B. AIR QUALITY

This Section is based upon the Air Quality Assessment prepared by Mestre Greve Associates, dated January 20, 2003. The report can be found in **Appendix B** of this EIR. Project traffic data utilized to assess the Project's mobile source air quality impacts was obtained from the Project traffic study, generated by Crain & Associates (Appendix G of this EIR).

Existing Conditions

Environmental Setting and Meteorology

The Project falls within the South Coast Air Basin (Basin). The climate in and around the Project area, as with all of Southern California, is controlled largely by the strength and position of the subtropical high pressure cell over the Pacific Ocean. The cell maintains moderate temperatures and comfortable humidity, and limits precipitation to a few storms during the winter "wet" season. Temperatures are normally mild, except during the summer months, which commonly bring substantially higher temperatures. In all portions of the Basin, temperatures well above 100 degrees Fahrenheit. have been recorded in recent years. The annual average temperature in the Basin is approximately 62 degrees F.

Winds in the Project area are usually driven by the dominant land/sea breeze circulation system. Regional wind patterns are dominated by daytime onshore sea breezes. At night, the wind generally slows and reverses direction traveling towards the sea. Wind direction is altered by local canyons, with wind tending to flow parallel to the canyons. During the transition period from one wind pattern to the other, the dominant wind direction rotates into the south and causes a minor wind direction maximum from the south. The frequency of calm winds (less than 2 miles per hour) is less than 10 percent. Therefore, there is little stagnation in the Project vicinity, especially during busy daytime traffic hours.

Southern California frequently has temperature inversions, that inhibit the dispersion of pollutants. Inversions may be either ground based or elevated. Ground based inversions, sometimes referred to as radiation inversions, are most severe during clear, cold, early winter mornings. Under conditions of a ground based inversion, very little mixing or turbulence occurs, and high concentrations of primary pollutants may occur local to major roadways. Elevated inversions can be generated by a variety of meteorological phenomena. Elevated inversions act as a lid or upper boundary and restrict vertical mixing. Dispersion is not restricted below the elevated inversion. Mixing heights for elevated inversions are lower in the summer and more persistent. This low summer inversion puts a lid over the Basin and is responsible for the high levels of ozone observed during summer months in the air Basin.

Air Quality Pollutants and Regulatory Standards

<u>Air Quality Pollutants</u>

Air quality studies generally focus on five pollutants that are most commonly measured and regulated: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), respirable particulate matter (PM_{10}), and sulfur dioxide (SO_2). Ozone is not directly emitted from pollution sources, but rather forms in the atmosphere through a chemical reaction between Reactive Organic Gases (ROG) and nitrogen oxides (NO_2). Thus, air quality studies analyze ROG and NOx, as emissions of these Ozone precursors are more easily modeled and estimated for environmental review purposes.

Carbon monoxide (CO) is a colorless gas that interferes with the transfer of oxygen to the brain. Carbon monoxide is emitted almost exclusively from the incomplete combustion of fossil fuels. Along with carbon dioxide, CO is emitted by motor vehicles, power plants, refineries, industrial boilers, ships, aircrafts, and trains. Automobile exhausts release most of the CO in urban areas. Carbon monoxide concentrations are influenced by local meteorological conditions, primarily wind speed, topography, and atmospheric stability.

Ozone (O_3) is a colorless gas that enters the bloodstream and interferes with the transfer of oxygen, depriving sensitive tissues in the heart and brain of oxygen. Ozone also damages vegetation by inhibiting their growth. Although ozone is not directly emitted, it forms in the atmosphere through a chemical reaction between reactive organic compounds (ROG) and nitrogen oxides (NOx), which are emitted from industrial sources and from automobiles. Substantial ozone formation generally requires a stable atmosphere with strong sunlight.

