4.2 AIR QUALITY

This EIR section analyzes the potential for adverse impacts on air quality resulting from implementation of the proposed project. The Initial Study/Notice of Preparation (IS/NOP [Appendix 1]) identified the potential for impacts associated with confliction with or obstruction of implementation of the applicable air quality plan; violation of air quality standards or substantial contribution to an existing or projected air quality violation; exposure of sensitive receptors to substantial pollutant concentrations; or a cumulatively considerable net increase of criteria pollutants for which the project region is not in attainment. Issues that were scoped out from further analysis include the potential for the proposed project to create objectionable odors affecting a substantial number of people. Data used to prepare this section were taken from various sources, including the South Coast Air Quality Management District (SCAQMD) CEQA Air Quality Handbook, and the 2007 Air Quality Management Plan (AQMP), as amended. Full bibliographic entries for all reference materials are provided in Section 4.2.5 (References) at the end of this section. In addition, Appendix 3 contains the air quality datasheet that was used to calculate data for this section.

All comments received in response to the Initial Study/Notice of Preparation (IS/NOP) circulated for the proposed project were taken in to consideration during preparation of this Environmental Impact Report, and if relevant, have been addressed in this section or others within this document.

4.2.1 Environmental Setting

Climate

The City of Huntington Beach is located within the South Coast Air Basin (Basin), named so because its geographical formation is that of a basin, with the surrounding mountains trapping the air and its pollutants in the valleys or basins below. This area includes all of Orange County and the non-desert portions of Los Angeles, San Bernardino, and Riverside Counties. The regional climate within the Basin is considered semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. The air quality within the Basin is influenced by a wide range of emissions sources such as dense population centers, heavy vehicular traffic and industry, as well as meteorology.

The annual average temperature varies little throughout the Basin, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). Coastal areas have a more pronounced oceanic influence, and show less variability in annual minimum and maximum temperatures than inland areas. The City of Huntington Beach is located in northern coastal Orange County, which is in the southern portion of the Basin. The annual average temperature in the City ranges from approximately 47.0°F in December and January to 73.5°F in August.[9]

[9] Western Regional Climate Center. http://www.wrcc.dri.edu/. Accessed July 26, 2007.

The majority of annual rainfall in the Basin occurs between November and April. Summer rainfall is minimal and generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern portion of the Basin, along the coastal mountain ranges. Average rainfall in the City ranges from approximately 0.01 inch in July to 2.42 inches in February, with an average annual total of 11.20 inches.[10]

The Basin experiences a persistent temperature inversion, which is characterized by increasing temperature with increasing altitude. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer.

The vertical dispersion of air contaminants in the Basin is also affected by wind conditions. The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are the lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas in the Basin are transported predominantly on-shore into Riverside and San Bernardino Counties. The Santa Ana winds, which are strong and dry north or northeasterly winds that occur during the fall and winter months, also disperse air contaminants in the Basin. The Santa Ana conditions tend to last for several days at a time.

Air Quality Background

Air pollutant emissions within the Basin are generated by stationary and mobile sources. Stationary sources can be divided into two major subcategories: point and area sources. Point sources are usually subject to a permit to operate from the South Coast Air Quality Management District (SCAQMD), occur at specific identified locations, and are usually associated with manufacturing and industry. Examples of point sources are boilers or combustion equipment that produce electricity or generate heat, such as heating, ventilation, and air conditioning (HVAC) units. Area sources are widely distributed and produce many small emissions, and they do not require permits to operate from the SCAQMD. 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 hairspray, the area-wide use of which contributes to regional air pollution. Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or off-road. On-road sources are those that are legally operated on roadways and highways. Off-road sources include aircraft, ships, trains, race cars, and construction vehicles. Mobile sources account for the majority of the air pollutant emissions within the Basin. 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.

Both federal and State governments have established ambient air quality standards for outdoor concentrations of specific pollutants, referred to as "criteria pollutants," in order to protect public health.

[10] Western Regional Climate Center. http://www.wrcc.dri.edu/. Accessed July 26, 2007.

The national and state ambient air quality standards have been set at concentration levels to protect the most sensitive persons from illness or discomfort with a margin of safety. Applicable ambient air quality standards are identified later in this section under Thresholds of Significance. The SCAQMD is responsible for bringing air quality within the Basin into attainment with the national and state ambient air quality standards.

The criteria pollutants for which federal and State standards have been promulgated and that are most relevant to air quality planning and regulation in the Basin are ozone, carbon monoxide, fine suspended particulate matter, sulfur dioxide, and lead. In addition, toxic air contaminants are of concern in the Basin. Each of these is briefly described below.

- **Ozone (O_3)** is a gas that is formed when volatile organic compounds (VOCs) and nitrogen oxides (NOx), both byproducts of internal combustion engine exhaust, 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.
- **Carbon Monoxide (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, 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.
- **Respirable Particulate Matter (PM_{10}) and Fine Particulate Matter ($PM_{2.5}$)** consists of extremely small, suspended particles or droplets 10 microns and 2.5 microns or smaller in diameter, respectively. Some sources of particulate matter, like pollen and windstorms, are naturally occurring. However, in populated areas, most particulate matter is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes, and construction activities.
- **Nitrogen dioxide (NO_2)** is a nitrogen oxide compound that is produced by the combustion of fossil fuels, such as in internal combustion engines (both gasoline and diesel powered), as well as point sources, especially power plants. Of the seven types of nitrogen oxide compounds, NO_2 is the most abundant in the atmosphere. As ambient concentrations of NO_2 are related to traffic density, commuters in heavy traffic may be exposed to higher concentrations of NO_2 than those indicated by regional monitors.
- **Sulfur dioxide (SO_2)** 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 (SO_4). Collectively, these pollutants are referred to as sulfur oxides (SO_X).
- **Lead (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 the majority of such combustion emissions are associated with off-road vehicles such as race cars. Other sources of lead include the manufacturing and recycling of batteries, paint, ink, ceramics, ammunition, and the use of secondary lead smelters.
- **Toxic Air Contaminants (TACs)** refer to a diverse group of air pollutants 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 than "criteria" pollutants in that ambient air quality standards have not been established for them, largely because there are hundreds of air toxics and their effects on health tend to be local rather than regional. TACs primarily are concentrated within ¼ mile of the emissions source, and accepted practice is to analyze TACs when receptors are located within this ¼-mile radius.

State standards have been promulgated for other criteria air pollutants, including SO_4, hydrogen sulfide, Pb, and visibility-reducing particles. California also recognizes vinyl chloride as a TAC with an undetermined threshold level of exposure for adverse health effects. Vinyl chloride and hydrogen sulfide emissions are generally generated from mining, milling, refining, smelting, landfills, sewer plants, cement manufacturing, or the manufacturing or decomposition of organic matter. California standards for sulfate- and visibility-reducing particles are not exceeded anywhere in the Basin. Pb is typically only emitted during demolition of structures expected to include Pb-based paint and materials, which would not occur as part of the proposed project.

Health Effects of Air Pollutants

Ozone

Individuals exercising outdoors, children and people with preexisting lung disease such as asthma and chronic pulmonary lung disease are considered to be the most susceptible sub-groups for ozone effects. Short-term exposures (lasting for a few hours) to ozone at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. Elevated ozone levels are associated with increased school absences. In recent years, a correlation between elevated ambient ozone levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple sports and live in high ozone communities.

