IV. ENVIRONMENTAL IMPACT ANALYSIS

B. AIR QUALITY

1. INTRODUCTION

The following analysis of air quality impacts is based primarily upon the *Cedars-Sinai Medical Center Project Air Quality and Noise Impact Report*, prepared by Terry A. Hayes Associates and dated August 2008, and which is incorporated herein. The air quality report, including the applicable calculation sheets are provided in *Appendix D: Air Quality & Noise Impact Report* of this Draft SEIR. In addition, the analysis includes conclusions of the air quality environment regarding air quality impacts that were reached in the Original EIR, as appropriate.

2. ENVIRONMENTAL CONDITIONS

a. Physical Setting

(1) Air Quality Terms and Characteristics

There are three sources of air pollutants, including mobile sources (on- and off-road motor vehicles), area sources (e.g., water heaters, natural gas consumption, and consumer products), and stationary sources (e.g., industrial and manufacturing processes, boilers, under-fired broilers used in restaurants, and emergency generators). These sources and their pollutants are discussed below.

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards or criteria for outdoor concentrations to protect public health. The federal criteria pollutants include carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter 2.5 microns or less in diameter ($PM_{2.5}$), particulate matter ten microns or less in diameter (PM_{10}), and lead (Pb). The State criteria pollutants include the seven federal criteria pollutants and, in addition, sulfates, hydrogen sulfide, visibility-reducing particles, and vinyl chloride. The federal and state standards have been set at levels above which concentrations may be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. These pollutants are discussed below. Background information for these pollutants was obtained from the South Coast Air Quality Management District ("SCAQMD") *CEQA Air Quality Handbook*.[1]

Carbon Monoxide. CO is a colorless and odorless gas formed by the incomplete combustion of fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas such as the Project location, motor vehicle exhaust accounts for the majority of CO emissions. CO is a non-reactive air pollutant that dissipates relatively quickly, so ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions, primarily wind speed, topography, and atmospheric stability. CO

[1]South Coast Air Quality Management District (SCAQMD), *CEQA Air Quality Handbook* (Diamond Bar: SCAQMD 1993).

from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, a typical situation at dusk in urban areas between November and February.[2] The highest levels of CO typically occur during the colder months of the year when inversion conditions are more frequent. In terms of health, CO competes with oxygen, often replacing it in the blood, thus reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can be dizziness, fatigue, and impairment of central nervous system functions.

Ozone. O_3 is a colorless gas that is formed in the atmosphere when reactive organic gases (ROG), also referred to as volatile organic compounds (VOC), and nitrogen oxides (NO_X) react in the presence of ultraviolet sunlight. O_3 is not a primary pollutant; it is a secondary pollutant formed by complex interactions of two pollutants directly emitted into the atmosphere. The primary sources of ROG and NO_X emissions, which are the components of O_3, are motor vehicle exhaust and industrial sources. Meteorology and terrain also play major roles in O_3 formation. Ideal conditions for ozone formation occur during summer and early autumn, on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. Motor vehicle emissions are the greatest source of O_3-producing gases.

Exposure to O_3 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.

Nitrogen Dioxide. NO_2, like O_3, is not directly emitted into the atmosphere but is formed by an atmospheric chemical reaction between nitric oxide (NO) and atmospheric oxygen. The primary source of NO emissions is the combustion of fossil fuel. NO and NO_2 are collectively referred to as NO_X and are major contributors to O_3 formation. NO_2 also contributes to the formation of PM_{10}. High concentrations of NO_2 can cause breathing difficulties and result in a brownish red cast to the atmosphere with reduced visibility. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis. Some increase of bronchitis in children (two and three years old) has also been observed at concentrations below 0.3 parts per million ("ppm").

Sulfur Dioxide. SO_2 is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Currently, the main sources of SO_2 emissions are coal and oil used in power plants and industries. Generally, the highest levels of SO_2 are found near large industrial complexes such as power plants. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 as well as limits on the sulfur content of fuels. SO_2 is an irritant gas that attacks the throat and lungs causing acute respiratory symptoms and diminished ventilator function. SO_2 can also yellow plant leaves and erode iron and steel.

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air. Naturally occurring particulate matter can include smoke, soot, dust, and salts. Particulate matter also forms when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent fractions of particulate

[2] "Inversion" is an atmospheric condition in which a layer of warm air traps cooler air near the surface of the earth, preventing the normal rising of surface air.

matter. Fine particulate matter, or $PM_{2.5}$, is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g. motor vehicles, power generation, and industrial facilities), residential fireplaces, and wood stoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as SO_2, NO_X, and VOC. "Inhalable" particulate matter, or PM_{10}, is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning, industrial sources, windblown dust from open lands; and atmospheric chemical and photochemical reactions.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances, such as lead, sulfates, and nitrates can cause lung damage directly. These substances can be absorbed into the blood stream and cause damage elsewhere in the body. These substances can transport absorbed gases, such as chlorides or ammonium, into the lungs and cause injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle, as well as produce haze and reduce regional visibility.

Lead. Pb in the atmosphere occurs as particulate matter. Current sources of lead include manufacturers of batteries, paint, ink, ceramics, ammunition and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead; however, between 1978 and 1987, the phase-out of leaded gasoline reduced the overall inventory of airborne lead by nearly 95 percent. With the phase-out of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are now becoming lead-emission sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth.

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

The state sulfates standard is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in ventilatory function,

aggravation of asthmatic symptoms, and an increased risk of cardio-pulmonary disease. Sulfates are particularly effective in degrading visibility, and, due to fact that they are usually acidic, can harm ecosystems and damage materials and property.

The SCAQMD does not have a standard or emissions threshold for sulfates. Instead, the SCAQMD provides methodology to analyze SO_2, which includes emissions threshold. Accordingly, this analysis provides a quantification of SO_2 emissions and not sulfates.

Hydrogen Sulfides. Hydrogen sulfide (H_2S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation. Breathing H_2S at levels above the standard will result in exposure to a disagreeable odor.

Visibility-Reducing Particles. Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size, and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt. The statewide standard is intended to limit the frequency and severity of visibility impairment due to regional haze. A separate standard for visibility-reducing particles that is applicable only in the Lake Tahoe Air Basin is based on reduction in scenic quality. The SCAQMD does not have a standard, emissions threshold, or analysis methodology for visibility-reducing particles and, as such, further analysis is not required.

Vinyl Chloride. Vinyl chloride ("chloroethene"), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents. Short-term exposure to high levels of vinyl chloride in air causes central nervous system effects, such as dizziness, drowsiness, and headaches. Long-term exposure to vinyl chloride through inhalation and oral exposure causes liver damage. Cancer is a major concern from exposure to vinyl chloride via inhalation. Vinyl chloride exposure has been shown to increase the risk of angiosarcoma, a rare form of liver cancer in humans.

Toxic Air Contaminants. An air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health, is identified as a toxic air contaminant ("TAC"). Sources of TACs include diesel engines, boilers, char-broilers, and automobile painting. TACs are identified by state and federal agencies based on a review of available scientific evidence. In the State of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act, Assembly Bill 1807, Tanner. This two-step process of risk identification and risk management was designed to protect residents from the health effects of toxic substances in the air.

The South Coast Air Quality Management District (the "SCAQMD"), the district with air quality jurisdiction over the Project, has a long and successful history of reducing air toxics and criteria

emissions in the South Coast Air Basin (the "Basin").[3] SCAQMD has an extensive control program, including traditional and innovative rules and policies. These policies can be viewed in the SCAQMD's *Air Toxics Control Plan for the Next Ten Years* (March 2000).

(2) Regional Air Quality

(a) Climate

The Project Site is located within the Los Angeles County portion of the Basin. Ambient pollution concentrations recorded in Los Angeles County are among the highest in the four counties comprising the Basin.

The Basin is in an area of high air pollution potential due to its climate and topography. The general region lies in the semi-permanent high pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. This Basin experiences warm summers, mild winters, infrequent rainfalls, light winds, and moderate humidity. This usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The Basin is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the west and high mountains around the rest of its perimeter. The mountains and hills within the area contribute to the variation of rainfall, temperature, and winds throughout the region.

The Basin experiences frequent temperature inversions. Temperature typically decreases with height. However, under inversion conditions, temperature increases as altitude increases, thereby preventing air close to the ground from mixing with the air above it. As a result, air pollutants are trapped near the ground. During the summer, air quality problems are created due to the interaction between the ocean surface and the lower layer of the atmosphere. This interaction creates a moist marine layer. An upper layer of warm air mass forms over the cool marine layer, preventing air pollutants from dispersing upward. Additionally, hydrocarbons and NO_2 react under strong sunlight, creating smog. Light, daytime winds, predominantly from the west, further aggravate the condition by driving air pollutants inland, toward the mountains. During the fall and winter, air quality problems are created due to CO and NO_2 emissions. CO concentrations are generally worse in the morning and late evening (around 10:00 p.m.). In the morning, CO levels are relatively high due to cold temperatures and the large number of cars traveling. High CO levels during the late evenings are a result of stagnant atmospheric conditions trapping CO in the area. Since CO is produced almost entirely from automobiles, the highest CO concentrations in the Basin are associated with heavy traffic. Similarly to CO diurnal trends, NO_2 levels are also generally higher during fall and winter days.

[3] The "Basin" is a subregion of the SCAQMD and covers an area of 6,745 square miles. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The Basin is bounded by the Pacific Ocean to the west; the San Gabriel, San Bernardino and San Jacinto Mountains to the north and east; and the San Diego County line to the south.

(b) Attainment Status

As required by the federal Clean Air Act (the "CAA"), National Ambient Air Quality Standards (NAAQS) have been established for seven major air pollutants: CO, NO_2, O_3, $PM_{2.5}$, PM_{10}, SO_2, and Pb. The CAA requires the United States Environmental Projection Agency (the "USEPA") to designate areas as either attainment or nonattainment for each criteria pollutant based on whether the NAAQS have been achieved. The federal standards are summarized in *Table 4: State and National Ambient Air Quality Standards*. The USEPA has classified the Basin as nonattainment for O_3, $PM_{2.5}$, and PM_{10} and attainment for NO_2, SO_2 and Pb. As a result of State and local control strategies, the Basin has not exceeded the federal CO standard since 2002. As such, the Basin is a maintenance area for CO. In March 2005, the SCAQMD adopted a CO Redesignation Request and Maintenance Plan that provides for maintenance of the federal CO air quality standard until at least 2015 and commits to revising the Plan in 2013 to ensure maintenance through 2025. The SCAQMD also adopted a CO emissions budget that covers 2005 through 2015.

The California Ambient Air Quality Standards (the "CAAQS") are generally more stringent than the corresponding federal standards (the "NAAQS") and, as such, are used as the comparative standard in the air quality analysis contained in this analysis. The State standards are also summarized in *Table 4: State and National Ambient Air Quality Standards*.

The California Clean Air Act (the "CCAA") requires the California Air Resources Board ("CARB") to designate areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data shows that a State standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a State standard and are not used as a basis for designating areas as nonattainment. Under the CCAA, the Los Angeles County portion of the Basin is designated as a nonattainment area for O_3, $PM_{2.5}$, and PM_{10} and attainment for CO, NO_2, SO_2, Pb, sulfates, hydrogen sulfide, and vinyl chloride.[4]

TABLE 4
STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS [1]

POLLUTANT	AVERAGING PERIOD	CALIFORNIA		FEDERAL	
		STANDARDS	ATTAINMENT STATUS	STANDARDS	ATTAINMENT STATUS
Ozone (O_3)	1-hour	0.09 ppm (180 $\mu g/m^3$)	Nonattainment	--	--
	8-hour	0.070 ppm (137 $\mu g/m^3$)	n/a	0.075 ppm (147 $\mu g/m^3$)	Nonattainment
Respirable Particulate Matter (PM_{10})	24-hour	50 $\mu g/m^3$	Nonattainment	150 $\mu g/m^3$	Nonattainment
	Annual Arithmetic Mean	20 $\mu g/m^3$	Nonattainment	--	--

[4] California Air Resources Board (CARB), http://www.arb.ca.gov/desig/adm/adm.htm (July 31, 2007).

TABLE 4 (CONTINUED)
STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS [1]

POLLUTANT	AVERAGING PERIOD	CALIFORNIA		FEDERAL	
		STANDARDS	ATTAINMENT STATUS	STANDARDS	ATTAINMENT STATUS
Fine Particulate Matter ($PM_{2.5}$)	24-hour	--	--	35 $\mu g/m^3$	Nonattainment
	Annual Arithmetic Mean	12 $\mu g/m^3$	Nonattainment	15 $\mu g/m^3$	Nonattainment
Carbon Monoxide (CO)	8-hour	9.0 ppm (10 $\mu g/m^3$)	Attainment	9 ppm (10 mg/m^3)	Maintenance
	1-hour	20 ppm (23 $\mu g/m^3$)	Attainment	35 ppm (40 mg/m^3)	Maintenance
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (56 $\mu g/m^3$)	Attainment	0.053 ppm (100 $\mu g/m^3$)	Attainment
	1-hour	0.18 ppm (338 $\mu g/m^3$)	Attainment	--	--
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	--	--	0.030 ppm (80 $\mu g/m^3$)	Attainment
	24-hour	0.04 ppm (105 $\mu g/m^3$)	Attainment	0.14 ppm (365 $\mu g/m^3$)	Attainment
	3-hour	--	--	--	--
	1-hour	0.25 ppm (655 $\mu g/m^3$)	Attainment	--	--
Lead (Pb)	30-day average	1.5 $\mu g/m^3$	Attainment	--	--
	Calendar Quarter	--	--	1.5 $\mu g/m^3$	Attainment
Sulfates	24-hour	25 $\mu g/m^3$	Attainment	--	--
Hydrogen Sulfide	1-hour	0.03 ppm (42 $\mu g/m^3$)	Attainment	--	--
Vinyl Chloride	24-hour	0.01 ppm (26 $\mu g/m^3$)	Attainment	--	--
Visibility-Reducing Particulates	8-hour	Visibility of ten miles or more	Unclassified	--	--

[1] Source: CARB, Ambient Air Quality Standards, April 1, 2008.