Nitrogen Dioxide (NO_2) is a brownish gas that irritates the lungs. It can cause breathing difficulties at high concentrations. Like ozone, NO_2 is not directly emitted, but is formed through a reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as nitrogen oxides (NOx) and are major contributors to ozone formation. NO_2 also contributes to the formation of PM_{10}, small liquid and solid particles that measure less than 10 microns in diameter. At atmospheric concentration, NO_2 is only potentially irritating. High concentrations produce a brownish-red cast to the atmosphere and reduced visibility. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis. Some increase in bronchitis in children (two and three years old) has also been observed at concentrations below 0.3 parts per million (ppm).

PM_{10} refers to particulate matter less than 10 microns in diameter, about one/seventh the thickness of a human hair. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter also forms when industry and gases emitted from motor vehicles undergo chemical reactions in the atmosphere. Major sources of PM_{10} include motor vehicles; wood burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfire, brush and waste burning; industrial sources; windblown dust form open lands; and atmospheric chemical and photochemical reactions. Suspended particulates produce haze and reduce visibility. Additionally, PM_{10} poses a greater health risk than large-sized particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defense and damage the respiratory tracts. 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.

Sulfur dioxide (SO_2) is a product of high-sulfur fuel combustion. The main sources of SO_2 are coal and oil used in power stations, industry and from domestic heating. Industrial chemical manufacturing is another source of SO_2. SO_2 is an irritant gas that attacks the throat and lungs. It can cause acute respiratory symptoms and diminished ventilator function in children. SO_2 can also yellow plant leaves and erode iron and steel.

Air Quality Regulatory Standards

Air quality regulations are, promulgated by the U.S. Environmental Protection Agency (EPA), the Federal Clean Air Act (CAA), the California EPA and the California CAA (CCAA). All of these regulations are administered locally by State-designated air quality regions and districts. The Project falls within the South Coast Air Basin (Basin), and is therefore regulated locally by the South Coast Air Quality Management District (SCAQMD) and by the California Air Resources Board (CARB).

The SCAQMD establishes and enforces regulations for stationary sources in the Basin and develops and implements Transportation Control Measures. The CARB is charged with controlling motor vehicle emissions. CARB establishes legal emission rates for new vehicles and is responsible for the vehicle inspection program. In areas that are not achieving the federal ambient air quality standards, the CAA requires the SCAQMD and SCAG to develop and implement plans meet the standards. The U.S. EPA oversees these efforts to ensure that the appropriate plan – known as the Air Quality Management Plan (AQMP) – is being adequately developed and implemented. The SCAQMD prepares all of the AQMP, except the transportation component, which is prepared by SCAG.

The Basin has been designated by the U.S. Environmental Protection Agency (EPA) as a non-attainment area for ozone, carbon monoxide, and suspended particulates. As a result, SCAQMD and SCAG, in coordination with local governments and the private sector, have developed an AQMP for the Basin, which provides the blueprint for meeting State and Federal ambient air quality standards. The governing board of the SCAQMD adopted the 1997 AQMP on November 8, 1996. CARB amended the Ozone portion of the 1997 AQMP in 1999 as part of the California State Implementation Plan. The U.S. EPA adopted the 1997 AQMP, together with the 1999 Amendments, in December of 1999. The 1997 AQMP (with the 1999 Amendments) supersedes the previous AQMP (revised in 1994 and adopted locally in November 1996).

The 1997 revision to the AQMP was adopted in response to the requirements set forth in the CCAA and the 1990 amendments to the CAA. However, nitrogen dioxide in the Basin has met the Federal standards for the third year in a row, and therefore, and is qualified for redesignation to attainment. A maintenance plan for nitrogen dioxide is included in the 1997 AQMP. The CCAA mandates the implementation of the program that will achieve the California Ambient Air Quality Standards (CAAQS) and the CAA mandates the implementation of new air quality performance standards.

Attainment of all Federal PM_{10} health standards is to be achieved by December 31, 2006, and ozone standards are to be achieved by November 15, 2010. For CO, the deadline was December 31, 2000. The basin was very close to attaining the CO standard at the end of 2000 and was granted a two-year extension to meet the federal standards. The 2001 AQMP currently being prepared will contain measures to ensure attainment of the federal CO standard by the end of 2002.