Ozone exposure under exercising conditions is known to increase the severity of the above mentioned observed responses. Animal studies suggest that exposure to a combination of pollutants that include ozone may be more toxic than exposure to ozone alone. Although lung volume and resistance changes observed after a single exposure diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes.

Carbon Monoxide

Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of worsening oxygen supply to the heart.

Inhaled CO has no direct toxic effect on the lungs, but exerts its effect on tissues by interfering with oxygen transport and competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include patients with diseases involving

heart and blood vessels, fetuses, and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes.

Reduction in birth weight and impaired neurobehavioral development have been observed in animals chronically exposed to CO, resulting in COHb levels similar to those observed in smokers. Recent studies have found increased risks for adverse birth outcomes with exposure to elevated CO levels. These include pre-term births and heart abnormalities.

Particulate Matter

A consistent correlation between elevated ambient fine particulate matter (PM_{10} and $PM_{2.5}$) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. In recent years, some studies have reported an association between long-term exposure to air pollution dominated by fine particles and increased mortality, reduction in life-span, and an increased mortality from lung cancer.

Daily fluctuations in $PM_{2.5}$ concentration levels have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to a decrease in respiratory lung volumes in normal children and to increased medication use in children and adults with asthma. Recent studies show lung function growth in children is reduced with long-term exposure to particulate matter.

The elderly, people with pre-existing respiratory or cardiovascular disease and children appear to be more susceptible to the effects of high levels of PM_{10} and $PM_{2.5}$.

Nitrogen Dioxide

Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposures to NO_2 at levels found in homes with gas stoves, which are higher than ambient levels found in Southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO_2 in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups.

In animals, exposure to levels of NO_2 considerably higher than ambient concentrations results in increased susceptibility to infections, possibly due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of ozone exposure increases when animals are exposed to a combination of ozone and NO_2.

Sulfur Dioxide

A few minutes of exposure to low levels of SO_2 can result in airway constriction in some asthmatics, all of whom are sensitive to its effects. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO_2. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO_2.

Animal studies suggest that despite SO_2 being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract.

Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO_2 levels. In these studies, efforts to separate the effects of SO_2 from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically or if one pollutant alone is the predominant factor.

Lead

Fetuses, infants, and children are more sensitive than others to the adverse effects of Pb exposure. Exposure to low levels of Pb can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased Pb levels are associated with increased blood pressure.

Pb poisoning can cause anemia, lethargy, seizures, and death, although it appears that there are no direct effects of Pb on the respiratory system. Pb can be stored in the bone from early age environmental exposure, and elevated Pb levels in the blood can occur due to breakdown of bone tissue during pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid gland) and osteoporosis (breakdown of bony tissue). Fetuses and breast-fed babies can be exposed to higher levels of Pb because of previous environmental Pb exposure of their mothers.

Odors

The science of odor as a health concern is still new. Merely identifying the hundreds of VOCs that cause livestock odors poses a big challenge. Offensive livestock odors can potentially affect human health in several ways. First, odorant compounds can irritate the eye, nose, and throat, which can reduce respiratory volume. Second, the ROGs that cause odors can stimulate sensory nerves to cause neurochemical changes that might influence health, for instance, by compromising the immune system. Finally, unpleasant odors can trigger memories or attitudes linked to unpleasant odors, causing cognitive and emotional effects such as stress.

Toxic Air Contaminant Emissions

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. TACs are different from the "criteria" pollutants previously discussed in that ambient air quality standards have not been established for them.

Greenhouse Gas Emissions and Climate Change

The natural "greenhouse effect" allows the earth to remain warm and sustain life. Greenhouse gases trap the sun's heat in the atmosphere like a blanket, and help determine the existing climate. Examples of greenhouse gases include carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons. The increased

consumption of fossil fuels (wood, coal, gasoline, etc.) has substantially increased atmospheric levels of greenhouse gases. As atmospheric concentrations of greenhouse gases rise, so do temperatures. Over time, the rise in temperatures would result in climate change. Theories concerning climate change and global warming existed as early as the late 1800s. By the late 1900s, the understanding of the earth's atmosphere had advanced to the point where many climate scientists began to accept that the earth's climate is changing. Today, many climate scientists agree that some warming has occurred over the past century and will continue through this century.

The United Nations Intergovernmental Panel on Climate Change (IPCC) predicts that changes in the earth's climate will continue through the twenty-first century and that the rate of change may increase significantly in the future because of human activity.[11] Many researchers studying California's climate believe that changes in the earth's climate have already affected California and will continue to do so in the future.

Projected future climate change may affect California in a variety of ways. Public health can suffer due to greater temperature extremes and more frequent extreme weather events, increases in transmission of infectious disease, and increases in air pollution. Agriculture is especially vulnerable to altered temperature and rainfall patterns, and new pest problems. Forest ecosystems would face increased fire hazards and would be more susceptible to pests and diseases. The Sierra snowpack that functions as California's largest reservoir could shrink by a third by 2060, and to half its historic size by 2090.[12] Runoff that fills reservoirs could start in midwinter rather than spring, and rain falling on snow could trigger more flooding. The California coast is likely to face a rise in sea level that could threaten its shorelines. Sea level rise and storm surges could lead to flooding of low-lying property, loss of coastal wetlands, erosion of cliffs and beaches, saltwater contamination of drinking water, and damage to roads, causeways, and bridges.

On July 22, 2002, Governor Gray Davis signed AB 1493, which required the California Air Resources Board (ARB) to develop and adopt regulations that reduce greenhouse gases emitted by passenger vehicles and light duty trucks to the maximum extent feasible.[13] Transportation is California's largest source of carbon dioxide, with passenger vehicles and light duty trucks creating more than 30 percent of total climate change emissions. This emissions reduction requirement applies to 2009 and later model year vehicles.

More recently, on September 27, 2006, Governor Arnold Schwarzenegger signed AB 32, which requires the ARB to monitor and reduce greenhouse gas emissions. Specifically, AB 32 requires the ARB to do the following:[14]

- Establish a statewide greenhouse gas emissions cap for 2020, based on 1990 emissions by January 1, 2008
- Adopt mandatory reporting rules for significant sources of greenhouse gases by January 1, 2008

[11] Intergovernmental Panel on Climate Change, *Climate Change 2007: The Physical Science Basis, Summary for Policymakers*, 2007.
[12] ARB, *Fact Sheet: Climate Change Emission Control Regulations*, December 10, 2004.
[13] Ibid.
[14] ARB, *AB 32 Fact Sheet - California Global Warming Solutions Act of 2006*, September 25, 2006.

- Adopt a plan by January 1, 2009, indicating how emission reductions will be achieved from significant greenhouse gas sources via regulations, market mechanisms and other actions
- Adopt regulations by January 1, 2011, to achieve the maximum technologically feasible and cost-effective reductions in greenhouse gases, including provisions for using both market mechanisms and alternative compliance mechanisms
- Convene an Environmental Justice Advisory Committee and an Economic and Technology Advancement Advisory Committee to advise ARB
- Ensure public notice and opportunity for comment for all ARB actions
- Prior to imposing any mandates or authorizing market mechanisms, evaluate several factors, including but not limited to: impacts on California's economy, the environment, and public health, equity between regulated entities, electricity reliability, conformance with other environmental laws, and to ensure that the rules do not disproportionately impact low-income communities
- Adopt a list of discrete, early action measures by July 1, 2007, that can be implemented before January 1, 2010, and adopt such measures

Current climate models were developed to analyze climate change on a global scale and are not sensitive enough to accurately measure an individual project's impact on global climate change. No guidance is available to local agencies regarding the methodology for assessing the potential for global warming impacts on a project scale, and no standards have been established to assess a project's contribution of greenhouse gases. Until standards are established by the state and federal governments and reliable modeling techniques at a regional and project level have been developed, the ability to assess a project's contribution to global climate change is severely limited. Similarly, the ability to develop mitigation that is effective and proportional to an individual project's impact, as required by CEQA, is dependent upon reliable modeling and impact thresholds.