(3) Local Meteorology

The mountains and hills within the Basin contribute to the variation of rainfall, temperature, and winds throughout the region. Within the Project Site and its vicinity, the average wind speed, as recorded at the Downtown Los Angeles Wind Monitoring Station, is approximately 3 miles per hour, with calm winds occurring approximately 55 percent of the time. Wind in the vicinity of the Project Site predominately blows from the southwest.[5]

[5]SCAQMD Website, http://www.aqmd.gov/smog/metdata/MeteorologicalData.html (April 24, 2008).

The annual average temperature in the project area is 65 degrees Fahrenheit (°F). The project area experiences an average winter temperature of approximately 58°F and an average summer temperature of approximately 72°F. Total precipitation in the project area averages approximately 15 inches annually. Precipitation occurs mostly during the winter and relatively infrequently during the summer. Precipitation averages approximately 8.9 inches during the winter, approximately 3.7 inches during the spring, approximately 2.0 inches during the fall, and less than 1 inch during the summer.[6]

(4) Local Air Quality

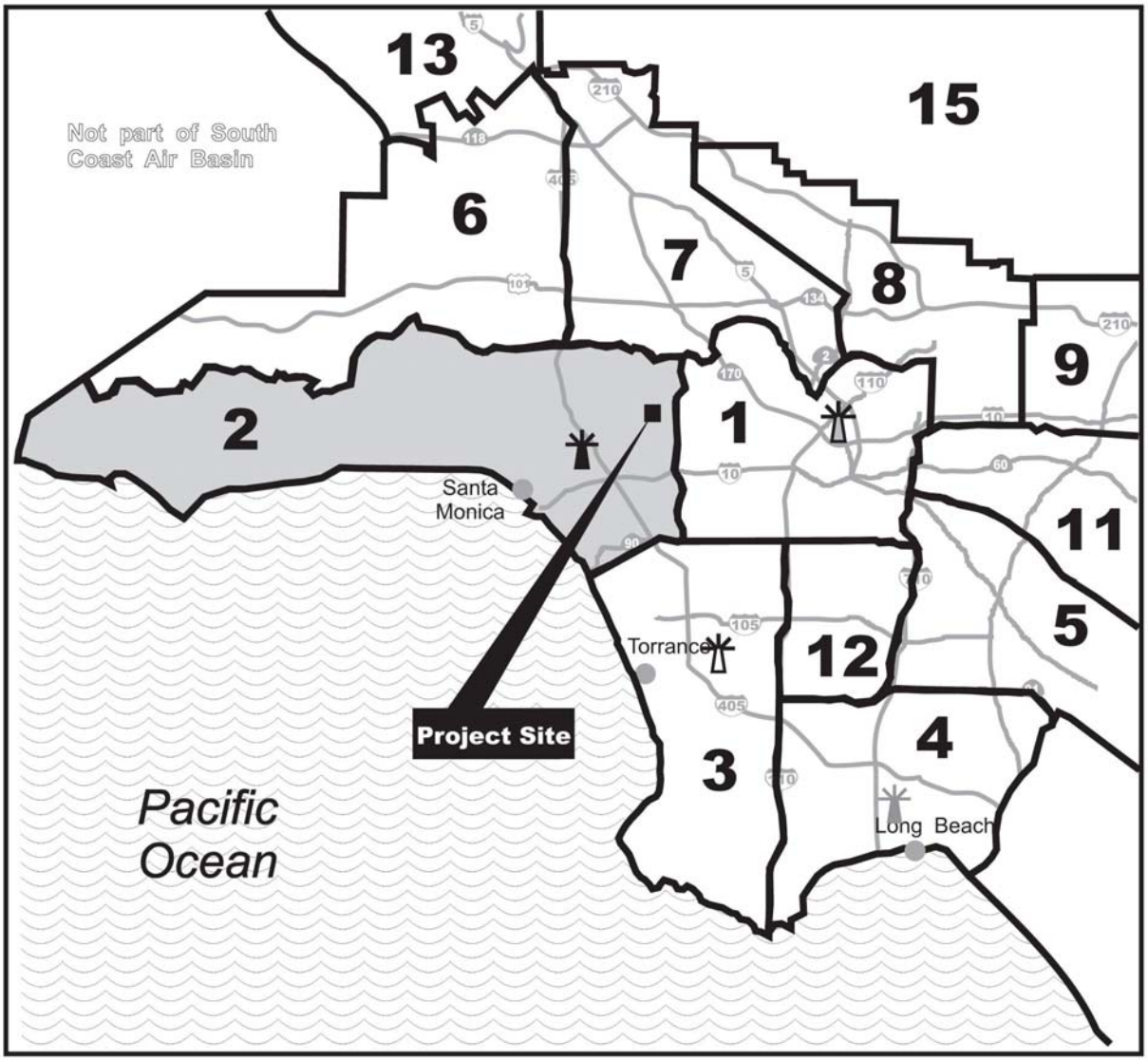
The SCAQMD monitors air quality conditions at 38 locations throughout the Basin. The Project Site is located in SCAQMD's Northwest Coastal Los Angeles County Air Monitoring Subregion, which is served by the West Los Angeles Monitoring Station. The West Los Angeles Monitoring Station is located approximately four miles west of the Project Site. Historical data from the West Los Angeles Monitoring Station were used to characterize existing conditions in the vicinity of the project area. Criteria pollutants monitored at the West Los Angeles Monitoring Station include O_3, CO, and NO_2. However, this monitoring station does not monitor $PM_{2.5}$, PM_{10}, and SO_2. The nearest, most representative monitoring station that gathers $PM_{2.5}$, PM_{10}, and SO_2 data is located approximately nine miles east of the Project Site at the Downtown Los Angeles Monitoring Station. The locations of the relevant air monitoring stations are shown in *Figure 26: Air Monitoring Areas*.

Table 5: Ambient Air Quality Data in Project Vicinity shows pollutant levels, the State standards, and the number of exceedances recorded at the West Los Angeles and Downtown Monitoring Stations from 2004 to 2006.[7] The CAAQS for the criteria pollutants are also shown in the table. As *Table 5: Ambient Air Quality Data in Project Vicinity* indicates, criteria pollutants CO, NO_2, and SO_2 did not exceed the CAAQS during the 2004 through 2006 period. However, the one-hour State standard for O_3 was exceeded three to seven times during this period, and the eight-hour State standard for O_3 was exceeded zero to eight times. The annual State standard for $PM_{2.5}$ was exceeded in 2004, 2005, and 2006. The 24-hour State standard for PM_{10} was exceeded five times in 2004, four times in 2005, and three times in 2006, and the $PM_{2.5}$ annual average was exceeded each year from 2004 to 2006.

TABLE 5
AMBIENT AIR QUALITY DATA IN PROJECT VICINITY [1]

POLLUTANT	POLLUTANT CONCENTRATION AND STANDARDS	NUMBER OF DAYS ABOVE STATE STANDARD		
		2004	2005	2006
Ozone	Maximum 1-hr Concentration (ppm)	0.11	0.11	0.10
	Days > 0.09 ppm (State 1-hr standard)	5	7	3
	Maximum 8-hr Concentration (ppm)	0.09	0.09	0.07
	Days > 0.07 ppm (State 8-hr standard)	8	5	0

[6]Western Regional Climate Center Website, http:// www.wrcc.dri.edu (Accessed May 12, 2008).
[7]Year 2007 SCAQMD data were not available at the time this analysis was completed.



LEGEND: West Los Angeles Monitoring Station Los Angeles Monitoring Station

Air Monitoring Areas in Los Angeles County:

1. Central Los Angeles
2. Northwest Coastal (West LA)
3. Southwest Coastal (Hawthorne)
4. South Coastal (Long Beach)
5. Southeast Los Angeles County
6. West San Fernando Valley
7. East San Fernando Valley
8. West San Gabriel Valley
9. East San Gabriel Valley
10. Pomona/Walnut Valley
11. South San Gabriel Valley
12. South Central Los Angeles
13. Santa Clarita Valley
14. Antelope Valley
15. San Gabriel Mountains

SOURCE: South Coast Air Quality Management District Air Monitoring Areas Map, 1989

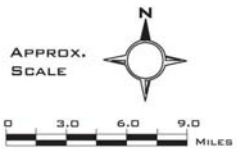


FIGURE 26
AIR MONITORING AREAS

TABLE 5 (CONTINUED)
AMBIENT AIR QUALITY DATA IN PROJECT VICINITY [1]

POLLUTANT	POLLUTANT CONCENTRATION AND STANDARDS	NUMBER OF DAYS ABOVE STATE STANDARD		
		2004	2005	2006
Carbon Monoxide	Maximum 1-hr concentration (ppm) Days > 20 ppm (State1-hr standard) Maximum 8-hr concentration (ppm) Days > 9.0 ppm (State 8-hr standard)	4 0 2.3 0	3 0 2.1 0	3 0 2.0 0
Nitrogen Dioxide	Maximum 1-hr Concentration (ppm) Days > 0.18 ppm (State 1-hr standard)	0.09 0	0.08 0	0.05 0
PM_{10}	Maximum 24-hr concentration ($\mu g/m^3$) Estimated Days > 50 $\mu g/m^3$ (State 24-hr standard)	72 5	70 4	59 3
$PM_{2.5}$	Maximum 24-hr concentration ($\mu g/m^3$) Exceed Standard (12 $\mu g/m^3$ Annual Arithmetic Mean)?	20 Yes	18 Yes	16 Yes
Sulfur Dioxide	Maximum 24-hr Concentration (ppm) Days > 0.04 ppm (State 24-hr standard)	0.01 0	0.01 0	0.00 0

[1] Source : Terry A Hayes Associates LLC, *Cedars-Sinai Medical Center Project Air Quality and Noise Impact Report*, August2008.

There is a direct relationship between traffic/circulation congestion and CO impacts because exhaust fumes from vehicular traffic are the primary source of CO. CO is a localized gas that dissipates very quickly under normal meteorological conditions. Therefore, CO concentrations decrease substantially as distance from the source (intersection) increases. The highest CO concentrations are typically found in areas directly adjacent to congested roadway intersections.

An exceedance of the State CO standards at an intersection is referred to as a "CO hotspot." The SCAQMD recommends a CO hotspot evaluation of potential localized CO impacts when V/C ratios are increased by two percent at intersections with a LOS of D or worse. SCAQMD also recommends a CO hotspot evaluation when an intersection decreases in LOS by one level, beginning when LOS changes from C to D.

For purposes of this assessment, the ambient, or background, CO concentration must first be established. SCAQMD defines the background level as the highest reading over the past three years. A review of data from the West Los Angeles Monitoring Station for the 2004 to 2006 period indicates that the highest one- and eight-hour background concentrations are approximately 4 and 2.3 ppm, respectively. Accordingly, the existing one- and eight-hour background concentrations do not exceed the State CO standard of 20 ppm and 9.0 ppm, respectively and therefore are in attainment.

From the 22 intersections analyzed in the traffic study,[8] CO concentrations adjacent to 13 intersections were modeled for existing conditions. In accordance with SCAQMD's recommendations, the study intersections were selected to be representative of the Project area

[8] Linscott, Law & Greenspan, Engineers, *Traffic Impact Study Cedars-Sinai Medical Center Project*, June 23, 2008.

and were based on traffic volume to capacity ("V/C") ratio and the traffic level of service ("LOS") as indicated in the traffic analysis.[9] The selected intersections are as follows:

- Robertson Boulevard/Beverly Boulevard – P.M. Peak Hour
- Robertson Boulevard/Alden Drive-Gracie Allen Drive – P.M. Peak Hour
- Robertson Boulevard/Third Street – A.M. Peak Hour
- Robertson Boulevard/Burton Way – P.M. Peak Hour
- George Burns Road/Beverly Boulevard – P.M. Peak Hour
- George Burns Road/Gracie Allen Drive – A.M. Peak Hour
- San Vicente Boulevard/Beverly Boulevard – P.M. Peak Hour
- San Vicente Boulevard/Third Street – A.M. Peak Hour
- San Vicente Boulevard/Burton Way – P.M. Peak Hour
- San Vicente Boulevard/Wilshire Boulevard – A.M. Peak Hour
- La Cienega Boulevard/Beverly Boulevard – A.M. Peak Hour
- La Cienega Boulevard/Third Street – A.M. Peak Hour
- La Cienega Boulevard/San Vicente Boulevard – P.M. Peak Hour

At each intersection, traffic-related CO contributions were added to background CO conditions. Traffic CO contributions were estimated using the USEPA CAL3QHC dispersion model, which utilizes traffic volume inputs and CARB EMFAC2007 emissions factors. Consistent with the California Department of Transportation ("Caltrans") CO protocol, receptors for the analysis were located three meters (approximately ten feet) from each intersection corner.[10] Existing conditions at the study intersections are shown in *Table 6: Existing Carbon Monoxide Concentrations*. One-hour CO concentrations range from approximately 4 to 6 ppm and eight-hour CO concentrations range from approximately 3.1 ppm to 3.9 ppm. Presently, none of the study intersections exceed the State one- and eight-hour CO standards of 20 ppm and 9.0 ppm, respectively, and therefore are in attainment.