The overall control strategy for the AQMP is to meet applicable State and Federal requirements and to demonstrate attainment with ambient air quality standards. The 1997 AQMP uses two tiers of emission reduction measures; (1) short- and intermediate- term measures, and (2) long-term measures.

Short- and intermediate-term measures propose the application of available technologies and management practices between 1994 and the year 2006. These measures rely on known technologies and proposed actions to be taken by several agencies that currently have statutory authority to implement such measures. Short- and intermediate-term measures in the 1997 AQMP include 35 stationary source, seven on-road, six off-road, one transportation control and indirect source, five advanced transportation technology, and one further study measures. All of these measures are proposed to be implemented between 1995 and 2006. These measures rely on both traditional command and control and on alternative approaches to implement technological solutions and control measures.

To ultimately achieve ambient air quality standards, additional emission reductions will be necessary beyond the implementation of short- and intermediate-term measures. Long-term measures rely on the advancement of technologies and control methods that can reasonably be expected to occur between 1997 and 2010. These long-term measures rely on further development and refinement of known low- and zero-emission control technologies for both mobile and stationary sources, along with technological breakthroughs.

State laws mandates the revision of the AQMP at least every three years, and Federal law specifies dates certain for developing attainment plans for criteria pollutants. Accordingly, SCAQMD and SCAG are currently in the process preparing a 2001 AQMP.

Ambient Air Quality

Air quality at any site is dependent on the regional air quality and local pollutant sources. Regional air quality is determined by the release of pollutants throughout the air Basin. Estimates for the Basin have been made for existing emissions ("1997 Air Quality Management Plan," October 1996). The data indicate that mobile sources are the major source of regional emissions. Motor vehicles (i.e., on-road mobile sources) account for approximately 51 percent of volatile organic compounds (VOC), 63 percent of nitrogen oxide (NOx) emissions, and approximately 78 percent of carbon monoxide (CO) emissions.

The Project site is located in SCAQMD Source Receptor Area 2 (West LA). Certain air quality data for this area is collected at the West LA/VA Hospital monitoring station, located approximately one mile from the site, which is considered representative of the air quality experienced in the vicinity of the Project. The air pollutants measured at the West LA Veteran's Administration (VA) Hospital station include ozone, carbon monoxide (CO), and nitrogen dioxide (NO_2). Sulfur dioxide (SO_2), and particulate (PM_{10}) concentrations for the area encompassing the Project site are measured at the Hawthorn Station. The air quality monitored data from 1998 to 2001 for all of these pollutants are shown in **Table V.B-1**. This Table also presents the Federal and State air quality standards.

The West LA/VA Hospital monitoring data presented in Table V.B-1 shows that ozone and particulates are the air pollutants of primary concern in the Project area. The State ozone standard was exceeded one day in 2001, two days in 2000, four days in 1999, and seven days in 1998; the Federal standard was only exceeded one day in the past four years, in 1998. The data from the past four years shows a downward trend in the maximum ozone concentrations, as shown in the table, and in the number of days exceeding the State and Federal ozone standards.

Ozone is a secondary pollutant; it is not directly emitted. Ozone is the result of chemical reactions between other pollutants, most importantly hydrocarbons and NO_2, which occur only in the presence of bright sunlight. Pollutants emitted from upwind cities react during transport downwind to produce the oxidant concentrations experienced in the area. Many areas of the SCAQMD contribute to the ozone levels experienced at the monitoring station, with the more significant areas being those directly upwind.

The data taken at the West LA/VA Hospital monitoring station indicates that the State standards for PM_{10} have been exceeded between 33 and 54 days over the past four years. The measurement data does show a slight upward trend in the maximum and average concentrations along with the number of days the standard was exceeded. PM_{10} levels in the area are due to natural sources, grading operations and motor vehicles.

According to the EPA, some people are much more sensitive than others to breathing fine particles (PM_{10}). People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death due to breathing PM_{10}. People with bronchitis can expect aggravated symptoms from breathing in fine particles. Children may experience decline in lung function due to breathing in PM10. Other groups considered sensitive are smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive, because many breathe through their mouths.