Emissions of carbon dioxide that could be emitted during project construction or operation are disclosed and included in Appendix 3 of this EIR. Worth noting, as discussed in Section 4.12 (Transportation/Traffic), the project would not conflict with adopted policies supporting alternative transportation. Six shuttle bus stalls would be provided on site to encourage carpooling. The project would also provide ADA ramp access from the existing OCTA bus stop located across Goldenwest Street to the project site, which would encourage the use of public transportation. Both efforts could help reduce the overall vehicle trips associated with the project, and therefore, could also help reduce carbon dioxide emissions. The traffic trips identified in Section 4.12 represent the estimated total number of trips associated with the project in order to provide the most conservative analysis. However, as no threshold has been established to compare against the carbon dioxide data in Appendix 3, nor have protocols been established to determine how much carbon dioxide a project may emit without affecting the global climate, no impact conclusion can be reached for the proposed project and this issue is not further addressed in this EIR.

Existing Regional Air Quality

Measurements of ambient concentrations of the criteria pollutants are used by the United States Environmental Protection Agency (U.S. EPA) and the ARB to assess and classify the air quality of each air basin, county, or, in some cases, a specific urbanized area. The classification is determined by comparing actual monitoring data with national, federal and state standards. If a pollutant concentration in an area is lower than the standard, the area is classified as being in "attainment" in that area. If the

pollutant exceeds the standard, the area is classified as a "nonattainment" area. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated "unclassified."

The entire Basin is designated as a national-level nonattainment area for CO, PM_{10}, and $PM_{2.5}$. It is also a national-level extreme nonattainment area for ozone, meaning that national ambient air quality standards are not expected to be met for more than 17 years. The Basin is also a state-level nonattainment area for ozone, PM_{10}, and $PM_{2.5}$. As of July 2007, it is in attainment of both the national and state ambient air quality standards for SO_2, lead, and NO_2, which is a pure form of NO_X, and is in state attainment for CO.

The SCAQMD divides the Basin into 38 source receptor areas (SRAs) in which 32 monitoring stations operate to monitor the various concentrations of air pollutants in the region. The City of Huntington Beach is located within SRA 18, which covers the Northern Coastal Orange County area. The ARB also collects ambient air quality data through a network of air monitoring stations throughout the state. These data are summarized annually and are published in the ARB's California Air Quality Data Summaries. The Costa Mesa-Mesa Verde Drive monitoring station is the nearest monitoring station to the project site, and is approximately five miles to the east of the proposed project site. This station currently monitors emission levels of ozone, CO, NO_2, and SO_2 but does not monitor the pollutant levels of PM_{10} and $PM_{2.5}$.

Table 4.2-1 (Summary of Ambient Air Quality in the Proposed Project Vicinity) identifies the national and state ambient air quality standards for relevant air pollutants, along with the ambient pollutant concentrations that have been measured at the Costa Mesa-Mesa Verde Drive monitoring station through the period from 2004 to 2006.

According to air quality data shown in Table 4.2-1, the national 1-hour ozone standard has not been exceeded over the last three years in SRA 18, while the state 1-hour ozone standard was exceeded a total of two days over the last three years. The national 8-hour ozone standard was exceeded on one day over the last three years. No national or state standards for CO, NO_2, or SO_2 have been exceeded over the last three years within SRA 18.

Local Air Quality

Motor vehicles are the primary source of pollutants in the project site vicinity. Local emissions sources also include stationary activities, such as space and water heating, landscape maintenance from leaf blowers and lawn mowers, consumer products, and mobile sources. The AES Huntington Beach Generating Station is located approximately ½ mile southwest of the proposed project site, which is outside the ¼-mile radius that TACs are typically considered. Traffic-congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed national and/or state standards for CO are termed "CO hotspots." Section 9.l4 of the SCAQMD's CEQA Air Quality Handbook identifies CO as a localized problem requiring additional analysis when a project is likely to subject sensitive receptors to CO hotspots. The SCAQMD defines typical sensitive receptors as residences, schools, playgrounds, childcare centers, athletic facilities,

Table 4.2-1 Summary of Ambient Air Quality in the Proposed Project Vicinity

Air Pollutants Monitored Within SRA 18—Northern Coastal Orange County Area	*Year*		
	2004	*2005*	*2006*
Ozone (O_3)			
Maximum 1-hour concentration measured	0.104 ppm[a]	0.085 ppm	0.074 ppm
Number of days exceeding national 0.12 ppm 1-hour standard	0	0	0
Number of days exceeding state 0.09 ppm 1-hour standard	2	0	0
Maximum 8-hour concentration measured	0.087 ppm	0.072 ppm	0.062 ppm
Number of days exceeding national 0.08 ppm 8-hour standard	1	0	0
Nitrogen Dioxide (NO_2)			
Maximum 1-hour concentration measured	0.097 ppm	0.085 ppm	0.101 ppm
Number of days exceeding state 0.25 ppm 1-hour standard	0	0	0
Annual average	0.018 ppm	0.018 ppm	0.016 ppm
Does measured annual average exceed national 0.0534 ppm annual average standard?	No	No	No
Carbon Monoxide (CO)			
Maximum 1-hour concentration measured	5 ppm	5 ppm	N/A ppm
Number of days exceeding national 35.0 ppm 1-hour standard	0	0	0
Number of days exceeding state 20.0 ppm 1-hour standard	0	0	0
Maximum 8-hour concentration measured	4.07 ppm	3.16 ppm	3.01 ppm
Number of days exceeding national 9.5 ppm 8-hour standard	0	0	0
Number of days exceeding state 9.0 ppm 8-hour standard	0	0	0
Sulfur Dioxide (SO_2)			
Maximum 24-hour concentration measured	0.008 ppm	0.008 ppm	0.005 ppm
Number of days exceeding national 0.14 ppm 24-hour standard	0	0	0
Number of days exceeding state 0.04 ppm 24-hour standard	0	0	0

SOURCE: ARB 2007

PM_{10} and $PM_{2.5}$ concentrations were not measured in the Costa Mesa-Mesa Verde Drive monitoring station or in SRA 18.

[a] ppm = parts by volume per million of air.

[b] µg/m³ = micrograms per cubic meter.

long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. The nearest sensitive receptors to the proposed project would be children utilizing the Sports Complex to the east, across Goldenwest Street, and residential uses located approximately 800 feet west of the project site. In addition, seniors using the proposed Senior Center would be considered sensitive receptors during operation of the Senior Center.

The SCAQMD recommends the use of CALINE4, a dispersion model for predicting CO concentrations, as the preferred method of estimating pollutant concentrations at sensitive receptors near congested roadways and intersections. For each intersection analyzed, CALINE4 adds roadway-specific CO emissions calculated from peak hour turning volumes to ambient CO air concentrations. For this analysis, localized CO concentrations were calculated based on a simplified CALINE4 screening procedure developed by the Bay Area Air Quality Management District and accepted by the SCAQMD.

