batteries (Los Angeles County Code; 22.32.040; County Zone Light Industrial [M-1]; Santa Clarita Municipal Code 17.13.030; City Zone Industrial [I]).

On March 31, 2008, the US EPA issued a rule requiring the use of lead-safe practices to protect workers against the risk of lead poisoning. Beginning in April 2010, contractors performing renovation, repair and painting projects that disturb lead-based paint in homes, child care facilities, and schools built before 1978 must be certified and must follow specific work practices to prevent lead contamination. The State of

California is authorized to conduct its own training and certification program under the Department of Health Services.

The SCAQMD currently requires measures to reduce fugitive dust during construction. Each development phase of the proposed project will be required to comply with Rule 403 to reduce fugitive dust impacts. These measures will reduce the risk of exposure to lead particulates. However, prior to the commencement of demolition for each phase, appropriate testing for lead-based paint within the existing structures will be completed. If these materials are discovered, the contractor will be required to employ workers certified in lead-safe practices to prevent lead contamination. The SCAQMD also requires that stationary sources of lead emissions comply with Rule 1420 (Emission Standard for Lead). Rule 1420 requires facilities to monitor, capture, and control lead emissions and not exceed the standards specified in the rule.

With implementation of the existing required rules and regulations, exposure to lead particulates would be reduced to less than significant.

Polychlorinated Biphenyls

PCBs were used as coolants and insulating fluids for transformers and capacitors, stabilizing additives in flexible PVC coatings of electrical wiring and electronic components, cutting oils, pesticide extenders, flame retardants, hydraulic fluids, sealants (used in caulking, etc.), adhesives, paints, de-dusting agents, wood floor finishes, and in carbonless copy paper. Persistent in nature, PCBs can bioaccumulate in animals. PCBs will primarily exist in the vapor phase if released into the atmosphere. Routes of human exposure to PCBs are dermal contact, inhalation, and ingestion. The production of PCBs was banned in the 1970s due to their high toxicity.

PCBs in the Basin are regulated by SCAQMD Rule 1401, New Source Review for Toxic Air Contaminants. Remediation of PCB contaminated soils is under the purview of the Regional Water Quality Control Board (RWQCB) and/or the California State Department of Toxic Substances Control (DTSC).

Should other TACs be identified during the course of buildout of the Area Plan, an impact analysis would be required that would identify all sources of these pollutants and use a dispersion model to determine exposure levels from the combined emissions. The SCAQMD recommends a radius of 1 mile for sources of TACs, including existing sources.

Goals LU 2, LU 3, LU 4, LU 7, C 2, C 3, CO 1, CO 2, and CO 7 listed previously, and the objectives and policies listed below would reduce the potential for CO hotspots and TAC emissions, as well exposure to

TACs by sensitive receptors by avoiding designating residential uses in areas subject to unhealthy air quality; prohibiting manufacturing, processing of goods and materials, and warehousing in mixed use developments (however, some light manufacturing and warehousing may be appropriate in second story units); ensuring adequate spacing of sensitive land uses from high traffic freeways and roads, distribution centers, truck stops, chrome plating facilities, dry cleaners using perchloroethylene, and large gas stations; ensure that mineral extraction sites be maintained in a safe and secure manner after cessation of extraction activities; promoting cleanup and remediation of oil fields west of State Route 14; maintaining suitable distances and/or buffers between aggregate mining and processing activities and sensitive receptors; developing and implementing effective methods of handling and disposing of hazardous materials and waste; attracting and expanding opportunities for clean industries; and reducing roadway congestion/car idling by upgrading intersections to meet level of service standards, synchronizing traffic signals, requiring trip reduction measures from new development (**Objective LU 2.1, Policy LU 2.1.5; Objective LU 2.3, Policy LU 2.3.3; Objective LU 3.3, Policy LU 3.3.1; Objective LU 4.2, Policy LU 4.2.1; Objective LU 4.3, LU 4.3.6; Objective LU 7.7, Policy LU 7.7.1; Objective C 2.1, Policy C 2.1.4; Objective C 2.3, Policy C 2.3.3; Objective C 3.1, Policy C 3.1.1; Objective C 3.2, Policy C 3.2.2, Policy C 3.2.3; Objective CO 1.4, Policy CO 1.4.4; Objective CO 1.5, Policy CO 1.5.1; Objective CO 2.3, Policy CO 2.3.4; and Objective CO 7.2 and Policy CO 7.2.1**).

Proposed Area Plan Policies and Proposed General Plan Goals, Objectives, and Policies

The policies provided below are similar for the County's Area Plan and City's General Plan. The City is evaluating its General Plan goals, objectives, and policies while the County is evaluating Area Plan policies.