Table V.B-1

Air Quality Levels Measured at the West LA/VA Hospital Monitoring Station

Pollutant	California Standard	National Standard	Year	% Msrd.[a]	Max. Level	Days State Std. Exceedances
Ozone	0.09 ppm for 1 hr.	0.12 ppm for 1 hr.	2001	99	0.099	1 dpy [b]
			2000	100	0.104	2 dpy [b]
			1999	100	0.117	4 dpy [b]
			1998	100	0.127	7 dpy [b]
CO	20 ppm for 1 hour	35 ppm for 1 hour	2001	100	4.5	0 dpy [b]
			2000	100	6.0	0 dpy [b]
			1999	98	6.1	0 dpy [b]
			1998	97	6.8	0 dpy [b]
CO	9.0 ppm for 8 hour	9 ppm for 8 hour	2001	98	4.0	0 dpy [b]
			2000	98	4.3	0 dpy [b]
			1999	98	3.6	0 dpy [b]
			1998	97	4.5	0 dpy [b]
Particulates PM10(h) (24 Hour)	50 ug/m3 for 24 hr.	150 ug/m3 for 24 hr.	2001	96	75	8/48[c]
			2000	96	74	9/54 [c]
			1999	98	69	6/33[c]
			1998	95	66	7/42 [c]
Particulates PM10(h) (Annual)	30 ug/m3 AGM [d]	50 ug/m3 AAM[E]	2001	96	34/37 [f]	yes [g]
			2000	96	33/36	yes [g]
			1999	98	33/35	yes [g]
			1998	95	30/33	yes [g]
NO_2 (1-Hour)	0.25 PPM for 1 hour	None	2001	100	0.109	0
			2000	100	0.162	0
			1999	100	0.133	0
			1998	99	0.130	0
NO_2 (AAM[e])	None	0.053 ppm AAM	2001	100	0.024	n/a
			2000	100	0.026	n/a
			1999	100	0.028	n/a
			1998	99	0.026	n/a

Table V.B-1

Air Quality Levels Measured at the West LA/VA Hospital Monitoring Station

Pollutant	California Standard	National Standard	Year	% Msrd.[(a)]	Max. Level	Days State Std. Exceedances
SO_2(h) (24 Hour)	0.04 ppm 24 Hr.	0.14 ppm for 24 hr.	2001	100	0.009	0
			2000	100	0.016	0
			1999	100	0.019	0
			1998	98	0.013	0
SO_2(h) (AAM[(e)])	None	0.030 ppm AAM	2001	100	0.04	n/a
			2000	100	0.003	n/a
			1999	100	0.004	n/a
			1998	98	0.004	n/a

(a) Percent of year where high pollutant levels were expected that measurements were made.
(b) dpy = days per year
(c) First number shown in Days State Standard Exceeded column represents the actual number of days measured that State standard was exceeded. The second number shows the number of days the standard would be expected to be exceeded if measurements were taken every day.
(d) Annual Geometric Mean
(e) Annual Arithmetic Mean.
(f) Levels Shown for Annual PM_{10} are AGM/AAM.
(g) yes = yes, the annual standard was exceeded.
(h) PM_{10} and SO_2 measurements are taken from the Hawthorne Station.

Carbon monoxide (CO) is another important pollutant that is due mainly to motor vehicles. Currently, CO levels in the Project region are in compliance with the State and Federal 1-hour and 8-hour standards. High levels of CO commonly occur near major roadways and freeways. Carbon monoxide may potentially be a continual problem in the future for areas next to freeways and other major roadways.

The monitored data shown in Table 1 shows that other than ozone and PM10, no State or Federal standards were exceeded for the remaining criteria pollutants.

Local Air Quality

Introduction & Criteria

Locally, carbon monoxide is a primary pollutant. While carbon monoxide is directly emitted from a variety of sources, the most notable source of carbon monoxide is motor vehicles. For this reason, carbon monoxide concentrations are usually indicative of the local air quality generated by a roadway network and are used to assess its impacts on the local air quality. Comparisons of levels with State and Federal carbon monoxide standards indicate the severity of the existing concentrations for receptors in the Project area. The Federal and State standards for carbon monoxide are presented in **Table V.B-2**.