TABLE 6
EXISTING CARBON MONOXIDE CONCENTRATIONS [1][2]

INTERSECTION	1-HOUR	8-HOUR
Robertson Boulevard/Beverly Boulevard	5	3.5
Robertson Boulevard/Alden Drive-Gracie Allen Drive	5	3.2
Robertson Boulevard/Third Street	5	3.4
Robertson Boulevard/Burton Way	5	3.5
George Burns Road/Beverly Boulevard	5	3.5
George Burns Road/Gracie Allen Drive	4	3.1
San Vicente Boulevard/Beverly Boulevard	5	3.6
San Vicente Boulevard/Third Street	5	3.6
San Vicente Boulevard/Burton Way	5	3.6

[9] "Level of service" (LOS) is used to indicate the quality of traffic flow on roadway segments and at intersections. Level of service ranges from LOS A (free flow, little congestion) to LOS F (forced flow, extreme congestion).
[10] California Department of Transportation (Caltrans), *Transportation Project-Level Carbon Monoxide Protocol*, 1997.

TABLE 6 (CONTINUED)
EXISTING CARBON MONOXIDE CONCENTRATIONS [1][2]

INTERSECTION	1-HOUR	8-HOUR
San Vicente Boulevard/Wilshire Boulevard	5	3.7
La Cienega Boulevard/Beverly Boulevard	5	3.7
La Cienega Boulevard/Third Street	5	3.6
La Cienega Boulevard/San Vicente Boulevard	6	3.9
State Standard	**20**	**9.0**

[1] Source: Terry A Hayes Associates LLC, *Cedars-Sinai Medical Center Project Air Quality and Noise Impact Report*, August 2008.
[2] All concentrations include one- and eight-hour ambient concentrations of 4 ppm and 2.3 ppm, respectively.

(5) Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. CARB has identified the following groups who are most likely to be affected by air pollution: children under 14, the elderly over 65 years of age, athletes, and people with cardiovascular and chronic respiratory diseases. According to the SCAQMD, sensitive receptors include residences, schools, playgrounds, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes and similar facilities that support the groups most at risk. As shown in *Figure 27: Sensitive Air Quality Receptors*, sensitive receptors near the Project Site include the following:

- Medical office building located adjacent and to the north of the Project Site;
- Cedars-Sinai Medical Towers (including hospital facilities) located approximately 50 feet east and southeast of the Project Site;
- Single-family residences located along Bonner Drive approximately 400 feet north of the Project Site;
- Multi-family residences located along Clark Drive approximately 475 feet west of the Project Site; and
- Multi-family residences located along Burton Way approximately 975 feet south of the Project Site.

The above sensitive receptors occupy the nearest residential and medical land uses with the potential to be impacted by the Project. Additional single-family residences, multi-family residences, and CSMC Campus uses (e.g., the Thalians Mental Health Center, the North Patient Tower, and the South Patient Tower) are located in the surrounding community within one-quarter mile of the Project Site. Due to their distance from the Project Site, the sensitive receptors occupying these land uses would be impacted to a lesser degree than the identified sensitive receptors.

b. Regulatory and Policy Setting

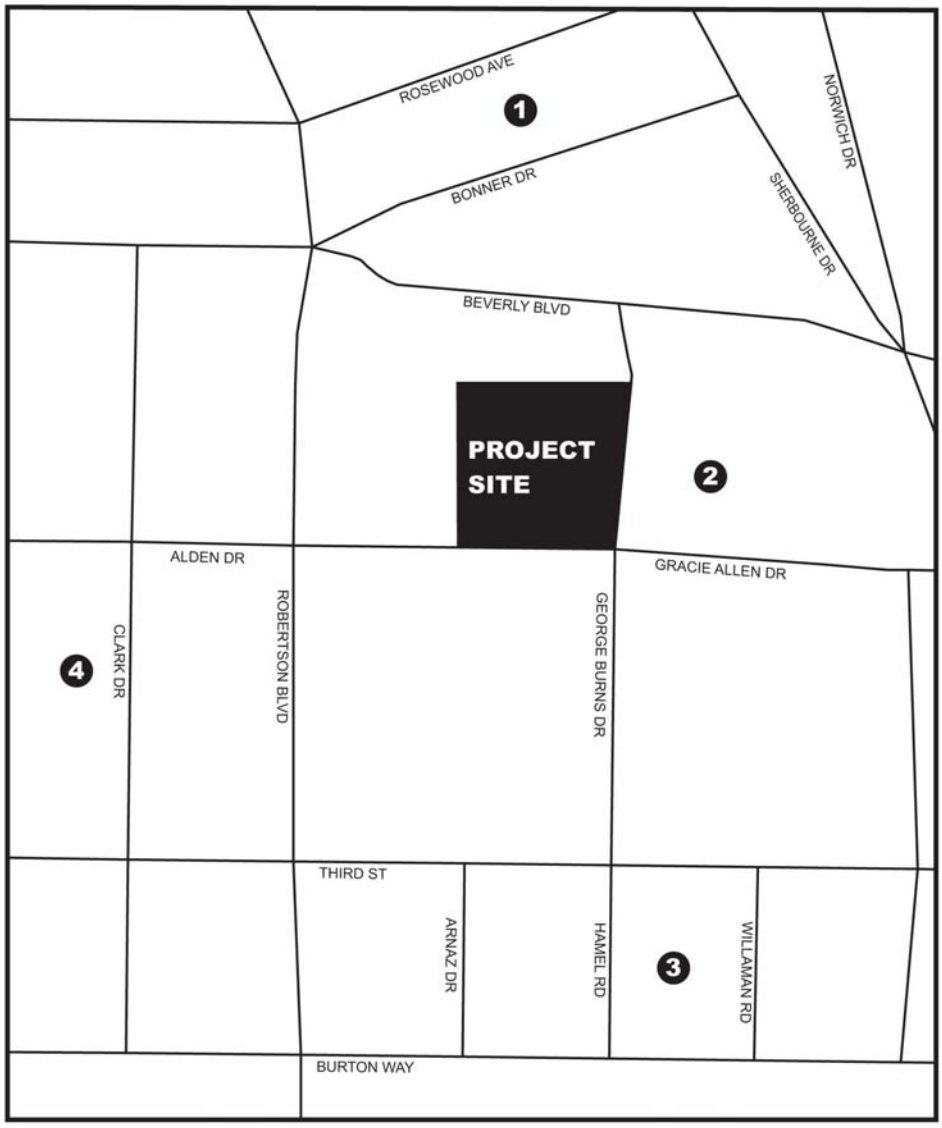
(1) Authority for Current Air Quality Planning

The CAA governs air quality in the United States. In addition to being subject to the requirements of CAA, air quality in California is also governed by more stringent regulations under the CCAA. At the federal level, CAA is administered by the USEPA. In California, the CCAA is administered by the CARB at the State level and by the air quality management districts and air pollution control districts at the regional and local levels.

United States Environmental Protection Agency. USEPA is responsible for enforcing the federal CAA. USEPA is also responsible for establishing the NAAQS. NAAQS are required under the 1977 CAA and subsequent amendments. USEPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain types of locomotives. USEPA has jurisdiction over emission sources outside State waters (e.g., beyond the outer continental shelf) and establishes various emission standards, including those for vehicles sold in States other than California. Automobiles sold in California must meet stricter emission standards established by CARB.

California Air Resources Board. CARB, which became part of the California Environmental Protection Agency ("CalEPA") in 1991, is responsible for meeting the State requirements of the federal CAA, administering the CCAA, and establishing the CAAQS. The CCAA, as amended in 1992, requires all air districts in the State to endeavor to achieve and maintain the CAAQS. The CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride and visibility reducing particles. CARB regulates mobile air pollution sources, such as motor vehicles. CARB is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. CARB established passenger vehicle fuel specifications, which became effective on March 1996. CARB oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional and county levels.

South Coast Air Quality Management District. SCAQMD monitors air quality within the project area. SCAQMD has jurisdiction over an area of approximately 10,743 square miles, consisting of Orange County; the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties; and the Riverside County portion of the Salton Sea Air Basin and Mojave Desert Air Basin. The 1977 Lewis Air Quality Management Act created SCAQMD to coordinate air quality planning efforts throughout Southern California. This Act merged four county air pollution control agencies into one regional district to better address the issue of improving air quality in Southern California. Under the Act, renamed the Lewis-Presley Air Quality Management Act in 1988, SCAQMD is the agency principally responsible for comprehensive air pollution control in the Basin. Specifically, SCAQMD is responsible for monitoring air quality, as well as planning, implementing, and enforcing programs designed to attain and maintain State and federal ambient air quality standards in the district. Programs that were developed include air quality rules and regulations that regulate stationary sources, area



LEGEND: Project Site

(#) Sensitive Receptor Locations

1. Single-Family Homes
2. Medical Offices
3. Multi-Family Homes
4. Multi-Family Homes

SOURCE: South Coast Air Quality Management District Air Monitoring Areas Map, 1989

N

FIGURE 27
SENSITIVE AIR QUALITY RECEPTORS

SOURCE: TERRY A. HAYES AND ASSOCIATES

NORTH

sources, point sources, and certain mobile source emissions. SCAQMD is also responsible for establishing stationary source permitting requirements and for ensuring that new, modified, or relocated stationary sources do not create net emission increases.

All areas designated as nonattainment under the CCAA are required to prepare plans showing how the area would meet the State air quality standards by its attainment dates. The Air Quality Management Plan (the "AQMP") is the region's plan for improving air quality in the region. It addresses CAA and CCAA requirements and demonstrates attainment with State and federal ambient air quality standards. The AQMP is prepared by SCAQMD and the Southern California Association of Governments ("SCAG"). The AQMP provides policies and control measures that reduce emissions to attain both State and federal ambient air quality standards by their applicable deadlines. Environmental review of individual projects within the Basin must analyze whether the proposed project's daily construction and operational emissions would exceed thresholds established by the SCAQMD. The environmental review must also analyze whether individual projects would not increase the number or severity of existing air quality violations.

The 2007 AQMP was adopted by the SCAQMD on June 1, 2007 and by the CARB on September 27, 2007. The 2007 AQMP proposes attainment demonstration of the federal $PM_{2.5}$ standards through a more focused control of SO_X, directly-emitted $PM_{2.5}$, and NO_X supplemented with VOC by 2015. The eight-hour ozone control strategy builds upon the $PM_{2.5}$ strategy, augmented with additional NO_X and VOC reductions to meet the standard by 2024. The 2007 AQMP also addresses several 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. The 2007 AQMP is consistent with and builds upon the approaches taken in the 2003 AQMP. However, the 2007 AQMP highlights the significant amount of reductions needed and the urgent need to identify additional strategies, especially in the area of mobile sources, to meet all federal criteria pollutant standards within the time frames allowed under the CAA.

(2) Global Climate Change

Global climate change refers to variances in Earth's meteorological conditions, which are measured by wind patterns, storms, precipitation, and temperature. There is general scientific agreement that the Earth's average surface temperature has increased by 0.3 to 0.6 degrees Celsius over the past century.[11] The reasons behind the increase in temperature are not well understood and are the subject of intense research activity. Many scientific studies have been completed to determine the extent that greenhouse gas ("GHG") emissions from human sources (e.g., fossil fuel combustion) affect the Earth's climate. The interrelationships between atmospheric composition, chemistry, and climate change are very complex. For example, historical records indicate a natural variability in surface temperature.[12] Historical records also indicate that atmospheric concentrations of a number of GHG have increased significantly since

[11] Finlayson-Pitts, Barbara J., and James N. Pitts, Jr., *Chemistry of the Upper and Lower Atmosphere* (Fawnskin, California: Academic Press, 1999).
[12] *Ibid*.

the beginning of the industrial revolution.[13] As such, significant attention is being given to anthropogenic (human-made) GHG emissions.

GHGs allow sunlight to enter the atmosphere freely. When sunlight strikes the Earth's surface, some of it is reflected back towards space as infrared radiation (heat). GHGs absorb this infrared radiation and trap the heat in the atmosphere. Over time, the amount of energy sent from the sun to the Earth's surface should be approximately equal to the amount of energy radiated from Earth back into space, leaving the temperature of the Earth's surface roughly constant. Some GHGs are emitted naturally (water vapor, carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O)), while others are exclusively human-made (e.g., gases used for aerosols). According to the California Energy Commission (the CEC), emissions from fossil fuel consumption represent approximately 81 percent of GHG emissions and transportation creates 41 percent of GHG emissions in California.[14]

California Legislation, Orders and Regulations. The State of California has traditionally been a pioneer in efforts to reduce air pollution, dating back to 1963 when the California New Motor Vehicle Pollution Control Board adopted the nation's first motor vehicle emission standards. Likewise, California has a long history of actions undertaken in response to the threat posed by climate change.

Assembly Bill ("AB") 1493, signed by California's governor in July 2002, requires passenger vehicles and light duty trucks to achieve maximum feasible reduction of GHG emissions by model year 2009.[15] AB 1493 was enacted based on recognition that passenger cars are significant contributors to the State's GHG emissions. Following the passage of the bill, the CARB was tasked to determine the reduction targets based on CARB's analysis of available and near-term technology and cost. After evaluating the options, the CARB established limits that will result in approximately a 22-percent reduction in GHG emissions from new vehicles by 2012, and approximately a 30-percent reduction by 2016.[16]

CARB's regulations were challenged in December 2004 in federal court by the Alliance of Automobile Manufacturers, who claimed that the law attempted to regulate vehicle fuel economy, a matter that lies within the exclusive jurisdiction of the federal government.[17] However, the United States District Court for the Eastern District of California issued a decision in December 2007 that rejected key elements of the Alliance's challenge and concluded that CARB's regulations are neither precluded nor preempted by federal statutes and policies. Even so, for California to implement a modification such as that represented in AB 1493, it must request a waiver pursuant to Section 209 of the Federal Clean Air Act. The United States

[13] *Ibid*.
[14] California Energy Commission, *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004*, http://www.energy.ca.gov/2006publications/CEC-600-2006-013/CEC-600-2006-013-SF.PDF (December 2006).
[15] State of California, AB 1493, July 22, 2002.
[16] Green Car Congress, *EPA Concludes Public Hearing s on California Waiver for New Vehicle CO2 Regulations*, http://www.greencarcongress.com/2007/05/epa_concludes_p.html (May 2007).
[17] The Federal Clean Air Act reserves the control of emissions from motor vehicles to the federal government, with the exception of California due to its early activity and special conditions (i.e., high density of motor vehicles, and topography conducive to pollution formation in heavily populated basins such as Los Angeles and the San Joaquin Valley), and any states that opt for the California regulations.