Objective LU 2.1: Provide adequate, suitable sites for housing, employment, business, shopping, public facilities, public utility facilities, and community services to meet current needs and the anticipated needs of future growth.

Policy LU 2.1.5: Identify areas with hazardous conditions and ensure that uses in or adjacent to these areas pose minimal risk to public health or safety.

Policy LU 2.3.3: Manufacturing, processing of goods and materials, and warehousing shall not be allowable uses in a mixed- use

development, although some light manufacturing and warehousing may be appropriate in second story units.

Objective LU 3.3: Ensure that the design of residential neighborhoods considers and includes measures to reduce impacts from natural or man-made hazards.

Policy LU 3.3.1: Identify areas subject to hazards from seismic activity, unstable soils, excessive noise, unhealthful air quality, or flooding, and avoid designating residential uses in these areas unless adequately mitigated.

Objective LU 4.3: Enhance older commercial and industrial areas.

Policy LU 4.3.6: Support efforts by the City of Santa Clarita to coordinate with property owners and environmental agencies, and provide assistance as appropriate, to promote clean -up and remediation of oil fields west of State Route 14.

Objective LU 7.7: Protect significant mineral resources, natural gas storage facilities, and petroleum extraction facilities from encroachment by incompatible uses.

Policy LU 7.7.1: Maintain a suitable distance and/or provide buffering to separate aggregate mining and processing activities from nearby residential uses and other uses with sensitive receptors to noise and airborne emissions.

Objective C 2.1: Implement the Circulation Plan (as shown on Exhibit C- 2) for streets and highways to meet existing and future travel demands for mobility, access, connectivity, and capacity.

Policy C 2.1.3: Protect and enhance the capacity of the roadway system by upgrading intersections to meet level of service standards, widening and/or restriping for additional lanes, synchronizing traffic signals, and other means as appropriate.

Objective C 2.3: Balance the needs of congestion relief with community values for aesthetics and quality of life.

Policy C 2.3.3: When evaluating road widening projects, consider the impacts of additional traffic, noise, and fumes on adjacent land uses and use context-sensitive design techniques where appropriate.

Objective C 3.1: Promote the use of travel demand management strategies to reduce vehicle trips.

Policy C 3.1.1: In evaluating new development projects, require trip reduction measures as feasible to relieve congestion and reduce air pollution from vehicle emissions.

Objective C 3.2: Encourage reduction in airborne emissions from vehicles through use of clean vehicles and transportation system management.

Policy C 3.2.2: Continue to enhance signal timing and synchronization to allow for free traffic flow, minimizing idling and vehicle emissions.

Policy CO 1.4.4: In cooperation with other appropriate agencies, continue to develop and implement effective methods of handling and disposing of hazardous materials and waste.

Goal CO 2: Conserve the Santa Clarita Valley's hillsides, canyons, ridgelines, soils, and minerals, which provide the physical setting for the natural and built environments.

Objective CO 2.3: Conserve areas with significant mineral resources, and provide for extraction and processing of such resources in accordance with applicable laws and land use policies.

Policy CO 2.3.4: Ensure that mineral extraction sites are maintained in a safe and secure manner after cessation of extraction activities, which may include the regulated decommissioning of wells, clean-up of any contaminated soils or materials, closing of mine openings, or other measures as deemed appropriate by the agencies having jurisdiction.

Effectiveness of Proposed Area Plan Policies

The proposed Area Plan policies are designed to reduce emissions of TACs and the potential for CO hotspots, as well as reducing potential to exposure to TACs by sensitive receptors. Implementation of these policies would reduce potential Area Plan air quality impacts under this criterion. However, individual project emissions could potentially exceed the thresholds.

Effectiveness of Proposed General Plan Goals, Objectives, and Policies

The proposed General Plan goals, objectives and policies are designed to reduce emissions of TACs and the potential for CO hotspots, as well as reducing potential to exposure to TACs by sensitive receptors. Implementation of these goals, objectives, and policies would reduce potential General Plan air quality impacts under this criterion. However, individual project emissions could potentially exceed the thresholds.

Plan to Plan Analysis

The existing Area Plan and the proposed OVOV Area Plan incorporate goals, objectives and policies that would reduce air emissions through effective land use planning or in the case of OVOV, implementation of Greenhouse Gas policies that would further reduce associated air quality impacts (i.e., measures that reduce greenhouse gas emissions usually have co-benefits of reducing criteria pollutant emissions). However, both Plans would potentially exceed CO hotspots emissions and impacts would be significant.

Impact 3.3-5 The proposed Area Plan and General Plan would have potentially significant air quality impacts if they would create objectionable odors affecting a substantial number of people.