Table V.B-2

Federal and State Carbon Monoxide Standards

	Averaging Time	Standard
Federal	1 hour	35 ppm
	8 hours	9 ppm
State	1 hour	20 ppm
	8 hours	9 ppm

Carbon monoxide levels in the Project vicinity due to nearby roadways were assessed with the CALINE4 computer model. CALINE4 is a fourth generation line source air quality model developed by the California Department of Transportation ("CALINE4," Report No. FHWA/CA/TL-84/15, June 1989). The precise methodology used in modeling existing air quality with the CALINE4 computer model is discussed in more detail under Operational Phase Impacts, Local Air Quality, below. The remainder of this section discusses the resulting existing carbon monoxide levels in comparison to the State and Federal carbon monoxide standards.

Local CO Modeling

The CALINE4 computer modeling results for the existing conditions are shown below in **Table V.B-3**. The CALINE4 CO modeling was performed for two intersections, Veteran at Wilshire, Westwood at Lindbrook, and Glendon and Tiverton at Lindbrook. Veteran at Wilshire was selected because it has the greatest total peak hour traffic volume and has a Level of Service (LOS) D or worse in future years. Westwood at Lindbrook, and Glendon and Tiverton at Lindbrook were selected because they have the greatest increase in traffic due to the Project and are predicted to reach a future LOS D or worse (i.e LOS D, E or F). Typically, local pollution concentrations are only of concern around intersections with level LOS D or worse, because CO will generally not accumulate in higher-than threshold concentrations at more free-flowing intersections. By modeling these two intersections, the highest overall CO concentrations at all intersections around the Project can be predicted along with the greatest increase due to the Project. Carbon monoxide levels were modeled for four receptors in each corner of each intersection. The highest concentration of the four receptors at each intersection is reported in **Table V.B-3**.

The existing background CO concentrations were taken from the documents posted on the SCAQMD web site (http://www.aqmd.gov/ceqa/hdbk.html accessed on October 10, 2002). The existing (2000) background CO concentrations used in the modeling are for the West Los Angeles receptor area, which includes the Project site. The background CO concentrations from the Handbook are 5.8 ppm for 1 hour, and 3.6 ppm for 8 hour. Therefore, 5.8 ppm is added to the worst case meteorological 1-hour projections, and 3.6 ppm to the 8-hour projections, to account for the existing background carbon monoxide levels.

The peak hour traffic and LOS data were taken from the traffic study prepared for the Project. The modeling results of the existing CO levels are presented in Table V.B-3. (Printouts of the CALINE4 input and output files are presented in Appendix B.)

Table V.B-3

Existing Modeled Carbon Monoxide Concentrations (ppm)

Intersection	1-Hour CO Concentration (ppm)	8-Hour CO Concentration (ppm)
Veteran at Wilshire	**11.7**	**8.1**
Westwood at Lindbrook	**9.4**	**6.4**
Glendon and Tiverton at Lindbrook	**8.8**	**5.9**
Standard	**20**	**9**
No. Greater Than Standard	0	0

The CO concentrations include the ambient concentrations of 5.8 ppm for 1-hour levels, and 3.6 ppm for 8-hour levels.

Table V.B-3 depicts, the highest CO concentrations for the four receptors modeled at each intersection. Around the intersection of Veteran at Wilshire, the lowest 1-hour concentration was 1.2 lower. For Westwood at Lindbrook, the lowest 1-hour concentration was 0.6 ppm lower than the maximum and the lowest 8-hour concentration was 0.5 ppm lower. For Glendon and Tiverton at Lindbrook, the lowest 1-hour concentration was 0.6 ppm lower than the maximum and the lowest 8-hour concentration was 0.5 ppm lower. This indicates that the 1-hour and 8-hour State and Federal standards for CO concentrations are currently not exceeded at any intersections in the vicinity of the Project.