Environmental Protection Agency ("USEPA") has denied California's request for a waiver, and California has challenged that denial in court with a decision pending. As a result, CARB's proposed implementation schedule will not be implemented until and unless the pending litigation is resolved.

Title 24, adopted by the CEC on November 5, 2003, is the 2005 Building Energy Efficiency Standards for Residential and Nonresidential Buildings ("2005 Standards"). Title 24 is considered to be one of the most stringent sets of regulations for energy conservation in new buildings in the country. Mandatory measures in Title 24 requirements include, but are not limited to, minimum ceiling, wall, and raised floor insulation, minimum Heating, Ventilating and Air Conditioning ("HVAC"), and minimum water heating equipment efficiencies. The 2005 Standards are expected to reduce electricity use state-wide by 478 gigawatt-hours per year (GWh/y) and reduce the growth in natural gas use by 8.8 million therms per year.[18] The savings attributable to new nonresidential buildings are 163.2 GWh/y of electricity savings and 0.5 million therms of natural gas.[19] Additional savings would result from the application of the 2005 Standards on building alterations. In particular, requirements for cool roofs, lighting and air distribution ducts are expected to save about 175 GWh/y of electricity.[20] The State's 2005 Standards represent an important strategy that can make an important contribution to the reduction of GHG emissions.

On June 1, 2005, the Governor signed Executive Order S-3-05, establishing statewide GHG emissions reduction targets. The Order provides that by 2010, emissions must be reduced to 2000 levels; by 2020, emissions must be reduced to 1990 levels; and by 2050, emissions must be reduced to 80 percent below 1990 levels. The Secretary of the California Environmental Protection Agency ("CalEPA"), charged with coordinating oversight of efforts to meet these targets, formed California's Climate Action Team ("CAT") to carry out the Executive Order. The CAT member agencies[21] are collaborating to develop programs and strategies that can be implemented over the next two years to meet the Executive Order's emissions targets.

Several of these programs are relevant to new construction, as ways to mitigate air pollutants, including GHG emissions:

- Anti-idling: Construction vehicles will be regulated by CARB's anti- idling measures, which became effective on February 1, 2005. The measures are aimed at unnecessary engine idling within several classes of diesel-fueled commercial vehicles with a gross vehicular weight rating greater than 10,000 pounds. CARB estimates that over 400,000 vehicles will be affected, and GHG emissions will be reduced by 1.2 million tons CO_2 equivalent ($MMtCO_2e$) in 2020.

[18] California Energy Commission, *2005 Building Energy Efficiency Standards Nonresidential Compliance Manual*, http://www.energy.ca.gov/2005publications/CEC-400-2005-006/CEC-400-2005-006-CMF.PDF (March 2005).
[19] *Ibid*.
[20] *Ibid*.
[21] The CAT is comprised of representatives of the Business, Transportation, and Housing Agency, Department of Food and Agriculture, Resources Agency, Air Resources Board, Energy Commission, Integrated Waste Management Board, and Public Utilities Commission.

- Recycling: By providing recycling facilities within residential buildings and communities, developers can assist California in achieving its recycling goals. The Integrated Waste Management Board estimates that by achieving the 50 percent statewide recycling goal, established by the Integrated Waste Management Act of 1989, GHG emissions "associated with energy intensive material extraction and production as well as methane emission from landfills" will be reduced by 3 $MMtCO_2e$ in 2020. Exceeding that goal could reduce emissions by as much as 3 additional $MMtCO_2e$ in 2020.

- Building energy efficiency standards: New development will be subject to the Energy Commission's building energy efficiency standards, adopted and updated pursuant to Public Resources Code section 25402. The Commission estimates that the standards already in place will reduce GHG emissions by 2 $MMtCO_2e$ in 2020. New standards will go into effect in 2008, and will further reduce emissions.

- Green Buildings initiative: California's Green Buildings initiative, established by Executive Order S-20-04, aims to reduce energy use in commercial buildings by 20 percent from 2003 levels by 2015. Although compliance with the Green Building Action Plan is mandatory only for state-owned and -leased buildings, the initiative encourages the participation of private developers and building owners/operators. The State and Consumer Services Agency estimates that the initiative will reduce GHG emissions by 1.8 $MMtCO_2e$ in 2020.

- Water use efficiency: By implementing water-saving technologies and features, new construction can assist the Department of Water Resources (DWR) in its plan to reduce urban water use by 1.1 to 2.3 million acre feet per year. CAT's report notes that "19 percent of all electricity, 30 percent of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. The California Energy Commission (CEC) estimates that 44 million tons of CO_2 emissions are expelled annually on average to provide the 44 million acre feet (MAF) of water used statewide." DWR estimates that the plan to increase water-use efficiency will reduce GHG emissions by 1.2 $MMtCO_2e$ in 2020.

On August 31, 2006, the California Senate passed Senate Bill (SB) 1368 (signed into law on September 29), requiring the Public Utilities Commission ("PUC") to develop and adopt a "greenhouse gases emission performance standard" by February 1, 2007, for the private electric utilities under its regulation. The PUC adopted an interim standard on January 25, 2007. The Energy Commission then adopted a consistent standard for the local publicly owned electric utilities under its regulation. These standards apply to all long-term financial commitments entered into by electric utilities. ("Long-term financial commitment" is defined as "either a new ownership investment in baseload generation or a new or renewed contract with a term of five or more years, which includes procurement of baseload generation." In turn, "baseload generation" is defined as "electricity generation from a powerplant that is designed and intended to provide electricity at an annualized plant capacity factor of at least 60 percent.") The performance standards must set an emissions rate equal to or less than that of combined-cycle natural gas baseload generation.

On September 27, 2006, AB 32, the California Global Warming Solutions Act of 2006, was enacted by the State of California.[22] In that statute, the Legislature stated that "Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California." AB 32 seeks to, among other things, cap California's GHG emissions at 1990 levels by 2020. Relevant gases defined by AB 32 as GHG pollutants include CO_2, CH_4, N_2O.[23] While acknowledging that national and international actions will be necessary to fully address the issue of global warming, AB 32 lays out a program to inventory and reduce GHG emissions in California. This bill represents the first enforceable Statewide program in the United States to cap all GHG emissions from major industries and include penalties for non-compliance.

AB 32 charges CARB with the responsibility to monitor and regulate sources of GHG emissions in order to reduce those emissions. On June 1, 2007, the CARB adopted three discrete "early action measures" to reduce GHG emissions. These measures involve complying with a low carbon fuel standard, reducing refrigerant loss from motor vehicle air conditioning maintenance and increasing methane capture from landfills.[24] On October 25, 2007, the CARB tripled the set of previously approved early action measures, as a result of which 44 GHG reduction strategies are now in place; these measures are either currently underway or are to be initiated by CARB in the 2007-2012 timeframe.[25] The newly approved measures include Smartway truck efficiency (i.e., reducing aerodynamic drag), port electrification, reducing perfluorocarbons from the semiconductor industry, reducing propellants in consumer products, promoting proper tire inflation in vehicles, and reducing sulfur hexaflouride emissions from the non-electricity sector.

CARB is mandated by AB 32 to meet additional deadlines. Emission measures that cannot be initiated in the 2007-2012 timeframe will be considered in CARB's Scoping Plan, which CARB is now beginning to outline. AB 32 requires CARB to adopt the Scoping Plan prior to January 1, 2009 for achieving reductions in GHG emissions, and regulations by January 1, 2011 for reducing GHG emissions to achieve the emissions cap by 2020,[26] which rules would take effect no later than 2012.[27] In designing emission reduction measures, CARB must aim to minimize costs, maximize benefits, improve and modernize California's energy infrastructure, maintain electric system reliability, maximize additional environmental and economic benefits for California, and complement the State's ongoing efforts to improve air quality. AB 32 also directs CARB to "recommend a *de minimis* threshold of greenhouse gas emissions below which

[22] State of California, Health and Safety Code, Division 25.5 (California Global Warming Solutions Act of 2006), September 27, 2006.
[23] AB 32 also defines hydrofluorocarbons, perfluorocarbons and sulfur hexaflouride as GHG pollutants but these gases would not be emitted by the proposed Fashion Square expansion project.
[24] California Air Resources Board (CARB), *Proposed Early Actions to Mitigate Climate Change in California*, www.climatechange.ca.gov/climate_action_team/reports/2007-04-20_ARB_early_action_report.pdf (April 20, 2007).
[25] California Air Resources Board (CARB), *Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California Recommended for Board Consideration,* October 2007.
[26] State of California, Health and Safety Code, Division 25.5 (California Global Warming Solutions Act of 2006), September 27, 2006
[27] *Ibid*.

emissions reduction requirements will not apply" by January 1, 2009.[28] CARB has suggested a 25,000 metric tonnes emissions level as a possible *de minimis* threshold.

California Senate Bill (SB) 97, passed in August 2007, is designed to work in conjunction with CEQA and AB 32.[29] CEQA requires the State Office of Planning and Research ("OPR") to prepare and develop guidelines for the implementation of CEQA by public agencies. SB 97 requires OPR by July 1, 2009 to prepare, develop, and transmit to the State Resources Agency its proposed guidelines for the feasible mitigation of GHG emissions, as required by CEQA, including, but not limited to, effects associated with transportation or energy consumption. The Resources Agency is required to certify and adopt the guidelines by January 1, 2010, and OPR is required to periodically update the guidelines to incorporate new information or criteria, such as those established by the CARB pursuant to AB 32. SB 97 would apply to any proposed or draft environmental impact report, negative declaration, mitigated negative declaration, or other document prepared under CEQA that has not been certified or adopted by the CEQA lead agency as of the effective date of the new guidelines. In addition, SB 97 exempts transportation projects funded under the Highway Safety, Traffic Reduction, Air Quality and Port Security Bond Act of 2006, or projects funded under the Disaster Preparedness and Flood Prevention Bond Act of 2006.

At this time, the USEPA does not regulate GHG emissions. However, in the case of *Massachusetts v. USEPA*, the United States Supreme Court issued a ruling (April 2007) that reviewed a USEPA decision not to regulate GHG emissions from cars and trucks under the CAA. The case, which focused on Section 202 of the CAA, resolved the following legal issues: (1) the Clean Air Act grants the USEPA authority to regulate GHG emissions, and (2) USEPA did not properly exercise its lawful discretion in deciding not to promulgate regulations concerning GHG emissions.

In addition to the State regulations, the City of Los Angeles has issued guidance promoting green building to reduce GHG emissions. The goal of the Green LA Action Plan (the "Plan") is to reduce greenhouse gas emissions 35 percent below 1990 levels by 2030.[30] The Plan identifies a concrete set of objectives and actions designed to make the City a leader in confronting global climate change. The measures would reduce emissions directly from municipal facilities and operations and create a framework to address Citywide GHG emissions. The Plan lists various focus areas in which to implement GHG reduction strategies. Focus areas listed in the Plan include energy, water, transportation, land use, waste, port, airport, and adaptation. The Plan discusses City goals for each focus area as follows:

Energy

- Increase the generation of renewable energy;
- Develop sustainable construction guidelines;
- Increase Citywide energy efficiency; and
- Promote energy conservation.

[28] HSC § 38561(e).
[29] State of California, SB 97, August 21, 2007.
[30] City of Los Angeles, *Green LA: An Action Plan to Lead the Nation in Fighting Global Warming*, May 2007

Water

- Decrease per capita water use to reduce electricity demand associated with water pumping and treatment.

Transportation

- Power the City vehicle fleet with alternative fuels; and
- Promote alternative transportation (e.g., mass transit and rideshare).

Other Goals

- Create a more livable City through land use regulations;
- Increase recycling, reducing emissions generated by activity associated with the Port of Los Angeles and regional airports;
- Create more city parks, promoting the environmental economic sector; and
- Adapt planning and building policies to incorporate climate change policy.

c. CSMC Campus Background and 1993 Approvals

Air quality conditions have changed since 1993 when the Master Plan was evaluated. Overall, ambient air quality has improved due to progress toward attainment of AQMP goals and the influence of cleaner operating vehicles. The Original EIR considered a range of air quality impacts in the context of rules, regulations, and ambient conditions in effect at that time. The Original EIR evaluated mobile, stationary and area-wide emissions generated during both the construction and operational phases of the Master Plan project.

The Original EIR concluded that grading activities would result in the production of dust (i.e., PM_{10}), which would result in a significant impact. Other construction-related air quality measures were concluded to be less than significant.

Long-term vehicular emissions from Master Plan related traffic was found to incrementally contribute to regional emissions, decreasing the regional air quality and exceeding SCAQMD thresholds for CO, NO_x and total organic gases (i.e., VOCs). Even with the adopted mitigation measures, the Original EIR concluded that implementation of the Master Plan would result in a residual significant adverse impact.

The Original EIR evaluated stationary sources due to activities at the project site and regional emissions due to consumption of electricity. The Original EIR concluded that the Master Plan would contribute stationary-source emissions, but that these impacts overall would be insignificant. Nonetheless, incorporation of energy conservation measures was recommended to further reduce stationary-source emissions.

The Original EIR also evaluated TACs and concluded that compliance with federal, state, and local regulations (governing hazardous materials and TACs) would reduce the risk associated

with these substances to acceptable levels; however, the overall resultant impact would be significant.