The simplified model is intended as a screening analysis, which identifies a potential CO hotspot. This methodology assumes worst-case conditions and provides a screening of maximum, worst-case CO concentrations.

Maximum existing CO concentrations were calculated for the intersections evaluated in the project traffic report prepared by Urban Crossroads for the proposed project (Appendix 10) that currently operate at Level of Service (LOS) D or worse, as these intersections indicated the locations of highest potential CO concentrations due to vehicle idling. Only one of the three study intersections currently operates at LOS D or worse (Goldenwest Street and Slater Avenue). The results of these calculations are presented in Table 4.2-2 (Existing Localized Carbon Monoxide Concentrations—Weekday) and Table 4.2-3 (Existing Localized Carbon Monoxide Concentrations—Weekend) for representative receptor locations at 25, 50, and 100 feet from each roadway. These distances were selected because they represent locations where a person may be living or working for one to eight hours at a time. The National 1-hour standard is 35.0 parts per million (ppm), and the state 1-hour standard is 20.0 ppm. The 8-hour national and state standards are both 9.0 ppm.

Table 4.2-2 Existing Localized Carbon Monoxide Concentrations—Weekday

Intersection	CO Concentrations in Parts per Million[a, b]					
	25 Feet		50 Feet		100 Feet	
	1-Hour	8-Hour	1-Hour	8-Hour	1-Hour	8-Hour
Goldenwest Street and Slater Avenue	6.4	5.2	6.2	5.0	5.9	4.8

SOURCE: EIP Associates, a division of PBS&J, 2007. Calculation sheets are provided in Appendix 3.

[a]. National 1-hour standard is 35.0 parts per million. State 1-hour standard is 20.0 parts per million.

[b]. National 8-hour standard is 9.0 parts per million. State 8-hour standard is 9.0 parts per million.

Table 4.2-3 Existing Localized Carbon Monoxide Concentrations—Weekend

Intersection	CO Concentrations in Parts per Million[a, b]					
	25 Feet		50 Feet		100 Feet	
	1-Hour	8-Hour	1-Hour	8-Hour	1-Hour	8-Hour
Goldenwest Street and Slater Avenue	6.1	4.9	5.9	4.8	5.7	4.6

SOURCE: EIP Associates, a division of PBS&J, 2007. Calculation sheets are provided in Appendix 3.

[a]. National 1-hour standard is 35.0 parts per million. State 1-hour standard is 20.0 parts per million.

[b]. National 8-hour standard is 9.0 parts per million. State 8-hour standard is 9.0 parts per million.

As shown in Table 4.2-2 and Table 4.2-3, under worst-case conditions, existing CO concentrations in the project vicinity do not exceed national or state 1-hour and 8-hour ambient air quality standards. Therefore, CO hotspots do not currently exist near these intersections.

4.2.2 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, policy-making, education, and a variety of programs. The agencies responsible for improving the air quality within the Basin are discussed below.

Federal

United States Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA) is responsible for setting and enforcing the National Ambient Air Quality Standards for atmospheric pollutants. It regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives.

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

State

California Air Resources Board

As part of the California EPA, the ARB is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, the ARB conducts research, sets California Ambient Air Quality Standards, compiles emission inventories, develops suggested control measures, provides oversight of local programs, and prepares the SIP. The ARB establishes emissions standards for motor vehicles sold in California, consumer products (e.g., hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

Regional

South Coast Air Quality Management District

The SCAQMD is the agency principally responsible for comprehensive air pollution control in the Basin. To that end, the SCAQMD, a regional agency, works directly with the Southern California Association of Governments (SCAG), county transportation commissions, and local governments and cooperates actively with all federal and state government agencies. The SCAQMD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emissions sources, and enforces such measures through educational programs or fines, when necessary.

The SCAQMD is directly responsible for reducing emissions from stationary (area and point), mobile, and indirect sources. It has responded to this requirement by preparing a sequence of AQMPs. The most recent of these was adopted by the Governing Board of the SCAQMD on June 1, 2007, to update and revise the previous 2003 AQMP. The 2007 AQMP was prepared to comply with the federal and State Clean Air Acts and amendments, to accommodate growth, to reduce the high pollutant levels in the Basin, to meet federal and State ambient air quality standards, and to minimize the fiscal impact that pollution control measures have on the local economy. The purpose of the 2007 AQMP for the Basin is to set forth a comprehensive program that will lead the area into compliance with all federal and State air quality planning requirements. Compared with the 2003 AQMP, the 2007 AQMP utilizes revised

emissions inventory projections that use 2003 as the base year, relies on the ARB on-road motor vehicle emissions model EMFAC2007 and the SCAG 2004 Regional Transportation Plan (RTP) forecast assumptions, updates the attainment demonstration for the federal standards for ozone, replaces the 2003 attainment demonstration for the federal CO standard and provides a basis for a maintenance plan for CO for the future, and updates the maintenance plan for the federal NO_2 standard that the Basin has met since 1992. In terms of working towards ozone attainment, the 2007 AQMP builds upon the 2003 AQMP. In terms of PM_{10} and $PM_{2.5}$ attainment, the PM_{10} and $PM_{2.5}$ control strategy in the 2007 AQMP has augmented the 2003 AQMP with a number of additional PM_{10} and $PM_{2.5}$ control measures.

The 2007 AQMP also addresses several State and federal planning requirements and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. Specifically, the 2007 AQMP is designed to satisfy the California *Clean Air Act* (CCAA) tri-annual update requirements and fulfill the SCAQMD's commitment to update transportation emission budgets based on the latest approved motor vehicle emissions model and planning assumptions.

The 2007 AQMP control measures consist of (1) the District's Stationary and Mobile Source Control Measures; (2) CARB's Proposed State Strategy; (3) District Staff's Proposed Policy Options to Supplement CARB's Control Strategy; and (4) Regional Transportation Strategy and Control Measures provided by SCAG. Overall, there are 31 stationary and 30 mobile source measures that are defined under the 2007 AQMP. These measures primarily rely on the traditional command-and-control approach facilitated by market incentive programs, as well as advanced technologies expected to be implemented in the immediate future. The proposed control measures in the 2007 AQMP are based on implementation of all feasible control measures through the application of available technologies and management practices, as well as advanced technologies and control methods. The basic principles used in designing the District's control strategy were to (1) meet at least the same overall remaining emissions target of the 2003 SIP; (2) replace long-term measures with more specific near-term measures, where feasible; and (3) develop new short-term control measures and long-term strategies to achieve the needed reductions for attainment demonstration. Principal control measures of the 2007 AQMP focus on adoption of new regulations or enhancement of existing 2003 AQMP regulations for stationary sources and implementation/facilitation of advanced transportation technologies (i.e., zero emission and alternative-fueled vehicles and infrastructure; fuel cell vehicles; heavy-duty electric and hybrid-electric vehicles; and both capital and non-capital transportation improvements). Capital improvements consist of high-occupancy vehicle (HOV) lanes; transit improvements; traffic flow improvements; park-and-ride and intermodal facilities; and freeway, bicycle, and pedestrian facilities. Non-capital improvements consist of rideshare matching and transportation demand management activities derived from the congestion management program.

Programs set forth in the 2007 AQMP require the cooperation of all levels of government: local, regional, State, and federal. Each level is represented in the Plan by the appropriate agency or jurisdiction that has the authority over specific emissions sources. Accordingly, each agency or jurisdiction is associated with specific planning and implementation responsibilities.