Threshold of Significance

Regional Air Quality

The LA CEQA Thresholds Guide reflects the thresholds adopted by the SCAQMD. In their "1993 CEQA Air Quality Handbook," the SCAQMD has established significance thresholds to assess the regional impact of project related air pollutant emissions. The SCAQMD is responsible for monitoring air quality and planning, implementing, and enforcing programs designed to attain and maintain state and federal ambient air quality standards in the district. Programs developed include air quality rules and regulations that regulate stationary source emissions, including area and point sources and certain mobile source emissions. The SCAQMD is also responsible for establishing permitting requirements for stationary sources and ensuring that new, modified, or relocated stationary sources do not create net emissions increases and, therefore, are consistent with the region's air quality goals. Table V.B-4 presents SCAQMD's significance thresholds. There are separate thresholds for short-term construction and long-term operational emissions. A project with daily emission rates below these thresholds is considered to have a less than significant effect on regional air quality throughout the Basin.

Table V.B-4

SCAQMD Regional Pollutant Emission Thresholds of Significance

	Pollutant Emissions (lbs/day)				
	CO	**ROG**	**NOx**	**PM10**	**SOx**
Construction	*550*	*75*	*100*	*150*	*150*
Operation	*550*	*55*	*55*	*150*	*150*

Local Air Quality

The SCAQMD has established thresholds to measure when air pollutant emissions from a project are deemed significant. Air pollutant emissions from a project are significant if they result in local air pollutant concentrations that exceed State standards and exceed the concentrations presented in **Table V.B-5**.

Table V.B-5

SCAQMD Local Pollutant Concentration Increase Thresholds of Significance

Pollutant	Averaging Time	Air Pollutant Concentration
Carbon Monoxide (CO)	8 Hours 1 Hour	0.45 ppm 1 ppm

ppm = parts per million
Note: These thresholds only apply if CO concentrations are projected to exceed the State CO concentration standards. If the CO concentrations are below the standard, no significant impact would occur, regardless of the project contribution.

Project Impacts

Air quality impacts from a project are usually divided into short term and long-term. Short-term impacts are usually the result of construction or grading operations for the project. Long-term impacts are associated with the operation of the completed project.

Construction Phase Impacts

Construction Air Pollutant Emissions

As noted, short-term or temporary impacts will result from Project construction activities. Air pollutants will be emitted by construction equipment and fugitive dust will be generated during demolition of the existing buildings and facilities on site and the excavation of the site for the subterranean parking structure.

Emissions resulting from construction activities for large development Projects are estimated by the U.S. EPA. According to the 1993 CEQA Handbook, the emission factor for disturbed soil is 26.4 pounds of PM_{10} per day per acre. The CEQA Handbook also establishes an emission factor of 0.00042 pounds of PM10 per cubic foot of building space for demolition activities. If water or other soil stabilizers are used to control dust as required by SCAQMD Rule 403, the emissions can be reduced by 50 percent. The PM10 calculations include the 50% reduction for watering.

The SCAQMD's 1993 CEQA Air Quality Handbook sets forth emission rates of PM_{10} resulting from loading of material onto trucks (i.e., dirt, sand and gravel). The emission rate depends upon the amount of materials, being handled the moisture content of the materials and the mean wind speed. For this Project it was assumed that excavated dirt has 15 percent moisture content, and the wind speed is assumed to be 12 mph.

Typical emission rates for construction equipment were obtained from the 1993 CEQA Air Quality Handbook. These emission factors are presented in terms of pounds of pollutant per hour of equipment operation. It should be noted that most of these emission factors were initially published in 1985 in the EPA's AP-42 Compilation of Emission Factors. These factors have not been updated since their original publication. Several State and Federal regulations have been enacted since this time that requires reduced emissions from construction equipment. While the Project will adhere to these regulations, the effect of Project compliance is not included in the emission factors used to calculate construction equipment emissions presented below. The actual emissions from construction equipment, therefore, will likely be lower than presented below. However, the exact reduction cannot be precisely measured, because it would depend on the age of the specific equipment used at the construction site. As time passes, older equipment will be replaced with newer equipment manufactured with the lower emission requirements. The EPA is currently updating the section of AP-42 that presents emission factors for construction equipment. A publication date is unknown at this time. Emission rates for employee vehicle trips and heavy truck operations were taken from EMFAC2000 (Version 2.02). EMFAC2000 is a computer program generated by CARB that calculates composite emission rates for vehicles.