3. ENVIRONMENTAL IMPACTS

a. Methodology

This air quality analysis is consistent with the methods described in the SCAQMD *CEQA Air Quality Handbook* (1993 edition)("SCAQMD Handbook"), as well as the updates to the SCAQMD Handbook, as provided on the SCAQMD website.[31] The City of Los Angeles CEQA Thresholds Guide incorporates the SCAQMD criteria; therefore, the SCAQMD criteria presented here are consistent with those criteria established by the City of Los Angeles. Analyzed pollutants were selected based on guidance provided in the SCAQMD Handbook.

Regional and localized construction emissions were analyzed for the Project. The majority of construction emissions (i.e., demolition, site preparation, and building construction) were calculated using CARB's URBEMIS2007 model. Regional emissions were compared to SCAQMD regional thresholds to determine Project impact significance. The localized construction analysis followed guidelines published by the SCAQMD in the *Localized Significance Threshold Methodology for CEQA Evaluations* (SCAQMD Localized Significance Threshold ["LST"] Guidance Document).[32] The SCAQMD has supplemented the SCAQMD LST Guidance Document with *Sample Construction Scenarios for Projects Less than Five Acres in Size* and *Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds*.[33] Emissions for the localized construction air quality analysis of $PM_{2.5}$, PM_{10}, CO, and NO_2 were compiled using LST methodology promulgated by the SCAQMD.[34] Localized on-site emissions were calculated using similar methodology as the regional emission calculations. On-site emissions are generated by the use of heavy equipment and fugitive dust. LSTs were developed based upon the size or total area of the emissions source, the ambient air quality in each source receptor area, and the distance to the sensitive receptor. LSTs for CO and NO_2 were derived by using an air quality dispersion model to back-calculate the emissions per day that would cause or contribute to a violation of any ambient air quality standard for a particular source receptor area. Construction PM_{10} and $PM_{2.5}$ LSTs were derived using a dispersion model to back-calculate the emissions necessary to exceed a concentration equivalent to 50 $\mu g/m^3$ over five hours, which is the SCAQMD Rule 403 control requirement.

URBEMIS2007 was also used to calculate operational emissions (i.e., mobile and area). Localized CO emissions were calculated utilizing USEPA's CAL3QHC dispersion model and CARB's EMFAC2007 model. EMFAC2007 is the latest emission inventory model that calculates emission inventories and emission rates for motor vehicles operating on roads in

[31]SCAQMD, *CEQA Air Quality Handbook*, http://www.aqmd.gov/ceqa/hdbk.html (August 1, 2007).
[32]SCAQMD, *Localized Significance Threshold Methodology for CEQA Evaluations*, June 2003.
[33]SCAQMD, *Sample Construction Scenarios for Projects Less than Five Acres in Size, January 2005* and SCAQMD, *Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds,* October 2006.
[34]The concentrations of SO_2 are not estimated because construction activities would generate a small amount of SO_X emissions. No State standard exists for VOC. As such, concentrations for VOC were not estimated.

California. This model reflects the CARB's current understanding of how vehicles travel and how much they pollute. The EMFAC2007 model can be used to show how California motor vehicle emissions have changed over time and are projected to change in the future. CAL3QHC is a model developed by USEPA to predict CO and other pollutant concentrations from motor vehicles at roadway intersections. The model uses a traffic algorithm for estimating vehicular queue lengths at signalized intersections. The Project would not include significant stationary sources of emissions. Therefore, localized stationary source emissions were not analyzed.

The potential cumulative impact was analyzed based on Table A9-14 in the SCAQMD Handbook. The analysis compares the ratio of daily project-related employment vehicle miles traveled to daily countywide vehicle miles traveled to determine if it exceeds the ratio of Project-related employment to countywide employment.

No one methodology for projecting a project's net increase in GHG levels has been adopted. Therefore, for this analysis, GHG emissions were calculated using a combination of computer modeling, SCAQMD guidance, and the California Climate Action Registry's *General Reporting Protocol*.[35] Mobile and area source CO_2 emissions were obtained from the URBEMIS2007 model. Mobile source CH_4 and N_2O emissions were calculated based on the EMFAC2007 model. CH_4 and N_2O area source emissions were calculated using natural gas and electricity usage rates from the SCAQMD Handbook and emission rates from the General Reporting Protocol.

Project construction and operational emissions were compared to the emissions presented in the air quality section of the Original EIR. For construction activity, emissions associated with demolition of 90,000 square feet and 477,650 square feet of new construction were analyzed. However, for determination of impact significance levels, a net 290,000 square feet of new construction were compared to the emissions calculated in the Original EIR. For operational activity, emissions from 477,650 square feet of new construction were analyzed, but 200,000 new square feet were compared to operational emissions calculated in the Original EIR and were utilized in determining impact levels of significance.

The Project does not contain lead, hydrogen sulfide, and vinyl chloride emissions sources. Therefore, emissions and concentrations related to this pollutant are not analyzed in this Draft SEIR.[36]

b. Thresholds of Significance

The following are the significance criteria SCAQMD has established to determine project impacts.

[35]California Climate Action Registry, *General Reporting Protocol*, March 2007.
[36]Prior to 1978, mobile emissions were the primary source of lead resulting in air concentrations. Between 1978 and 1987, the phase-out of leaded gasoline reduced the overall inventory of airborne lead by nearly 95 percent. Currently, industrial sources are the primary source of lead resulting in air concentrations. Since the proposed project does not contain an industrial component, lead emissions are not analyzed in this report.

Construction Phase Significance Criteria

Localized construction emission thresholds were developed by the SCAQMD to regulate criteria pollutants in the Basin. LSTs were developed based upon the size or total area of the emissions source, the ambient air quality in each source receptor area, and the distance to the sensitive receptor. LSTs for CO and NO_2 were derived by using an air quality dispersion model to back-calculate the emissions per day that would cause or contribute to a violation of any ambient air quality standard for a particular source receptor area. Construction PM_{10} and $PM_{2.5}$ LSTs were derived using a dispersion model to back-calculate the emissions necessary to exceed a concentration equivalent to 50 $\mu g/m^3$ over five hours, which is the SCAQMD Rule 403 control requirement.

Based on this SCAQMD guidance, the proposed Project would have a significant impact if:

- Daily regional and localized construction emissions were to exceed SCAQMD construction emissions thresholds for VOC, NO_X, CO, SO_X, $PM_{2.5}$, or PM_{10}, as presented in *Table 7: SCAQMD Daily Construction Emissions Thresholds*;

- The proposed Project would expose sensitive receptors to a carcinogenic risk that exceeds ten cases in a population of one million people or a noncarcinogenic risk that exceeds a health hazard index value of 1.0; or

- The proposed Project would create, or be subjected to, an objectionable odor that could impact sensitive receptors and would not comply with SCAQMD Rule 402 (Nuisance).

TABLE 7
SCAQMD DAILY CONSTRUCTION EMISSIONS THRESHOLDS

CRITERIA POLLUTANT	REGIONAL EMISSIONS (POUNDS PER DAY) [1]	LOCALIZED EMISSIONS (POUNDS PER DAY) [2]
Volatile Organic Compounds (VOC) **[3]**	75	--
Nitrogen Oxides (NO_X)	100	208
Carbon Monoxide (CO)	550	658
Sulfur Oxides (SO_X)	150	--
Fine Particulates ($PM_{2.5}$)	55	4
Particulates (PM_{10})	150	19

[1] SCAQMD, CEQA Air Quality Handbook, 1993.
[2] SCAQMD, Sample Construction Scenarios for Projects Less than Five Acres in Size, February 2005; SCAQMD, Final Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, October 2006.
[3]VOC is a subset of ROG. For purposes of this analysis, VOC is equivalent to ROG.
SOURCE: SCAQMD, 2007

Operations Phase Significance Criteria

Operational emission thresholds have been developed by SCAQMD to regulate criteria pollutants in the Basin. Based on this SCAQMD guidance, the project would have a significant impact if:

- Daily operational emissions were to exceed SCAQMD operational emissions thresholds for VOC, NO_X, CO, SO_X, $PM_{2.5}$, or PM_{10}, as presented in *Table 8: SCAQMD Daily Operational Emissions Thresholds*;

- Project-related traffic causes CO concentrations at study intersections to violate the CAAQS for either the one- or eight-hour period. The CAAQS for the one- and eight-hour periods are 20 ppm and 9.0 ppm, respectively. If CO concentrations currently exceed the CAAQS, then an incremental increase of 1.0 ppm over "no Project" conditions for the one-hour period would be considered a significant impact. An incremental increase of 0.45 ppm over the "no Project" conditions for the eight-hour period would be considered significant[37];

- The proposed Project would expose sensitive receptors to a carcinogenic risk that exceeds ten cases in a population of one million people or a noncarcinogenic risk that exceeds a health hazard index value of 1.0;

- The proposed Project would have the potential to create, or be subjected to, an objectionable odor that could impact sensitive receptors, and would not comply with SCAQMD Rule 402 (Nuisance); and

- The proposed Project would not be consistent with the AQMP if it would (1) result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP, or (2) exceed the assumptions in the AQMP in 2010 or increments based on the year of Project build-out phase.

TABLE 8
SCAQMD DAILY OPERATIONAL EMISSIONS THRESHOLDS [1]

CRITERIA POLLUTANT	POUNDS PER DAY
Volatile Organic Compounds (VOC)	55
Nitrogen Oxides (NO_X)	55
Carbon Monoxide (CO)	550
Sulfur Oxides (SO_X)	150
Fine Particulates ($PM_{2.5}$)	55
Particulates (PM_{10})	150
[1] Source: SCAQMD, 2007	

[37]Consistent with the SCAQMD Regulation XIII definition of a significant impact.

Cumulative Significance Criteria

Based on SCAQMD guidance, the proposed Project would have a significant cumulative impact if:

- The ratio of daily Project-related employment vehicle miles traveled to daily countywide vehicle miles traveled would exceed the ratio of Project-related employment to countywide employment.

c. Project Impacts

(1) Construction Activity

(a) Regional Impacts

Construction of the Project (i.e., demolition of the existing 90,000 square-foot building; replacement of the 90,000 square feet of floor area that will be demolished; construction of the remaining entitlement under the existing Master Plan, which consists of 170,650 square feet of floor area; and construction of 200,000 square feet of new additional floor area) has the potential to create air quality impacts through the use of heavy-duty equipment, haul/delivery truck trips, worker commute trips, and fugitive dust from excavation and grading activity. Based on the size of the Project Site and the type of development proposed, the following conservative assumptions were used for the air quality analysis:

- Use of seven pieces of equipment operating simultaneously for eight hours during each day of construction;
- Generation of 2,000 cubic yards of demolition debris per day over a 4 to 5 week period for demolition of the Existing Building;
- A maximum disturbed area of two acres per day during excavation and/or grading;
- Generation of 100 delivery/haul truck trips per day;
- 100 workers per day; and
- Application of architectural coating over a six-month time period.

Although construction of the West Tower may not be initiated until Year 2018 or later, the construction emissions for the Project were analyzed for Year 2010. This year represents a conservative, "worst-case" maximum emissions scenario because harmful equipment and vehicle exhaust emissions will decrease in future years due to improved emissions technology and legislative and regulatory mandates. Construction activity, including demolition, is assumed to occur over an approximate 36-month time period. Per URBEMIS2007, fugitive dust emissions were calculated based on an emission rate of 20 pounds per disturbed acre. In addition, it was assumed that construction stages would not overlap since each stage must be completed to allow the next stage to begin.

Table 9: Estimated Daily Construction Emissions – Unmitigated shows the estimated maximum unmitigated daily construction emissions associated with the demolition of the existing 90,000 square-foot building, replacement of the 90,000 square feet of floor area that will be demolished, the construction of the 170,650 square feet of floor area from a previously approved Master Plan,

and the construction of 200,000 square feet of new additional floor area. Analysis of PM_{10} emissions assumed compliance with SCAQMD Rule 403 and applicable mitigation measures adopted in connection with the Master Plan. It is mandatory for all construction projects in the Basin to comply with SCAQMD Rule 403 for fugitive dust. As shown, daily construction emissions would not exceed the significance thresholds for CO, SO_X, $PM_{2.5}$, and PM_{10}. However, the maximum daily construction emissions would exceed the significance thresholds for VOC and NO_X due primarily to architectural coating and haul truck emissions. As such, the Project would result in a short-term construction air quality impact from VOC and NO_X emissions without implementation of mitigation measures.

TABLE 9
ESTIMATED DAILY CONSTRUCTION EMISSIONS – UNMITIGATED [1]

	POUNDS PER DAY					
	VOC	**NO_X**	**CO**	**SO_X**	**$PM_{2.5}$ [2]**	**PM_{10} [2]**
Daily Demolition Emissions	69	234	154	<1	29	91
Daily Grading/Excavation Emissions	69	234	154	<1	28	84
Daily Building Construction Emissions	79	70	33	<1	3	3
Maximum Daily Emissions	**79**	**234**	**154**	**<1**	**29**	**91**
SCAQMD Regional Significance Threshold	**75**	**100**	**550**	**150**	**55**	**150**
Exceed Threshold?	Yes	Yes	No	No	No	No
Maximum On-Site Total	79	70	27	<1	19	80
Localized Significance Threshold [3]	**--**	**208**	**658**	**--**	**4**	**19**
Exceed Threshold?	--	No	No	--	Yes	Yes

[1] Source: Terry A Hayes Associates LLC, *Cedars-Sinai Medical Center Project Air Quality and Noise Impact Report*, August 2008.
[2] Assumes implementation of SCAQMD Rule 403 and the mitigation measures adopted in connection with the Master Plan approval. URBEMIS2007 emissions for fugitive dust were adjusted to account for a 61 percent control efficiency associated with SCAQMD Rule 403.
[3] The localized significance thresholds were developed using a two-acre Project Site and a 25-meter (82-foot) receptor distance.