Local

City of Huntington Beach General Plan

Local jurisdictions, such as the City of Huntington Beach, have the authority and responsibility to reduce air pollution through their police power and decision-making authority. Specifically, the City is responsible for the assessment and mitigation of air emissions resulting from its land use decisions. The City of Huntington Beach is also responsible for the implementation of transportation control measures as outlined in the AQMP. Examples of such measures include bus turnouts, energy-efficient streetlights, and synchronized traffic signals. In accordance with CEQA requirements and the CEQA review process, the City assesses the air quality impacts of new development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits, and monitors and enforces implementation of such mitigation.

In accordance with CEQA requirements, the City does not, however, have the expertise to develop plans, programs, procedures, and methodologies to ensure that air quality within the City and region will meet federal and state standards. Instead, the City relies on the expertise of the SCAQMD and utilizes the CEQA Air Quality Handbook as the guidance document for the environmental review of plans and development proposals within its jurisdiction. Applicable goals, objectives, and policies from the Air Quality Element of the General Plan are identified below.

Goal AQ 1 Improve regional air quality by a) decreasing reliance on single occupancy vehicular trips, b) increasing efficiency of transit, c) shortening vehicle trips through a more efficient jobs-housing balance and a more efficient land use pattern, and d) increasing energy efficiency.

Objective AQ 1.8 Reduce particulate emissions from paved and unpaved roads, parking lots, and road and building construction by 50 percent by 2000 as required by Southern California Air Quality Management District.

Policy AQ 1.8.1 Continue to enforce construction site guidelines that require truck operators to minimize particulate emission.

Policy AQ 1.8.2 Require installation of temporary construction facilities (such as wheel washers) and implementation of construction practices that minimize dirt and soil transfer onto public roadways.

Policy AQ 1.8.3 Encourage developers to maintain the natural topography, to the maximum extent possible, and limit the amount of land clearing, blasting, grading, and ground excavation operations needed for development.

Objective AQ 1.9 Minimize sensitive uses (residential, hospitals, schools, etc.) exposure to toxic emissions.

Policy AQ 1.9.1 Assure that sufficient buffer areas exist between a sensitive use and a potential toxic emission source.

Objective AQ 1.10 Reduce the amount of energy consumed by commercial uses by 15 percent by 2000 and 30 percent by 2010. Reduce the amount of energy consumed by residential use by 4.5 percent by 1994 and 30 percent by 2010 as required by Southern California Air Quality Management District.

Policy AQ 1.10.1 Continue to require the utilization and installation of energy conservation features in all new construction.

Consistency Analysis

As mentioned previously, the nearest sensitive receptors to the proposed project would be children utilizing the Sports Complex to the east and residential uses located approximately 800 feet west of the project site. The fields at the Sports Complex are located east of Goldenwest Street, which is elevated above the project site, and further east and south of the associated surface parking lots. Consequently, given the existing distance between the project site and sensitive receptors, development of the proposed project would not conflict with Policy AQ 1.9.1. In addition, seniors using the proposed Senior Center would be considered sensitive receptors during operation of the Senior Center. However, operation of the proposed project would not result in toxic emissions. In addition, this section of the EIR includes measures to reduce the amount of emissions and fugitive dust generated by construction equipment and to reduce energy demand of the proposed land uses. Thus, implementation of the proposed project would not conflict with Policies 1.8.1, 1.8.2, 1.8.3, and 1.10.1.

4.2.3 Project Impacts and Mitigation

Analytic Method

The analysis in this section focuses on the nature and magnitude of the change in the air quality environment due to implementation of the proposed project. Air pollutant emissions associated with the proposed project would result from construction activities, operation of the proposed senior center facility and project-related traffic volumes. The net increase in project site emissions generated by these activities and other secondary sources have been quantitatively estimated and compared to thresholds of significance recommended by the SCAQMD.

Construction Emissions

Construction emissions are calculated by estimating the types and number of pieces of equipment that would be used to grade, excavate, and surcharge the project site, construct the proposed senior center facility, and plant new landscaping within the project site. Construction emissions are analyzed according to the thresholds established by the SCAQMD. The construction activities associated with the proposed senior center facility at the project site would cause diesel emissions, and would generate emissions of dust. Construction equipment within the project site that would generate VOC and NO_X pollutants

could include graders, dump trucks, and bulldozers. Some of this equipment would be used during grading activities as well as when the structure is developed on the project site. It is assumed that all construction equipment used would be diesel-powered.

Operational Emissions

Operational emissions associated with the proposed project are estimated using the URBEMIS 2007 computer model developed for the ARB and information provided in the traffic study prepared by Urban Crossroads for the proposed project. Operational emissions would be comprised of mobile source emissions and area source emissions. Mobile source emissions are generated by the increase in motor vehicle trips to and from the project site associated with operation of the proposed project. Area source emissions are generated by natural gas consumption for space and water heating, and landscape maintenance equipment. To determine if an air quality impact would occur, the increase in emissions was compared with the SCAQMD's recommended thresholds.

Localized CO Concentrations

Localized CO concentrations are calculated based on a simplified CALINE4 screening procedure developed by the Bay Area Air Quality Management District and utilized by the SCAQMD. As discussed previously, the simplified model is intended as a screening analysis, which identifies a potential CO hotspot. This methodology assumes worst-case conditions and provides a screening of maximum, worst-case CO concentrations. The resulting emissions are compared with adopted national and state ambient air quality standards.

Localized Significance Thresholds for Construction

In addition to the daily air emission thresholds established by SCAQMD, potential localized impacts for certain criteria pollutants with regard to project-related emissions are calculated using a separate method. For smaller projects (up to and including 5 acres, such as the proposed project), localized significance thresholds (LSTs) were developed in response to the SCAQMD Governing Board's Environmental Justice Enhancement Initiative I-4. The LST methodology was provisionally adopted by the SCAQMD Governing Board in October 2003 and formally approved by SCAQMD's Mobile Source Committee in February 2005. LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or State ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor. As mentioned previously, a LST screening analysis using the SCAQMD provided mass-rate lookup tables only applies to projects that are 5 acres or less in size and are only applicable to CO, NO_2, PM_{10}, and $PM_{2.5}$. For project sites larger than 5 acres, the SCAQMD recommends that ISCST3 dispersion modeling be performed for CO, NO_2, PM_{10}, and $PM_{2.5}$. Dispersion modeling can be done on a voluntary basis by public agencies to determine whether or not a project may generate significant adverse localized air quality impacts. As the proposed project is approximately 5 acres in size, a screening analysis was performed using the mass-rate lookup tables provided by SCAQMD.

Thresholds of Significance

The following thresholds of significance are based on Appendix G of the 2007 CEQA Guidelines. For purposes of this EIR, implementation of the proposed project may have a significant adverse impact on air quality if it would result in any of the following:

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

As the agency principally responsible for comprehensive air pollution control in the Basin, the SCAQMD recommends that projects should be evaluated in terms of air pollution control thresholds established by the SCAQMD and published in the CEQA Air Quality Handbook. These thresholds were developed by the SCAQMD to provide quantifiable levels that projects can be compared to. The City utilizes the SCAQMD's thresholds that are in effect at the time that development is proposed in order to assess the significance of quantifiable impacts. The following quantifiable thresholds are currently recommended by the SCAQMD. The City has identified these SCAQMD thresholds as appropriate for the determination of the significance of impacts.