<u>Demolition</u>

The first phase of construction for the project will include the demolition of the remaining structures and asphalt paving on the Project site. Since the time of the NOP, the 29,400 sq. ft. retail structure has been demolished. Therefore, this analysis only considers the effects of the demolition of the movie theater, Glendon Manor and the remaining asphalt-paved parking lot on the southeast corner of Weyburn Avenue and Glendon Avenue. Based on information obtained from the Applicant, demolition is expected to occur for 30 working days over a 45 calendar-day period. This analysis estimates that equipment operating during the demolition period includes demolition equipment, three excavators, one-track loader, two skid steer loaders, and one crane. The analysis assures the equipment will operate ten hours per day (actual construction time will be less per day, see Section V.F., Noise). Utilizing semi-truck trailers with a capacity of 13 cubic yards, a total of 570 truck trips will be required to haul the debris away. A maximum of 20 trucks will operate one roundtrip each day. Trucks will haul debris to either Lopez Canyon or Bradley dumpsites with an approximate trip length for either site of 25 miles. It was assumed that there would be 15 vehicles traveling to and from the site each day and the average trip length for each vehicle is 20 miles. It was further assumed that the entire 4.2 -acre site would be disturbed by activity during the day.

Table V.B-6 sets forth the peak construction emissions for the demolition based on the estimates presented above. The data used to calculate the demolition emissions are shown in Appendix B. The data presented in Table V.B-6 shows that NOx (Nitrogen Oxides) pollutant emissions associated with the demolition phase of the Project are projected to be greater than the Significance Thresholds established by the SCAQMD in the CEQA Air Quality Handbook. The primary source of the NOx emissions is the construction equipment with the debris hauling trucks also contributing a substantial portion of the total NOx emissions. Demolition of the Proposed Project will result in a significant air quality impact, and mitigation is required.

Table V.B-6
Air Pollutant Emissions During Demolition

	Pollutant Emissions (lbs/day)				
	CO	**ROG**	**NOx**	**PM10**	**SOx**
Disturbance Activity	0.0	0.0	0.0	55.4	0.0
Demolition Debris	0.0	0.0	0.0	14.2	0.0
Construction Equipment	46.7	10.3	134.5	9.9	11.6
Debris Hauling Trucks	21.2	6.7	70.8	3.0	1.3
Employee Travel	18.8	1.3	2.2	0.1	0.1
Total Emissions	**86.7**	**18.2**	**207.4**	**82.6**	**13.0**
SCQAMD Thresholds	***550***	***75***	***100***	***150***	***150***

Excavation

Based on information obtained by the Project Applicant, excavation of the parking structure is expected to occur over a seven to eight month period. During the most active portion of the excavation, construction equipment operating on the site will include two excavators, two skip loaders and two backhoes operating for ten hours per day. Utilizing 90 double bottom dump trucks with a capacity of 14 cubic yards, up to 320 truck trips per day will leave the Project site. The total excavation quantity is estimated to be 330,000 cubic yards, with up to 38.7 tons of dirt leaving the site per day. The final dumpsite and haul route has not been selected at this time. The furthest possible site is the Terminal Island site in Long Beach, which represents a 30-mile trip. The closest possible site is the Playa Vista development in Marina del Rey, which represents a 10-mile trip (the Playa Vista development is seeking dirt for fill). The Terminal Island dump site was used as a worst case assumption. It was assumed that there would be 15 worker vehicles traveling to and from the site each day and the average trip length for each worker vehicle is 20 miles. It was further assumed that the entire 4.24 acre site would be disturbed by activity during the day.