Implementation of the Mitigation Program (see below) would reduce fugitive dust emissions by approximately 61 percent, so that daily $PM_{2.5}$ and PM_{10} emissions would be less than the SCAQMD threshold of 150 pounds per day. Further, the mitigation measure would reduce VOC from architectural coating by 10 percent. As demonstrated in *Table 10: Estimated Daily Construction Emissions – Mitigated*, regional construction emissions of VOC, CO, SO_X, $PM_{2.5}$ and PM_{10} would be less than the SCAQMD significance thresholds. However, a significant and unavoidable regional NO_X impact would occur during the maximum estimated construction phase of 36 months.

As identified in the Original EIR, construction activity due to implementation of the Master Plan would result in a total emission of 38 ppd of VOC, 253 ppd of NO_X, 114 ppd of CO, 41 ppd of SO_X, and 145 ppd of PM_{10}. The emissions would be generated from fugitive dust, construction equipment and machinery, and haul trucks. Emissions for $PM_{2.5}$ were not calculated since SCAQMD did not require the analysis of $PM_{2.5}$ and did not provide a methodology to analyze

$PM_{2.5}$ when the Original EIR was prepared. Daily VOC and CO emissions during construction of the Master Plan were lower than the proposed project, and daily NO_X, SO_X, and PM_{10} emissions were higher than the proposed project. According to the Original EIR, NO_X would exceed the SCAQMD NO_X threshold. The Original EIR concluded that build-out of the Master Plan would result in significant and unavoidable impacts due to grading and excavation.

TABLE 10
ESTIMATED DAILY CONSTRUCTION EMISSIONS – MITIGATED [1]

	POUNDS PER DAY					
	VOC	**NO_X**	**CO**	**SO_X**	**$PM_{2.5}$ [2]**	**PM_{10} [2]**
Daily Demolition Emissions	69	234	154	<1	29	91
Daily Grading/Excavation Emissions	69	234	154	<1	28	84
Daily Building Construction Emissions	71	70	33	<1	3	3
Maximum Daily Emissions	71	234	154	<1	29	91
SCAQMD Regional Significance Threshold	**75**	**100**	**550**	**150**	**55**	**150**
Exceed Threshold?	No	Yes	No	No	No	No
Maximum On-Site Total	71	70	27	<1	19	80
Localized Significance Threshold [3]	**--**	**208**	**658**	**--**	**4**	**19**
Exceed Threshold?	--	No	No	--	Yes	Yes

[1] Source: Terry A Hayes Associates LLC, *Cedars-Sinai Medical Center Project Air Quality and Noise Impact Report*, August 2008.
[2] Assumes implementation of SCAQMD Rule 403 and the mitigation measures adopted in connection with the Master Plan approval. URBEMIS2007 emissions for fugitive dust were adjusted to account for a 61 percent control efficiency associated with SCAQMD Rule 403.
[3] Assumed a two-acre project site and a 25-meter (82-foot) receptor distance. This is the smallest distance between source and receptor to be analyzed under the SCAQMD LST methodology.

(b) Localized Impacts

As explained above, emissions for the localized construction air quality analysis of $PM_{2.5}$, PM_{10}, CO, and NO_2 were compiled using LST methodology promulgated by the SCAQMD. Localized on-site emissions were calculated using similar methodology and assumptions as were used in the regional emission calculations. On-site emissions are generated by the use of heavy-duty construction equipment and fugitive dust, as discussed under "Regional Impacts," above.

Table 9: Estimated Daily Construction Emissions – Unmitigated (above) shows the estimated localized emissions associated with construction. As shown, localized construction emissions would not exceed the SCAQMD localized thresholds for NO_X or CO. However, localized construction emissions would exceed the significance thresholds for $PM_{2.5}$ and PM_{10}, and, as such, localized construction emissions would result in a short-term air quality impact without implementation of mitigation measures. Localized construction emissions were not analyzed in the Original EIR.

(c) Toxic Air Contaminant ("TAC") Impacts

Asbestos-containing materials ("ACMs") were widely used in structures built between 1945 and 1980. Lead-based paint was primarily used from the 1920s through 1978. According to the Los Angeles County Office of the Assessor, the Existing Building on the Project Site was built in 1947. Thus, the Existing Building, which would be demolished as part of the proposed Project, is likely to have ACMs and lead-based paint. Demolition activities have the potential to result in the accidental release of ACMs and lead into the atmosphere. As such, demolition activities may potentially result in significant impacts without implementation of mitigation measures addressing ACMs and lead-based paint.

The greatest potential for TAC emissions during grading/excavation and building construction activities would be diesel particulate emissions associated with heavy equipment operations. According to SCAQMD methodology, health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. "Individual Cancer Risk" is the likelihood that a person continuously exposed to concentrations of TACs over a 70-year lifetime will contract cancer based on the use of standard risk assessment methodology. Assuming a short-term construction schedule of approximately 36 months, the Project would not result in a long-term (i.e., 70 years) source of TAC emissions, or to long-term exposure of TAC emissions. The associated risk would be below the carcinogenic risk of ten chances in a population of one million people and below the noncarcinogenic health hazard index value of 1.0. As such, Project-related construction TAC emission would result in a less than significant impact. Construction TAC emissions were not analyzed in the Original EIR.

(d) Odor Impacts

Potential sources that may emit odors during construction activities include equipment exhaust and architectural coatings. Odors from these sources would be localized and generally confined to the Project Site. The Project would utilize typical construction techniques that reduce odors, and any remaining odors would be typical of most construction sites and temporary. As such, Project construction would not cause an odor nuisance, and construction odors would result in a less than significant impact. Construction odor impacts were not discussed in the Original EIR.

(2) Long-Term Operation

The Project will implement a variety of design and operational features (i.e., PDFs) to achieve energy efficiency, which in turn serve to directly and proactively reduce GHG and other air pollutant emissions. Implementation of the "sustainable strategies" described in *Section II.F: Project Characteristics* of this Draft SEIR would directly reduce project-related energy use and address indoor air quality conditions. For the air quality analysis, these PDFs are assumed to be incorporated into the Project and the effective reduction credit accounted for in the project-level impact assessment. Examples of design features to be implemented for the Project to achieve enhanced energy efficiency (and thereby reduce air quality impacts) include, but are not limited to, the following or their equivalent:

- The CSMC Campus, including the Project Site, is conveniently located with respect to public transit opportunities. Given the Project Site's location within an established urban area, access to a number of existing Los Angeles Metro bus lines is available, and a potential Metro Rail station at the northeast corner of the CSMC Campus may be available in the future, thereby reducing traffic, air quality, noise, and energy effects.

- Storm water within the Property, including at the Project Site, is collected, filtered and re-used for landscaping irrigation within the CSMC Campus, thereby reducing water and energy consumption.

- The West Tower design incorporates light-colored roofing and paving materials which serve to reduce unwanted heat absorption and minimize energy consumption.

- Building materials and new equipment associated with the West Tower are selected to avoid materials that might incorporate atmosphere-damaging chemicals.

- The West Tower energy performance is designed to be 14% more effective than required by California Title 24 Energy Design Standards, thereby reducing energy use, air pollutant emissions and greenhouse gas emissions.

- The West Tower will generate 2.5% of the building's total energy use through on-site renewable energy sources. On-site renewable energy sources can include a combination of photovoltaic, wind, hydro, wave, tidal and bio-fuel based electrical production systems, as well as solar thermal and geothermal energy systems.

- The West Tower will use materials with recycled content such that the sum of post-consumer content plus one-half of the pre-consumer content constitutes at least 10% (based on cost) of the total value of the materials in the Project.

- Lighting systems within the West Tower will be controllable to achieve maximum efficiency (e.g., uniform general ambient lighting, augmented with individually controlled task lighting that accommodates user-adjustable lighting levels and automatic shutoff switching).

- The West Tower will be designed to provide occupant thermal comfort dissatisfaction levels above 85%.

(a) Regional Impacts

Long-term Project emissions would be generated by area sources, such as natural gas combustion and consumer products (e.g., aerosol sprays) and mobile sources. Motor vehicles generated by the Project would be the predominate source of long-term Project emissions. According to the traffic report, the additional 200,000 square feet of floor area, or 100 new inpatient beds, would generate 1,181 daily vehicle trips per day. Concurrently, the 170,650 square feet remaining

under the Master Plan would generate 5,324 daily vehicle trips per day.[38] These trips were analyzed in the Original EIR. The 90,000 square feet of floor area associated with the Existing Building would result in vehicle trip volumes similar to those currently generated.

Mobile and area source emissions were estimated using URBEMIS2007, assuming a Year 2023 operational date, by which time the Project is expected to be fully operational and fully occupied. The Project would be required to comply with applicable mitigation measures adopted in connection with approval of the Master Plan, which includes implementing a Transportation Demand Management program consistent with the provisions of SCAQMD Regulation XV. Daily operational emissions for Year 2023 are shown in *Table 11: Estimated Daily Operational Regional Emissions*. As shown, regional operational emissions from area sources and from mobile sources would not exceed SCAQMD significance thresholds, and, as such, would result in a less than significant impact.

The Original EIR stated that the Master Plan would result in a total of 192 ppd of ROG, 593 ppd of NO_X, 1,795 ppd of CO, 9 ppd of SO_X, and 3 ppd of PM_{10}.[39] Mobile sources would result in approximately 190 ppd of ROG, 480 ppd of NO_X, and 1,776 ppd of CO. These emissions are associated with motor vehicles. Area (or stationary sources) would result in approximately 2 ppd of ROG, 114 ppd of NO_X, 20 ppd of CO, 9 ppd of SO_X, and 3 ppd of PM_{10}. The Original EIR identified significant regional air quality impacts during operations since the Master Plan that was analyzed at the time exceeded the SCAQMD thresholds for ROG, CO, and NO_X. Therefore, the impacts associated with operation of the Project as analyzed in this air quality analysis would be less than the impacts identified in the Original EIR. The Original EIR did not identify emissions associated with SO_X, $PM_{2.5}$, and PM_{10} and emissions associated with area sources.

TABLE 11
ESTIMATED DAILY OPERATIONAL REGIONAL EMISSIONS [1]

EMISSION SOURCE	POUNDS PER DAY					
	VOC	NO_X	CO	SO_X	$PM_{2.5}$	PM_{10}
SCAQMD Regional Threshold	**55**	**55**	**550**	**150**	**55**	**150**
Remaining Master Plan (170,650 square feet)						
Mobile Sources	23	33	282	<1	18	90
Area Sources [2]	<1	1	3	<1	<1	<1
Total Emissions	**23**	**34**	**285**	**<1**	**18**	**90**
Exceed Threshold?	No	No	No	No	No	No
Existing Building (90,000 square feet)						
Mobile Sources	7	10	84	<1	5	27
Area Sources [2]	<1	1	2	<1	<1	<1
Total Emissions	7	11	86	<1	5	27
Exceed Threshold?	No	No	No	No	No	No
Master Plan Amendment (100 inpatient beds equivalent to 200,000 square feet)						

[38] Linscott, Law & Greenspan Engineers, *Traffic Impact Study Cedars-Sinai Medical Center Project*, June 23, 2008.
[39] Emissions may not add up due to rounding.

TABLE 11 (CONTINUED)
ESTIMATED DAILY OPERATIONAL REGIONAL EMISSIONS [1]

EMISSION SOURCE	POUNDS PER DAY					
	VOC	NO_X	CO	SO_X	$PM_{2.5}$	PM_{10}
Mobile Sources	5	7	63	<1	4	20
Area Sources [2]	<1	<1	2	<1	<1	<1
Total Emissions	**5**	**7**	**65**	**<1**	**4**	**20**
Exceed Threshold?	No	No	No	No	No	No
Total West Tower Project (460,650 square feet = 90,000 sf + 170,650 sf + 200,000 sf)						
Mobile Sources	35	50	429	<1	27	137
Area Sources [2]	<1	2	7	<1	<1	<1
Total Emissions	**35**	**52**	**436**	**<1**	**27**	**137**
Exceed Threshold?	No	No	No	No	No	No

[1] Source: Terry A Hayes Associates LLC, *Cedars-Sinai Medical Center Project Air Quality and Noise Impact Report*, August2008.
[2] Area sources include emissions from natural gas combustion and consumer product (e.g., aerosol sprays).

(b) Localized Impacts

The Project would not include substantial stationary sources of localized emissions. However, the State one- and eight-hour CO standards may potentially be exceeded at congested intersections with high traffic volumes in Year 2023. Based on the traffic study, the selected intersections are as follows:

- Robertson Boulevard/Beverly Boulevard – P.M. Peak Hour
- Robertson Boulevard/Alden Drive-Gracie Allen Drive – P.M. Peak Hour
- Robertson Boulevard/Third Street – A.M. Peak Hour
- Robertson Boulevard/Burton Way – P.M. Peak Hour
- George Burns Road/Beverly Boulevard – P.M. Peak Hour
- George Burns Road/Gracie Allen Drive – A.M. Peak Hour
- San Vicente Boulevard/Beverly Boulevard – P.M. Peak Hour
- San Vicente Boulevard/Third Street – A.M. Peak Hour
- San Vicente Boulevard/Burton Way – P.M. Peak Hour
- San Vicente Boulevard/Wilshire Boulevard – A.M. Peak Hour
- La Cienega Boulevard/Beverly Boulevard – A.M. Peak Hour
- La Cienega Boulevard/Third Street – A.M. Peak Hour
- La Cienega Boulevard/San Vicente Boulevard – P.M. Peak Hour

The USEPA CAL3QHC micro-scale dispersion model was used to calculate CO concentrations for the Year 2023 "No Project" and "Project" conditions. The "No Project" conditions represent Year 2023 cumulative conditions without the implementation of the Project, but include the remaining Master Plan build-out (i.e., 170,650 square feet), the existing 90,000 square-foot building, as well as Related Projects within the vicinity of the Project Site, and ambient traffic growth through 2023. "Project" conditions include the addition of 200,000 square feet of floor area for medical uses, or 100 beds, and Year 2023 "No Project" conditions. CO concentrations at the five study intersections are shown for the peak hours in *Table 12: Carbon Monoxide*

Concentrations. As indicated, one-hour CO concentrations under "Project" conditions would be approximately 2 ppm at worst-case sidewalk receptors. Eight-hour CO concentrations under "Project" conditions would range from approximately 1.2 ppm to 1.7 ppm. The State one- and eight-hour standards of 20 ppm and 9.0 ppm, respectively, would not be exceeded at the 13 study intersections. Thus, the CO hotspots analysis demonstrates that the Project would result in a less-than-significant CO hotspot impact.