The types of facilities and operations that are prone to generate odors in the Basin include large scale agriculture (farming and livestock), chemical plants, composting operations, dairies, fiberglass molding, landfills, refineries, rendering plants, rail yards, and wastewater treatment plants.³⁷ Several of these land uses currently exist within the OVOV Planning Area, such as a landfill with composting operations and a wastewater treatment plant; however, they are in locations where they do not adversely affect sensitive receptors. The odor and other air quality impacts of the wastewater treatment plant proposed within the Newhall Ranch Specific Plan have been addressed and mitigated in the environmental impact report for

³⁷ South Coast Air Quality Management District, *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning; A Reference for Local Governments Within the South Coast Air Quality Management District* (May 2005), 2-2.

that project. The remaining uses that are prone to generate odors would not be permitted in the OVOV Planning Area under either the proposed Area Plan or the proposed Area Plan without appropriate safeguards.

Although odor impacts associated with the proposed Area Plan and General Plan would be less than significant, **Goals LU 2, LU 7, and C 2** would further reduce the potential for odor impacts by prohibiting the manufacturing, processing of goods and materials, and warehousing in mixed use developments, maintaining suitable distances and/or buffers between aggregate mining and processing activities and sensitive receptors, and considering the effect of fumes on adjacent land uses during road widening projects (**Objectives LU 2.3, LU 7.7, and C 2.3; Policies LU 2.3.3, LU 7.7.1, and C 2.3.3**).

Proposed Area Plan Policies and Proposed General Plan Goals, Objectives and Policies

The proposed Area Plan policies and General Plan goals, objectives, and policies have already been cited.

Effectiveness of Proposed Area Plan Policies

The proposed policies are designed to ensure the potential sources of odors in the OVOV Planning Area would be minimized. Implementation of these policies would reduce potential Area Plan air quality impacts under this criterion. However, individual project odors could potentially result in nuisance violations.

Effectiveness of Proposed General Plan Goals, Objectives, and Policies

The proposed goals, objectives, and policies are designed to ensure the potential sources of odors in the OVOV Planning Area would be minimized. Implementation of these goals, objectives, and policies would reduce potential General Plan air quality impacts under this criterion. However, individual project odors could potentially result in nuisance violations.

Plan to Plan Analysis

The existing Area Plan and the proposed OVOV Area Plan incorporate goals, objectives and policies that would reduce air emissions through effective land use planning or in the case of OVOV, implementation of Greenhouse Gas policies that would further reduce associated air quality impacts (i.e., measures that reduce greenhouse gas emissions usually have co-benefits of reducing criteria pollutant emissions). However, both Plans would potentially result in nuisance violations.

MITIGATION FRAMEWORK

The following mitigation measures shall be implemented for activities that would occur under the proposed plan.

Construction

3.3-1: Prior to implementing project approval, applicants shall develop a Construction Traffic Emission Management Plan to minimize emissions from vehicles including, but not limited to, scheduling truck deliveries to avoid peak hour traffic conditions, consolidating truck deliveries, and prohibiting truck idling in excess of 5 minutes.

3.3-2: Prior to grading permit issuance, applicants shall develop a Construction Emission Management Plan to minimize construction-related emissions. The Construction Emission Management Plan shall require the use of Best Available Control Measures, as specified in Table 1 of SCAQMD's Rule 403. If potentially significant impacts are identified after the implementation of the SCAQMD recommended Best Available Control Measures, the Construction Emission Management Plan shall include the following additional elements:

- Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. When wind speeds exceed 15 miles per hour the operators shall increase watering frequency.
- Active sites shall be watered at least three times daily during dry weather.
- Increase watering frequency during construction or use non-toxic chemical stabilizers if it would provide higher control efficiencies.
- Suspend grading and excavation activities during windy periods (i.e., surface winds in excess of 25 miles per hour).
- Suspend the use of all construction equipment during first-stage smog alerts.
- Application of non-toxic chemical soil stabilizers or apply water to form and maintain a crust on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days).
- Application of non-toxic binders to exposed areas after cut and fill operations and hydroseeded areas.
- Cover or application of water or non-toxic chemical suppressants to form and maintain a crust on inactive storage piles.