Construction Emissions

The SCAQMD currently recommends that projects with construction-related emissions that exceed any of the following emissions thresholds should be considered significant. The SCAQMD also recommends that any construction-related emissions from individual development projects that exceed these thresholds be considered cumulatively considerable. These thresholds apply to individual development projects only; they do not apply to the emissions collectively generated by related projects:

- 550 pounds per day of CO
- 75 pounds per day of VOC
- 100 pounds per day of NO_X
- 150 pounds per day of SO_X
- 150 pounds per day of PM_{10}
- 55 pounds per day of $PM_{2.5}$

Operational Emissions

The SCAQMD currently recommends that projects with operational emissions that exceed any of the following emissions thresholds should be considered significant. The SCAQMD also recommends that any operational emissions from individual projects that exceed these thresholds be considered cumulatively considerable. These thresholds apply to individual development projects only; they do not apply to the emissions collectively generated by related projects:

- 550 pounds per day of CO
- 55 pounds per day of VOC

- 55 pounds per day of NO_X
- 150 pounds per day of SO_X
- 150 pounds per day of PM_{10}
- 55 pound per day of $PM_{2.5}$

In order to assess cumulative impacts, the SCAQMD recommends that projects be evaluated to determine whether they would be consistent with 2007 AQMP performance standards and project-specific emissions thresholds. In the case of the proposed project, air pollutant emissions would be considered to be cumulatively considerable if the new sources of emissions exceed SCAQMD project-specific emissions thresholds.

Effects Not Found to Be Significant

Threshold	Would the project create objectionable odors affecting a substantial number of people?

The project does not propose, and would not facilitate, uses that are significant sources of objectionable odors. Potential sources of odor associated with the proposed project may result from construction equipment exhaust and application of asphalt and architectural coatings during construction activities, and the temporary storage of typical household solid waste (refuse) associated with the senior center (long-term operational) uses. Standard construction requirements would minimize odors from construction. The construction odor emissions would be temporary, short-term, and intermittent in nature, and impacts associated with construction-generated odors are expected to be less than significant. It is expected that any project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the City's solid waste regulations. Therefore, odors associated with the proposed project construction and operation would be less than significant. No mitigation is required, and no further analysis is required in the EIR.

Impacts and Mitigation

Threshold	Would the project conflict with or obstruct implementation of the applicable air quality plan?

Impact 4.2-1 **The proposed project would provide new sources of regional air emissions, but would not impair implementation of the Air Quality Management Plan.**

The 2007 AQMP, discussed previously, was prepared to accommodate growth, to reduce the high levels of pollutants within the areas under the jurisdiction of SCAQMD, to return clean air to the region, and to minimize the impact on the economy. Projects that are considered to be consistent with the AQMP would not interfere with attainment, because this growth is included in the projections used to formulate the AQMP. Therefore, projects, uses, and activities that are consistent with the applicable assumptions used in the development of the AQMP would not jeopardize attainment of the air quality levels identified in the AQMP, even if they exceed the SCAQMD's recommended daily emissions thresholds.

Projects that are consistent with the projections of employment and population forecasts identified in the Growth Management Chapter of the RCPG are considered consistent with the AQMP growth

projections. In turn, projects that are consistent with City's General Plan are considered to be consistent with the Growth Management Chapter, as the General Plan forms the basis for population and employment forecasts in the RCPG. This is because the Growth Management Chapter forms the basis of the land use and transportation control portions of the AQMP.

As residential units are not part of the proposed project, the proposed project would be consistent with the population forecasts of the RCPG. Although implementation of the proposed project would require an amendment to the Central Park Master Plan from low to high intensity recreation area, the proposed project is consistent with the existing General Plan Land Use designation of OS-P. Therefore, while a minimal number of new employment positions would be created with implementation of the proposed project, these jobs have been accounted for by the City's General Plan and the Growth Management Chapter of the RCPG, and the project is thereby consistent with the AQMP. Since the proposed project would not generate residences or employment positions beyond those already projected for in the AQMP, the proposed project would not conflict with implementation of the AQMP and this impact would be ***less than significant***.

Threshold	Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Impact 4.2-2 Peak construction activities associated with the proposed project could generate emissions that exceed SCAQMD thresholds.

Construction activities associated with the proposed project would generally involve two stages: (1) site excavation, grading, and installation of utilities; and (2) construction of the proposed senior center along with landscaping improvements and paving activities.

Because of the construction time frame and the normal day-to-day variability in construction activities, it is difficult, if not impossible, to precisely quantify the daily emissions associated with each phase of the proposed construction activities. Nonetheless, Table 4.2-4 identifies daily emissions that are estimated to occur on peak construction days. These calculations assume that appropriate dust control measures would be implemented during each phase of development as required by SCAQMD Rule 403—Fugitive Dust, and that all other appropriate mitigation, such as routine equipment maintenance, has been used. Cut and fill activities would occur to a depth of approximately 10 feet during site grading. However, based on this relatively small amount of cut and fill and the size of the project site, all soil is assumed to be kept on site and will not be hauled on or off site.

As shown, construction related daily emissions would exceed SCAQMD significance thresholds for VOC during the peak construction phase, which is considered a potentially significant impact. These emissions are primarily due to the application of architectural coatings to the senior center structure during the architectural coatings subphase of building construction. Implementation of mitigation measure MM 4.2-2(e) will reduce this impact to a less-than-significant level.

Table 4.2-4 Estimated Peak Daily Construction Emissions in Pounds per Day

Emissions Source	Peak Day Emissions in Pounds per Day					
	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$[a]
Site Excavation, Grading, and Utility Installation						
Construction Equipment	4.47	38.17	17.65	—	1.97	1.81
On-Road Vehicles	0.00	0.00	0.00	0.00	0.00	0.00
Fugitive Dust[a]	—	—	—	—	51.81	10.82
Worker Trips	0.05	0.10	1.70	0.00	0.01	0.01
Maximum Daily Emissions	*4.52*	*38.27*	*19.35*	*0.00*	*53.79*	*12.64*
SCAQMD Thresholds	75.0	100.0	550.0	150.0	150.0	55.0
Significant Impact?	No	No	No	No	No	No
Construction Phase						
Construction Equipment	3.12	26.76	14.64	0.01	1.47	1.34
Asphalt Paving	2.48	14.22	9.47	0.00	1.17	1.07
Architectural Coatings	43.83	0.03	0.54	0.00	0.00	0.00
Maximum Daily Emissions	*49.43*	*41.01*	*24.65*	*0.01*	*2.64*	*2.41*
SCAQMD Thresholds	75.0	100.0	550.0	150.0	150.0	55.0
Significant Impact?	No	No	No	No	No	No

SOURCE: EIP Associates, a division of PBS&J, 2007. Calculation sheets are provided in Appendix 3.

[a] Assumes watering of the proposed project site would occur three times per day.

The following standard City requirements (CR) shall be implemented (and complied with prior to issuance of any grading permit) as part of the proposed project to improve air quality emissions generated by construction activities associated with the proposed project.