Because CO is a gas that disperses quickly, CO concentrations at sensitive receptor locations at 2023 are expected to be much lower than CO concentrations adjacent to the roadway intersections. Additionally, the intersections were selected for the CO hotspots analysis based on poor LOS and high traffic volumes. Sensitive receptors that are located away from congested intersections or are located near roadway intersections with better LOS would be exposed to lower CO concentrations than concentrations modeled at the intersections. As shown in *Table 12: Carbon Monoxide Concentrations*, CO concentrations would not exceed the State one- and eight-hour standards. Thus, no significant increase in CO concentrations at sensitive receptor locations is expected, resulting in a less than significant impact.

In the Original EIR, one-hour CO concentrations under "Project" conditions ranged from 12.7 ppm to 18.2 ppm projected in 2005, which were below the State one-hour standard. Eight-hour CO concentrations under "Project" conditions ranged from 7.9 ppm to 10.9 ppm projected in 2005. The Original EIR identified four intersections that would exceed the State eight-hour standard. The estimated one- and eight-hour CO concentrations for the Master Plan and the Project in 2023 are much lower than the CO concentrations identified in the Original EIR due to stringent State and federal mandates for lowering vehicle emissions. The CO impact associated with the Project when compared to the Master Plan is less than the impact identified in the Original EIR.

TABLE 12
CARBON MONOXIDE CONCENTRATIONS [1][2]

INTERSECTION	1-HOUR (PARTS PER MILLION)			8-HOUR (PARTS PER MILLION)		
	EXISTING (2007)	NO PROJECT (2023)	PROJECT (2023)	EXISTING (2007)	NO PROJECT (2023)	PROJECT (2023)
Robertson Boulevard/Beverly Boulevard	5	2	2	3.5	1.3	1.3
Robertson Boulevard/Alden Drive-Gracie Allen Drive	5	2	2	3.2	1.5	1.5
Robertson Boulevard/Third Street	5	2	2	3.4	1.4	1.4
Robertson Boulevard/Burton Way	5	2	2	3.5	1.5	1.5
George Burns Road/Beverly Boulevard	5	2	2	3.5	1.4	1.4
George Burns Road/Gracie Allen Drive	4	2	2	3.1	1.2	1.2
San Vicente Boulevard/Beverly Blvd.	5	2	2	3.6	1.5	1.5
San Vicente Boulevard/Third Street	5	2	2	3.6	1.5	1.5
San Vicente Boulevard/Burton Way	5	2	2	3.6	1.5	1.5

TABLE 12 (CONTINUED)
CARBON MONOXIDE CONCENTRATIONS [1][2]

INTERSECTION	1-HOUR (PARTS PER MILLION)			8-HOUR (PARTS PER MILLION)		
	EXISTING (2007)	NO PROJECT (2023)	PROJECT (2023)	EXISTING (2007)	NO PROJECT (2023)	PROJECT (2023)
San Vicente Boulevard/Wilshire Boulevard	5	2	2	3.7	1.6	1.6
La Cienega Boulevard/Beverly Boulevard	5	2	2	3.7	1.6	1.6
La Cienega Boulevard/Third Street	5	2	2	3.6	1.5	1.5
La Cienega Boulevard/San Vicente Boulevard	6	2	2	3.9	1.7	1.7
State Standard	**20**			**9.0**		

[1] Source: Terry A Hayes Associates LLC, *Cedars-Sinai Medical Center Project Air Quality and Noise Impact Report*, August 2008.
[2] Existing concentrations include year 2007 one- and eight-hour ambient concentrations of 4.0 ppm and 2.3 ppm, respectively. No Project and Project concentrations include year 2023 one- and eight-hour ambient concentrations of 2 ppm and 1.1 ppm, respectively.

The Project would not include significant stationary source or on-site mobile equipment emissions and, as such, operational emissions were not analyzed using SCAQMD LST methodology.

(c) Toxic Air Contaminant ("TAC") Impacts

The SCAQMD recommends that health risk assessments be conducted for substantial sources of diesel particulate matter emissions (e.g., truck stops and warehouse distribution facilities), which is considered to be a TAC, and has provided guidance for analyzing these mobile source diesel engine emissions.[40]

The Project would establish medical uses on the Project Site, including 100 new inpatient beds and associated ancillary services. The primary source of potential TACs associated with Project operations would be diesel particulate matter emissions from delivery trucks (e.g., truck traffic on local streets and on-site truck idling). The medical uses themselves are not anticipated to generate a substantial number of new daily truck trips because the Project, like the rest of the CSMC Campus, would be served by Central Services. Therefore, the number of additional heavy-duty trucks (e.g., delivery trucks) accessing the Project Site on a daily basis as a result of the Project would be minimal, consistent with the CARB anti-idling regulation, the trucks that do visit the site would not idle on-site for more than five minutes. Based on the limited additional TAC emissions generated by the Project, the Project would not be a substantial source of diesel particulate matter emissions so as to warrant the need for a health risk assessment associated with on-site activities. The associated risk would be below the carcinogenic risk of ten chances in a population of one million people and below the noncarcinogenic health hazard index value of 1.0. As such, potential TAC impacts would be less than significant.

[40] SCAQMD, *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Emissions*, December 2002.

Typical sources of acutely and chronically hazardous TACs include industrial manufacturing processes and automotive repair facilities. The Project would not include any of these potential sources, although minimal emissions may result from the use of consumer products (e.g., aerosol sprays). The Project may increase the amount of medical waste incinerated on the CSMC Campus. The Original EIR, which included mitigation measures to reduce reliance on hazardous materials, discussed regulations and impacts associated with medical waste incineration (e.g., dioxin emissions). However, CSMC has replaced the incinerator with two steam sterilizers. The steam sterilizers dispose of medical waste without generating dioxin emissions.[41] As such, the Project would not release substantial amounts of TACs, and no significant impact on human health would occur.

Compared to the Original EIR, which concluded that the Master Plan would have a significant adverse impact related to TACs, even after compliance with federal, state and local regulations, the net incremental impact of the Project would be insignificant and the overall impact is similar to that already addressed in the Original EIR. Overall the Master Plan impacts remain significant.

(d) Odor Impacts

According to the SCAQMD Handbook, land uses and industrial operations that are associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies and fiberglass molding. The Project Site would be developed with hospital uses, not land uses that are typically associated with odor complaints. On-site trash receptacles would have the potential to create adverse odors. As trash receptacles would be located and maintained in a manner that promotes odor control, no adverse odor impacts are anticipated from these types of land uses. In addition, the Project would comply with regulations contained in SCAQMD Rule 402 (Nuisance). As such, operational odors would result in a less than significant impact.

Operational odor impacts discussed in the Original EIR were associated with the operation of an on-site waste incinerator to be located west of Sherbourne Drive, between Alden Drive and Third Street. According to the Original EIR, the waste incinerator would not violate the SCAQMD limit of 1,000 pounds per hour of waste. The portion of the original project analyzed in this air quality analysis does not include a waste incinerator.

(e) Consistency with Adopted Plans and Policies

Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the SCAQMD's *CEQA Air Quality Handbook*. The AQMP establishes goals and policies to reduce long-term emissions in the Basin. Thus, this analysis focuses on long-term operational emissions. There are two key indicators of consistency. These indicators are discussed below.

[41] Health Care Without Harm, *Toolkit 7, Alternatives to Medical Waste Incineration: Stopping the Toxic Threat*, 2002.

- **Consistency Criterion No. 1**: *The Project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.*

  Consistency Criterion No. 1 refers to violations of the CAAQS. Operational CO emissions were used for assessing local area air quality impacts because CO is primarily emitted by motor vehicles, and it does not readily react with other pollutants.[42] In addition, as shown in *Table 11: Estimated Daily Operational Regional Emissions*, mobile CO emissions would account for the majority of operational emissions. As such, CO was utilized as an indicator for AQMP consistency. Based on methodologies set forth by SCAQMD, one measure to determine whether the Project would cause or contribute to a violation of an air quality standard would be based on the estimated CO concentrations at intersections that would be affected by the Project.[43] The CO hotspot analysis indicates that the Project would not result in an exceedance of the State one- and eight-hour CO concentration standards. In addition, the proposed project would not result in long-term significant VOC, NO_X, SO_X, $PM_{2.5}$, or PM_{10} impact. As such, the proposed project would not impede attainment of the CAAQS and would comply with Consistency Criterion No. 1.

- **Consistency Criterion No. 2**: *The Project will not exceed the assumptions in the AQMP in 2010 or increments based on the year of Project build-out phase.*

  Consistency Criterion No. 2 requires an assessment of whether the Project would exceed the assumptions in the AQMP. A project is considered to be consistent with the AQMP if it is consistent with the population, housing, and employment assumptions that were used in the development of the AQMP.[44] The 2007 AQMP uses SCAG's forecasts on population and employment. The most recent SCAG Regional Transportation Plan ("RTP") published at the time the 2007 AQMP was completed was the 2004 RTP.[45,46] The 2004 RTP is based on growth assumptions through 2030 developed by each of the cities and counties in the SCAG region.

  SCAG locates the Project Site within the Los Angeles City subregion. The Project would not include new housing and, as such, would be consistent with the RTP housing and population growth assumptions. The Project, which would add 660 employees, represents less than one percent of the 278,264 new employees projected in SCAG's RTP between 2007 and 2023 for the Los Angeles City subregion.[47] Such levels of employment growth are within employment growth forecasts for the subregion as adopted by SCAG. In addition, operations of the Project would not

[42] SCAQMD, *CEQA Air Quality Handbook*, 1993.
[43] *Ibid*.
[44] SCAQMD, *CEQA Air Quality Handbook*, 1993.
[45] SCAQMD, *Final Socioeconomic Report for the 2007 AQMP*, Page C-1, June 2007.
[46] SCAG, *2004 Regional Transportation Plan: Destination 2030* http://www.scag.ca.gov/rtp2004/2004/finalplan.htm (April 2004).
[47] Provided by the Project Applicant, Cedars-Sinai Medical Center.

exceed the SCAQMD thresholds or the State one- and eight-hour CO standards. Thus, the Project is consistent with growth assumptions included in the AQMP, and the Project would comply with Consistency Criterion No. 2.

The Project complies with Consistency Criteria No. 1 and No. 2. Therefore, the Project is consistent with the AQMP.

(f) Climate Change Gas Emissions

The SCAQMD, State, and federal agencies have not developed methodology to ascertain project-level impacts on global warming and climate change based on a project's net increase in GHGs over existing levels. Additionally, no significance thresholds have as yet been established to determine specific project effects.

Worldwide population growth and the consequent use of energy is the primary reason for GHG emission increases. The market demand for goods and services and the use of land is directly linked to population changes and economic development trends within large geographies (e.g., regional, Statewide, national, worldwide). Individual site-specific projects have a negligible effect on these macro population-driven and growth demand factors. Whether an individual site-specific project is constructed or not has little effect on GHG emissions. This is because the demand for goods and services in question would be provided in some other location to satisfy the demands of a growing population if not provided on the Project Site. The only exception to this basic relationship between population growth, development, energy consumption and GHG emissions would occur if the site-specific project (1) embodied features that were not typical of urban environment or developing communities, and (2) generated a disproportionate amount of vehicle miles of travel or had other unique and disproportionately high fuel consumption characteristics. The Project does not fall within these exceptions. It is a typical infill development project located in an urban area. As such, the Project would have a negligible, and less than significant, effect on any increase in regional and national GHG emissions.

GHG emissions were not discussed in the Original EIR; however, *Table 13: Estimated Annual Greenhouse Gas Emissions* shows the net carbon equivalent values associated with the Project uses. GHG emissions were calculated from mobile sources, natural gas usage, and electricity generation. As shown on *Table 13: Estimated Annual Greenhouse Gas Emissions*, the Project would result in carbon equivalent emissions of 5,851 tons per year of CO_2, 6 tons per year of CH_4, and 36 tons per year of NO_2 per year.

TABLE 13
ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS [1]

	CARBON EQUIVALENT (TONS PER YEAR)		
SCENARIO	**CO_2**[2]	**CH_4**[3]	**N_2O**[3]
Mobile Emissions	2,187	2	29
Natural Gas Consumption Emissions	14	3	1
Electricity Consumption Emissions	3,785	1	6
Total Emissions	**5986**	**6**	**36**

TABLE 13
ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS [1]

SCENARIO	CARBON EQUIVALENT (TONS PER YEAR)		
	CO_2[2]	CH_4[3]	N_2O[3]

[1] Source: Terry A Hayes Associates LLC, *Cedars-Sinai Medical Center Project Air Quality and Noise Impact Report*, August 2008.
[2] Mobile and natural gas emissions were obtained from URBEMIS2007. Electricity emissions were obtained from *California Climate Action Registry General Reporting Protocol (March 2007)*.
[3] Emissions were obtained from *California Climate Action Registry General Reporting Protocol (March 2007)*.

d. Cumulative Impacts

The SCAQMD has set forth both a methodological framework, as well as significance thresholds, for the assessment of a project's cumulative air quality impacts.[48] SCAQMD's approach is based on the AQMP forecasts of attainment of ambient air quality standards in accordance with the requirements of the federal and State Clean Air Acts. In turn, the 2007 AQMP is based on SCAG's forecasted future regional growth. As such, the analysis of cumulative impacts focuses on determining whether the Project is consistent with forecasted future regional growth.