- Planting of vegetative ground cover in disturbed areas as soon as possible and where feasible.
- Operate street sweepers that comply with SCAQMD Rules 1186 and 1186.1 on roads adjacent to the construction site so as to minimize dust emissions. Paved parking and staging areas shall be swept daily.
- Scheduling truck deliveries to avoid peak hour traffic conditions, consolidating truck deliveries, and prohibiting truck idling in excess of 5 minutes.
- Reduce traffic speeds on all unpaved roads to 15 miles per hour or less.
- Pave or apply gravel on roads used to access the construction sites when possible.
- Schedule construction activities that affect traffic flow to off-peak hours (e.g., between 7:00 PM and 6:00 AM, and between 10:00 AM and 3:00 PM).
- Use of diesel-powered construction equipment shall use ultra-low sulfur diesel fuel.
- Use electric welders to avoid emissions from gas or diesel welders when such equipment is commercially available.
- Use electricity or alternate fuels for on-site mobile equipment instead of diesel equipment when such equipment is commercially available.
- Use on-site electricity or alternative fuels rather than diesel-powered or gasoline-powered generators when such equipment is commercially available.
- Maintain construction equipment by conducting regular tune-ups according to the manufacturers' recommendations.
- Minimize idling time either by shutting equipment when not in use or reducing the time of idling to 5 minutes as a maximum.
- Limit, to the extent feasible, the hours of operation of heavy duty equipment and/or the amount of equipment in use.
- Retrofit large off-road construction equipment that will be operating for significant periods. Retrofit technologies such as particulate traps, selective catalytic reduction, oxidation catalysts, air enhancement technologies, etc., shall be evaluated. These technologies will be required if they are certified by CARB and/or the US EPA, and are commercially available and can feasibly be retrofitted onto construction equipment.

- The project applicant shall require all on-site construction equipment to meet US EPA Tier 4 or higher emissions standards according to the following:
 - April 2010 through December 31, 2011: All off-road diesel-powered construction equipment greater than 50 horsepower (hp) shall meet Tier 2 off-road emissions standards. In addition, all construction equipment shall be outfitted with the BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 2 or Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.
 - January 1, 2012 through December 31, 2014: All off-road diesel-powered construction equipment greater than 50 horsepower (hp) shall meet Tier 3 off-road emissions standards. In addition, all construction equipment shall be outfitted with the BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.
 - Post-January 1, 2015: All off-road diesel-powered construction equipment greater than 50 hp shall meet the Tier 4 emission standards, where available. In addition, all construction equipment shall be outfitted with BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations. A copy of each unit's certified tier specification, BACT documentations, and CARB, SCAQMD, or ICAPCD operating permit shall be provided at the time of mobilization of each applicable unit of equipment.
- Designate personnel to monitor dust control measures to ensure effectiveness in minimizing fugitive dust emissions.
- An information sign shall be posted at the entrance to each construction site that identifies the permitted construction hours and provides a telephone number to call and receive information about the construction project or to report complaints regarding excessive fugitive dust generation. Any reasonable complaints shall be rectified within 24 hours of their receipt.
- The contractor shall utilize low-VOC content coatings and solvents that are consistent with applicable SCAQMD and ICAPCD rules and regulations.
- Consideration shall be given to use of other transportation methods to deliver materials to the construction sites (for example, trains or conveyors) if it would result in a reduction of criteria pollutant emissions.

- 3.3-3: Prior to implementing project approval, applicants shall be required to conduct an LST analysis.

Operation

- 3.3-4: Prior to the issuance of building permits, the applicant shall submit building plans to the County Department of Public Works, Building and Safety Division to demonstrate that all residential buildings are designed to achieve energy efficiency in accordance with the requirements of the ordinances adopted pursuant to the County's Green Building Program and other applicable State and County standards.
- 3.3-5: Prior to the issuance of building permits, the applicant shall submit building plans to the County Department of Public Works, Building and Safety Division to demonstrate that all commercial buildings shall be designed to achieve energy efficiency in accordance with the requirements of the ordinances adopted pursuant to the County's Green Building Program and other applicable State and County standards.
- 3.3-6: Prior to final building inspection, the applicant shall provide preferential parking spaces for carpools and vanpools at major commercial and office locations. The spaces shall be clearly identified on plot plans and may not be pooled in one location.
- 3.3-7: New residential developments shall allow only natural gas-fired hearths and shall prohibit the installation of wood-burning hearths and wood-burning stoves.
- 3.3-8: Prior to implementing project approval, tract maps and other sensitive uses located within 500 feet from the closest right of way of Interstate 5 and State Route 14 shall be required to conduct a health risk assessment.
- 3.3-9: Prior to implementing project approval, tract maps and other sensitive uses located within the screening level distances of potential sources of odors, or new sources of odors located within the screening level distances of existing or reasonably foreseeable sensitive uses, as defined by the SCAQMD, shall be required to conduct an odors assessment.

SIGNIFICANCE OF IMPACT WITH MITIGATION FRAMEWORK

Potential air quality impacts from implementation of the proposed Area Plan and General Plan would remain potentially significant after the implementation of mitigation measures.