CR 4.2-2(a) *Prior to issuance of any grading permit, the name and phone number of the contractor's superintendent hired by the developer shall be submitted to the Departments of Planning and Public Works. In addition, clearly visible signs shall be posted on the perimeter of the site every 250 feet indicating who shall be contacted for information regarding this development and any construction/grading-related concerns. This contact person shall be available immediately to address any concerns or issues raised by adjacent property owners during the construction activity. He/She will be responsible for ensuring compliance with the conditions herein, specifically, grading activities, truck routes, construction hours, noise, etc. Signs shall include the Developer's contact number regarding grading and construction activities, and "1-800-CUTSMOG" in the event there are concerns regarding fugitive dust and compliance with SCAQMD Rule No. 403.*

CR 4.2-2(b) *Prior to issuance of any grading permit, the Developer shall notify all property owners and tenants within 300 feet of the perimeter of the property of a tentative grading schedule at least 30 days prior to such grading.*

CR 4.2-2(c) *Prior to issuance of any grading permit or surcharge activities, the Developer shall demonstrate that the grading/erosion control plan will abide by the provisions of AQMD's Rule 403 as related to fugitive dust control.*

CR 4.2-2(d) *During grading, the construction disturbance area shall be kept as small as possible.*

CR 4.2-2(e) *Prior to issuance of any grading permit wind barriers shall be installed along the perimeter of the site and/or around areas being graded.*

CR 4.2-2(f) *(This CR incorporates Measures Air-1 through Air-8 from the Central Park Master Plan EIR)*

The project developer(s) shall implement dust control measures consistent with SCAQMD Rule 403—Fugitive Dust during the construction phases of new project development. Contract specification language shall be reviewed for inclusion of this language by the City prior to issuance of a grading permit. The following actions are currently recommended to implement Rule 403 and have been quantified by the SCAQMD as being able to reduce dust generation between 30 and 85 percent depending on the source of the dust generation:

- *Apply water and/or approved nontoxic chemical soil stabilizers according to manufacturer's specification to all inactive construction areas (previously graded areas that have been inactive for 10 or more days)*
- *Replace ground cover in disturbed areas as quickly as possible*
- *Enclose, cover, water twice daily, or apply approved chemical soil binders to exposed piles with 5 percent or greater silt content*
- *Water trucks will be utilized on the site and shall be available to be used throughout the day during site grading to keep the soil damp enough to prevent dust being raised by the operations. Water active grading sites at least three times daily*
- *Suspend all excavating and grading operations when wind speeds (as instantaneous gusts) exceed 25 miles per hour over a 30-minute period*
- *All trucks hauling dirt, sand, soil, or other loose materials are to be covered, in accordance with Section 23114 of the California Vehicle Code*
- *Sweep streets at the end of the day or as directed by the Department of Public Works*
- *Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off trucks and any equipment leaving the site each trip on a gravel surface to prevent dirt and dust from impacting the surrounding areas*
- *Apply water three times daily or chemical soil stabilizers according to manufacturers' specifications to all unpaved parking or staging areas or unpaved road surfaces*
- *Post and enforce traffic speed limits of 15 miles per hour or less on all unpaved surfaces*

In addition to the standard City requirements listed above, mitigation measures (MM) are recommended by SCAQMD to reduce NO_X emissions during construction activities and to reduce VOC emissions from application of architectural coatings. Mitigation measures MM 4.2-2(a) through MM 4.2-2(c) also satisfy certain measures identified in the Central Park Master Plan EIR. The language in these measures has been modified to reflect project-specific components of the proposed senior center where necessary, or for compliance with SCAQMD, although their intent remains the same. The original measures from the Central Park Master Plan EIR appear in Table 4-1 of this EIR.

The following recommendations would address potential air quality impacts associated with construction activities, as described above.

MM-4.2-2(a) *(This MM incorporates Measure Air-9 from the Central Park Master Plan EIR)*

The project developer(s) shall require by contract specifications that construction equipment engines will be maintained in good condition and in proper tune per manufacturer's specification for the duration of construction.

MM-4.2-2(b) *(This MM incorporates Measure Air-12 from the Central Park Master Plan EIR)*

The project developer(s) shall require by contract specifications that construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than five minutes. Contract specification language shall be reviewed by the City prior to issuance of a grading permit.

MM-4.2-2(c) *(This MM incorporates Measures Air-10 and Air-11 from the Central Park Master Plan EIR)*

The project developer(s) shall encourage contractors to utilize alternative fuel construction equipment (i.e., compressed natural gas, liquid petroleum gas, electric, and unleaded gasoline) and low-emission diesel construction equipment to the extent that the equipment is readily available and cost effective. Contract specification language shall be reviewed by the City prior to issuance of a grading permit.

MM-4.2-2(d) *The project developer(s) shall require by contract specifications that construction operations rely on the electricity infrastructure surrounding the construction sites rather than electrical generators powered by internal combustion engines to the extent feasible. Contract specification language shall be reviewed by the City prior to issuance of a grading permit.*

MM4.2-2(e) *The project developer(s) shall require by contract specifications that the architectural coating (paint and primer) products used would have a VOC rating of 125 grams per liter or less. Contract specifications shall be included in the proposed project construction documents, which shall be reviewed by the City prior to issuance of a building permit.*

These measures would ensure that construction emissions are not greater than predicted in this analysis. Implementation of these City requirements and mitigation measures would reduce construction-related emissions to levels below SCAQMD-recommended thresholds, and daily emissions associated with construction activities would be ***less than significant***.

Threshold	Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Impact 4.2-3 **Daily operation of the project would not generate emissions that exceed SCAQMD thresholds.**

Operational emissions generated by both stationary and mobile sources would result from normal day-to-day activities on the project site after occupation. Stationary area source emissions would be generated by the consumption of natural gas for space and water heating devices, and the operation of landscape maintenance equipment. Mobile emissions would be generated by the motor vehicles traveling to and from the project site.

The analysis of daily operational emissions has been prepared utilizing the URBEMIS 2007 computer model recommended by the SCAQMD. The results of these calculations for weekday operation and weekend operation are presented in Tables 4.2-5 and 4.2-6, respectively.

Table 4.2-5 Project Daily Operational Emissions—Weekday

Emissions Source	Emissions in Pounds per Day					
	VOC	NO_X	CO	SO_X	PM_{10}	PM_{25}
Water and Space Heating	0.02	0.30	0.25	0.00	0.00	0.00
Landscape Maintenance	0.12	0.02	1.55	0.00	0.01	0.01
Consumer Products	0.00	—	—	—	—	—
Architectural Coatings	0.26	—	—	—	—	—
Motor Vehicles	21.94	30.41	294.01	0.32	52.50	10.13
Maximum Daily Emissions	*22.34*	*30.73*	*295.81*	*0.32*	*52.51*	*10.14*
Thresholds (lb/day)	55.00	55.00	550.00	150.00	150.00	55.00
Significant Impact	No	No	No	No	No	No

SOURCE: EIP Associates, a division of PBS&J, 2007. Computer sheets are provided in Appendix 3

Table 4.2-6 Project Daily Operational Emissions—Weekend

Emissions Source	Emissions in Pounds per Day					
	VOC	NO_X	CO	SO_X	PM_{10}	PM_{25}
Water and Space Heating	0.02	0.30	0.25	0.00	0.00	0.00
Landscape Maintenance	0.12	0.02	1.55	0.00	0.01	0.01
Consumer Products	0.00	—	—	—	—	—
Architectural Coatings	0.26	—	—	—	—	—
Motor Vehicles	10.36	14.13	136.60	0.15	24.39	4.70
Maximum Daily Emissions	*10.76*	*14.45*	*138.40*	*0.15*	*24.40*	*4.71*
Thresholds (lb/day)	55.00	55.00	550.00	150.00	150.00	55.00
Significant Impact	No	No	No	No	No	No

SOURCE: EIP Associates, a division of PBS&J, 2007. Computer sheets are provided in Appendix 3

As shown, the proposed project would not generate daily emissions that exceed the thresholds of significance recommended by the SCAQMD and this impact would be ***less than significant***.