Based on SCAQMD's methodology, a project would have a significant cumulative air quality impact if the ratio of daily project-related vehicle miles traveled ("VMT") to daily countywide vehicle miles traveled exceeds the ratio of project-related employment to countywide employment.[49] As shown in *Table 14: Cumulative Air Quality Analysis*, the Project-related VMT to countywide VMT ratio does not exceed the Project-related employment to countywide employment ratio. The Project would not significantly contribute to cumulative emissions and would have a less than significant impact.

A localized CO impact analysis was also completed for cumulative traffic (i.e., Related Projects and ambient growth through 2023). When calculating future traffic impacts, the traffic consultant took 141 additional projects into consideration.[50] Thus, the future traffic results already account for the cumulative impacts from these other projects. As shown in *Table 12: Carbon Monoxide Concentrations*, the Project with cumulative traffic would not violate CO standards at local intersections. As such, the Project would not contribute to cumulative air quality impacts.

TABLE 14
CUMULATIVE AIR QUALITY ANALYSIS [1]

DAILY VEHICLE MILES	
Daily Vehicle Miles Traveled For Project Employment [2]	11,589
Daily Vehicle Miles Traveled Countywide [3]	239,765,000
Daily Vehicle Miles Traveled Ratio	**0.000048**
Project Employment [4]	606
Countywide Employment [5]	5,458,829

[48] SCAQMD, *CEQA Air Quality Handbook*, 1993.
[49] *Ibid*.
[50] Linscott, Law & Greenspan, Engineers, *Traffic Impact Study Cedars-Sinai Medical Center Project*, June 23, 2008.

TABLE 14 (CONTINUED)
CUMULATIVE AIR QUALITY ANALYSIS [1]

DAILY VEHICLE MILES	
Employment Ratio	**0.000111**
Significance Test **Daily Vehicle Miles Traveled Ratio Greater Than Employment Ratio**	**No**

[1] Source: Terry A Hayes Associates LLC, *Cedars-Sinai Medical Center Project Air Quality and Noise Impact Report*, August 2008.
[2] Data obtained from URBEMIS 2007.
[3] Data obtained from EMFAC2007.
[4] Provided by the Project Applicant.
[5] Data obtained from SCAG's Regional Transportation Plan, Socioeconomic Projections, 2004.

CEQA Guidelines Section 15130(b)(5)(c) states that with "some projects, the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a project-by-project basis." The assessment and mitigation of cumulative impacts as they relate to global climate change fall into this category since the causes and effects are worldwide. Accordingly, the only feasible mitigation to address issues related to global warming will be CARB's adoption of regulations and thresholds pursuant to AB 32, which will be implemented by local air quality management agencies (e.g., SCAQMD), to limit GHG emissions in the State. By law, the Project would be required to comply with all AB 32-related regulations. Based on the Project analysis above, cumulative impacts related to global warming would be considered less than significant.

The cumulative impact analysis in the Original EIR is different from the cumulative impact analysis for the Project. The cumulative impact analysis in the Original EIR estimated mobile emissions from 87 Related Projects within the City of Los Angeles, West Hollywood, and Beverly Hills. The Original EIR found that the Master Plan would account for 11.7 percent of the cumulative emissions for ROG, 10.4 percent of the cumulative emissions for CO, and 13.0 percent of the cumulative emissions for NO_X.

4. MITIGATION PROGRAM

a. Regulatory Requirements, Standard Conditions, and Project Design Features

MM AQ-1: The Project will comply with applicable CARB regulations and standards. CARB is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. CARB oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional and county levels.

MM AQ-2: The Project will comply with applicable SCAQMD regulations and standards. The SCAQMD is responsible for monitoring air quality, as well as planning, implementing, and enforcing programs designed to attain and maintain State and federal ambient air quality standards in the District. Programs that were developed include air quality rules and regulations that regulate stationary sources, area sources, point sources, and certain mobile source emissions. SCAQMD is also responsible for establishing stationary source permitting

requirements and for ensuring that new, modified, or relocated stationary sources do not create net emission increases.

MM AQ-3: The Project will be designed to reduce exposure of sensitive receptors to excessive levels of air quality. Also, the Project will incorporate many "sustainable" or "green" strategies that target sustainable site development, water savings, energy efficiency, green-oriented materials selection, and improved indoor environmental quality, which in turn serve to directly and proactively reduce GHG and other air pollutant emissions. Project Design Features to be incorporated by the Project shall include, but are not limited to, the following or their equivalent:

- The CSMC Campus, including the Project Site, is conveniently located with respect to public transit opportunities. Given the Project Site's location within an established urban area, access to a number of existing Los Angeles Metro bus lines is available, and a potential Metro Rail station at the northeast corner of the CSMC Campus may be available in the future, thereby reducing traffic, air quality, noise, and energy effects.

- Storm water within the Property, including at the Project Site, is collected, filtered and re-used for landscaping irrigation within the CSMC Campus, thereby reducing water and energy consumption.

- The West Tower design incorporates light-colored roofing and paving materials, which serve to reduce unwanted heat absorption and minimize energy consumption.

- Building materials and new equipment associated with the West Tower are selected to avoid materials that might incorporate atmosphere-damaging chemicals.

- The West Tower energy performance is designed to be 14% more effective than required by California Title 24 Energy Design Standards, thereby reducing energy use, air pollutant emissions and greenhouse gas emissions.

- The West Tower will generate 2.5% of the building's total energy use through on-site renewable energy sources. On-site renewable energy sources can include a combination of photovoltaic, wind, hydro, wave, tidal and bio-fuel based electrical production systems, as well as solar thermal and geothermal energy systems.

- The West Tower will use materials with recycled content such that the sum of post-consumer content plus one-half of the pre-consumer content constitutes at least 10% (based on cost) of the total value of the materials in the Project.

- Lighting systems within the West Tower will be controllable to achieve maximum efficiency (e.g., uniform general ambient lighting, augmented with individually controlled task lighting that accommodates user-adjustable lighting levels and automatic shutoff switching).

- The West Tower will be designed to provide occupant thermal comfort dissatisfaction levels above 85%.

b. 1993 Mitigation Measures (Carried Forward)

(1) Construction

MM AQ-4: Haul trucks shall be staged in non-residential areas and called to the site by a radio dispatcher. A Haul Route Permit shall be required before haul truck operations are conducted.

MM AQ-5: Diesel-powered equipment shall be located as far as possible from sensitive receptors.

MM AQ-6: A temporary wall of sufficient height to reduce windblown dust shall be erected on the perimeter of the construction site.

MM AQ-7: Ground wetting shall be required during grading and construction, pursuant to SCAQMD Rule 403. This measure can reduce windblown dust a maximum of 50 percent.

MM AQ-8: Contractors shall cover stockpiles of soil, sand, and similar materials to reduce wind pick-up.

MM AQ-9: Construction equipment shall be shut off to reduce idling for extended periods of time when not in use.

MM AQ-10: Low sulfur fuel should be used to power construction equipment.

MM AQ-11: Construction activities shall be discontinued during second stage smog alerts.

(2) Long-Term Operational

MM AQ-12: The proposed project shall implement a Transportation Demand Management program consistent with the provisions of SCAQMD Regulation XV.

MM AQ-13: The Medical Center should reduce, to the extent possible, its reliance on hazardous materials.

MM AQ-14: The Medical Center should analyze the effect of stack design and exhaust velocity on the dispersion of air toxics.

MM AQ-15: New exhaust systems should be designed to place vents at or above the roof level of nearby buildings.

(3) Energy Conservation Measures that Reduce Air Pollutant Emissions

MM AQ-16: Conservation with the Los Angeles Department of Water and Power and [The Gas Company] to determine feasible energy conservation features that could be incorporated into the design of the proposed project.

MM AQ-17: Compliance with Title 24, established by the California Energy Commission regarding energy conservation standards. Those standards relate to insulation requirements and the use of caulking, double-glazed windows, and weather stripping.

MM AQ-18: Thermal insulation which meets or exceeds standards established by the State of California and the Department of Building and Safety should be installed in walls and ceilings.

MM AQ-19: Tinted or solar reflected glass would be used on appropriate exposures.

MM AQ-20: Heat-reflecting glass on the exterior-facing, most solar-exposed sides of the building, should be used to reduce cooling loads.

MM AQ-21: Interior and exterior fluorescent [halogen, or other energy efficient type] lighting should be used in place of less efficient incandescent lighting.

MM AQ-22: A variable air volume system which reduces energy consumption for air cooling and heating for water heating should be used where permitted.

MM AQ-23: Air conditioning which will have a 100 percent outdoor air economizer cycle to obtain free cooling during dry outdoor climatic periods should be used.

MM AQ-24: Lighting switches should be equipped with multi-switch provisions for control by occupants and building personnel to permit optimum energy use.

MM AQ-25: Public area lighting, both interior and exterior, should be used, time controlled, and limited to that necessary for safety.

MM AQ-26: Department of Water and Power recommendations on the energy efficiency ratios of all air conditioning equipment installed should be followed.

MM AQ-27: A carefully established and closely monitored construction schedule should be used to coordinate construction equipment movements, thus minimizing the total number of pieces of equipment and their daily movements. This would reduce fuel consumption to a minimum.

c. Recommended Additional Mitigation Measures

(1) Construction

MM AQ-28: Water or a stabilizing agent shall be applied to exposed surfaces in sufficient quantity to prevent generation of dust plumes.

MM AQ-29: Track-out shall not extend 25 feet or more from an active operation, and track-out shall be removed at the conclusion of each workday.

MM AQ-30: A wheel washing system shall be installed and used to remove bulk material from tires and vehicle undercarriages before vehicles exit the Project Site.

MM AQ-31: All haul trucks hauling soil, sand, and other loose materials shall maintain at least six inches of freeboard in accordance with California Vehicle Code Section 23114.

MM AQ-32: All haul trucks hauling soil, sand, and other loose materials shall be covered (e.g., with tarps or other enclosures that would reduce fugitive dust emissions).

MM AQ-33: Traffic speeds on unpaved roads shall be limited to 15 miles per hour.

MM AQ-34: Operations on unpaved surfaces shall be suspended when winds exceed 25 miles per hour.

MM AQ-35: Heavy equipment operations shall be suspended during first and second stage smog alerts.

MM AQ-36: On-site stockpiles of debris, dirt, or rusty materials shall be covered or watered at least twice per day.

MM AQ-37: Contractors shall utilize electricity from power poles rather than temporary diesel or gasoline generators, as feasible.

MM AQ-38: Architectural coating shall have a low VOC content, per SCAQMD guidance.

MM AQ-39: Prior to issuance of demolition permits, an asbestos and lead-based paint survey shall be conducted. If ACMs are detected, these materials shall be removed by a licensed abatement contractor and in accordance with all applicable federal, State, and local regulations, including SCAQMD Rule 1403 prior to demolition. If lead-based paint is identified, federal and State construction worker health and safety regulations (including applicable CalOSHA and USEPA regulations) shall be followed during demolition activities. Lead-based paint shall be removed by a qualified lead abatement contractor and disposed of in accordance with existing hazardous waste regulations. If lead-based paint is identified on the building structure to be demolished, near-surface soil samples shall be collected around the

structure to determine the potential for residual soil lead contamination, and appropriate remediation shall be completed prior to building construction.

(2) Long-Term Operational

Operational air quality impacts would be less than significant with the implementation of applicable standards and regulations, and implementation of the applicable mitigation measures adopted in connection with the Original EIR. Hence, no additional mitigation measures are required.

5. SIGNIFICANT PROJECT IMPACTS AFTER MITIGATION

Implementation of the standard conditions of approval, project design features, and previously adopted mitigation measures (listed above) would reduce all air quality impacts, except for construction-phase impacts, to less than significant levels.

Implementation of the mitigation measures would ensure that fugitive dust emissions would be reduced by approximately 61 percent, thereby reducing daily $PM_{2.5}$ and PM_{10} emissions, and that NO_X emissions from heavy-duty construction equipment would be reduced by 40 percent. Implementation of the mitigation measures would also reduce VOC from architectural coating by 10 percent. With implementation of the recommended Mitigation Measures, regional construction emissions of VOC, CO, SO_X, $PM_{2.5}$ and PM_{10} would be less than the SCAQMD significance thresholds. However, a significant and unavoidable regional NO_X impact would occur. Localized construction emissions of NO_X and CO would be less than the localized significance thresholds. However, a significant and unavoidable localized $PM_{2.5}$ and PM_{10} impact would occur. Implementation of the mitigation program would ensure proper removal of ACMs and lead-based paint, thus reducing impacts associated with TACs to less than significant levels.

The Project will result in a net significant unavoidable impacts related to construction (short-term) air quality impacts related to NO_X, PM_{10} and $PM_{2.5}$. Pursuant to CEQA Guidelines Sections 15092 and 15093, and in the event the Project is approved, the City of Los Angeles must adopt a Statement of Overriding Considerations acknowledging these outstanding significant adverse impacts and stating the reason(s) for accepting these impacts in light of the whole environmental record as weighed against the benefits of the Project.

Compared to the Original EIR, which concluded that development of the Master Plan would result in an adverse impact by increasing mobile-source and TAC emissions, the net incremental impact of the Project would be insignificant and the overall impact is similar to that already analyzed in the Original EIR. Even though the net incremental increase would be insignificant, the overall Project impact remains significant for the reasons discussed above.