Threshold	Would the project expose sensitive receptors to substantial pollutant concentrations?

Impact 4.2-4 **The proposed project would generate increased local traffic volumes, but would not cause localized CO concentrations at nearby intersections to exceed national or state standards.**

Project-generated traffic could contribute to decreased levels of service at nearby intersections, resulting in additional vehicle emissions and longer vehicle idling times at and near study area intersections. These circumstances could lead to CO hot spots that may affect adjacent sensitive receptors. The simplified CALINE4 screening procedure was used to predict future CO concentrations at the study area intersections that are projected to operate at LOS D or worse with buildout of the project, as these intersections indicated the locations of highest potential CO concentrations due to vehicle idling. Similar

to existing conditions, only one of the three study intersections is projected to operate at LOS D or worse at project buildout (Goldenwest street and Slater Avenue).

The results of these calculations are presented in Tables 4.2-7 (Future with Project Localized Carbon Monoxide Concentrations—Weekday) and 4.2-8 (Future with Project Localized Carbon Monoxide Concentrations—Weekend) for representative receptor locations at 25, 50, and 100 feet from the intersection.

Table 4.2-7 Future with Project Localized Carbon Monoxide Concentrations—Weekday

	CO Concentrations in Parts per Million[a, b]					
	25 Feet		50 Feet		100 Feet	
Intersection	1-Hour	8-Hour	1-Hour	8-Hour	1-Hour	8-Hour
Goldenwest Street and Slater Avenue	6.2	5.0	5.9	4.8	5.7	4.7

SOURCE: EIP Associates, a division of PBS&J, 2007. Calculation sheets are provided in Appendix 3.
[a] National 1-hour standard is 35.0 parts per million. State 1-hour standard is 20.0 parts per million.
[b] National 8-hour standard is 9.0 parts per million. State 8-hour standard is 9.0 parts per million.

Table 4.2-8 Future with Project Localized Carbon Monoxide Concentrations—Weekend

	CO Concentrations in Parts per Million[a, b]					
	25 Feet		50 Feet		100 Feet	
Intersection	1-Hour	8-Hour	1-Hour	8-Hour	1-Hour	8-Hour
Goldenwest Street and Slater Avenue	5.7	4.7	5.6	4.6	5.5	4.4

SOURCE: EIP Associates, a division of PBS&J, 2007. Calculation sheets are provided in Appendix 3.
[a] National 1-hour standard is 35.0 parts per million. State 1-hour standard is 20.0 parts per million.
[b] National 8-hour standard is 9.0 parts per million. State 8-hour standard is 9.0 parts per million.

As shown, future CO concentrations near this intersection would not exceed national or state ambient air quality standards. Therefore, CO hotspots would not occur near this nor any other intersection within the study area in the future as a result of the proposed project, and the contribution of project traffic-related CO at these intersections would be less than established thresholds. This impact would be ***less than significant***.

Threshold	Would the project expose sensitive receptors to substantial pollutant concentrations?

Impact 4.2-5 **The proposed project would increase concentrations of criteria air pollutants in the project vicinity during construction activities, but would not result in or expose sensitive receptors to substantial pollutant concentrations.**

As stated previously, the SCAQMD defines typical sensitive receptors as residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. The nearest sensitive receptors in the proposed project

vicinity that have the potential to be affected by construction activities would be children utilizing the Sports Complex to the east and residential uses located approximately 800 feet west of the project site.

To determine potential criteria pollutant concentrations during construction activities, the SCAQMD has developed LSTs to determine maximum allowable concentrations for projects 5 acres or less in total area for CO, NO_2, PM_{10}, and $PM_{2.5}$. The project site is approximately 5 acres in size, and construction emissions are therefore comparable to these LSTs. Total worst-case construction emissions for the proposed project are included in Table 4.2-4. Table 4.2-9 compares the total worst-case construction emissions to the LSTs for SRA 18, where the proposed project is located. As shown in Table 4.2-9, the proposed project would not result in substantial pollution concentration at sensitive receptors during construction activities. Since construction of the proposed project would not expose sensitive receptors to substantial concentrations of criteria pollutants, this impact would be ***less than significant***. CR 4.2-2 and mitigation measure MM 4.2-2 would apply to this impact and ensure that criteria pollutants would not exceed SCAQMD established thresholds.

Table 4.2-9 Total Construction Emissions and Localized Significance Thresholds

Air Pollutant	*Maximum Daily Construction Emissions*	*Thresholds of Significance*	*Quantity of Pollutant Exceeding Threshold*	*Significant Impact?*
CO	24.65 lbs/day	2,039 lbs/day	0	No
NO_2	41.01 lbs/day	354 lbs/day	0	No
PM_{10}	53.79 lbs/day	57 lbs/day	0	No
$PM_{2.5}$	12.64 lbs/day	18 lbs/day	0	No

SOURCE: EIP Associates, a division of PBS&J, 2007; SCAQMD, *Localized Significance Threshold Methodology*, June 2003.

4.2.4 Cumulative Impacts

Threshold	Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

As shown in Table 3-4, there are four projects located within one mile of the proposed project site. SCAQMD's approach to determining cumulative air quality impacts for criteria air pollutants is to first determine whether or not the proposed project would result in a significant project-level impact to regional air quality based on SCAQMD significance thresholds. As discussed in Impacts 4.2-2 and 4.2-3, the proposed project would have a less-than-significant impact for construction and operational emissions. A significant cumulative impact may occur if a project would add a cumulatively considerable contribution of a federal or state non-attainment pollutant. Because the Basin is currently in nonattainment for ozone (for which VOC and NO_X are precursors) and PM_{10} under national and state standards, and is in nonattainment for CO under national standards, projects could cumulatively exceed an air quality standard or contribute to an existing or projected air quality exceedance. With regard to determining the significance of the proposed project contribution, the SCAQMD neither recommends quantified analyses of cumulative construction or operational emissions, nor provides separate

methodologies or thresholds of significance to be used to assess cumulative construction or operational impacts. Instead, the SCAQMD recommends that a project's potential contribution to cumulative impacts should be assessed using the same significance criteria as those for project specific impacts; that is, individual development projects that generate construction-related or operational emissions that exceed the SCAQMD-recommended daily thresholds for project-specific impacts would also cause a cumulatively considerable increase in emissions for those pollutants for which the Basin is in nonattainment.

As discussed previously in Impact 4.2-2, construction-related daily emissions associated with project development would not exceed SCAQMD significance thresholds during construction activities. Therefore, the emissions generated by construction of the proposed project would not be cumulatively considerable nor would they constitute a substantial contribution to an existing or projected air quality violation. As described above in Impact 4.2-2, compliance with CR 4.2-2(a)-(f) and implementation of mitigation measures MM 4.2-2(a) through MM 4.2-2(e) would reduce these emissions to a less-than-significant level.

Operation of the proposed project would not generate emissions that exceed the thresholds of significance recommended by the SCAQMD. Thus, the proposed project would not make a cumulatively considerable contribution with regard to criteria pollutants, and this impact would be ***less than significant***.

4.2.5 References

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