Table V.B-7
Air Pollutant Emissions During Excavation

	Pollutant Emissions (lbs/day)				
	CO	**ROG**	**NOx**	**PM10**	**SOx**
Disturbance Activity	0.0	0.0	0.0	55.4	0.0
Truck Loading	0.0	0.0	0.0	5.1	0.0
Construction Equipment	55.7	11.4	126.9	10.6	11.4
Dirt Export Trucks	203.6	64.3	679.2	29.1	12.7
Employee Travel	25.0	1.7	2.9	0.1	0.1
Total Emissions	284.3	77.5	809.0	100.3	24.1
SCQAMD Thresholds	*550*	*75*	*100*	*150*	*150*

The data presented in **Table V.B-7** shows that NOx and ROG (Reactive Organic Gasses) pollutant emissions associated with the excavation of the Project are projected to be greater than the Significance Thresholds established by the SCAQMD in the CEQA Air Quality Handbook. The primary sources of the NOx and ROG emissions are the trucks exporting the dirt and the construction equipment. Excavation of the Proposed Project will result in a significant air quality impact and mitigation is required.

Utilizing the Playa Vista dump-site would reduce the ROG emissions to below the level of significance. In fact any dump site with a trip length of 29 miles our less would result in the ROG emissions below the threshold. However, NOx emissions associated with excavation would still exceed the significance thresholds for any dirt export trip length due to the construction equipment.

Operational Phase Impacts

Regional Air Quality

The primary source of regional emissions generated by the Proposed Project will be from motor vehicles. Other emissions will be generated from the combustion of natural gas for space heating and the generation of electricity. Emissions will also be generated by the use of natural gas and oil for the generation of electricity off-site.

The emission factors from version EMFAC2000 Version 2.02 (obtained from CARB)[1] were used to calculate the vehicular emissions. The EMFAC2000 emission factors for an average speed of 25 miles per hour were used for the modeling.

The data used to estimate the on-site combustion of natural gas, and off-site electrical usage are based on the proposed land uses in terms of dwelling units and square footages, and emission factors taken from the 1993 CEQA Handbook.

Additional pollutant emissions associated with the Project will be generated on-site by the combustion of natural gas for space heating and water heating and off-site due to electrical usage. There will be 350 apartment units, 61,000 sq. ft. of shopping center and 54,000 sq. ft. of shopping center. The square footages and emission factors utilized in calculating the emissions with these sources are provided in the appendix. The emissions are projected for 2020. The total Project emissions are presented in **Table V.B-8**.

Table V.B-8

Total Project Emissions

	Pollutant Emissions (lbs/day)				
	CO	**ROG**	**NOx**	**PM10**	**SOx**
Vehicular Trips	761.6	49.7	109.4	11.8	46.3
Natural Gas Consumption	1.1	0.3	4.9	0.0	0.0
Electrical Generation	3.1	0.2	17.7	0.6	1.8
Total Project Emissions	765.8	50.2	132.0	12.4	48.1

[1] This is an updated model over the one utilized in the previous (February 2002) Draft EIR for this Project.

The existing retail uses, cinema and apartments would continue to generate emissions on the Project site without the Project. The net increase in pollutants generated by the Project are determined by subtracting the emissions that would be generated in the future from the existing land uses, as shown in **Table V.B-9**. The gross total Project emissions are shown in the first row; the emissions from the existing uses are shown in the second row. The difference, which represents the net Project emissions are shown in the third row of Table V.B-9.

Table V.B-9

Net Project Emission Increases

	Pollutant Emissions (lbs/day)				
	CO	**ROG**	**NOx**	**PM10**	**SOx**
Gross Total Project Emissions	766	50	132	12	48
Emissions From Existing Uses	212	14	33	3	13
Net Project Emissions	554	36	99	9	35
SCQAMD Thresholds	*550*	*55*	*55*	*150*	*150*
See Air Quality Assessment in Appendix B for assumptions.					

Table V.B-9 indicates that the net Project emissions of CO and NOx are predicted to exceed the SCAQMD Thresholds. Therefore, the operation of the Project will result in a significant regional air quality impact. Mitigation must be provided and is discussed later in this section.

Local Air Quality

As discussed above, Carbon monoxide (CO) is the pollutant of major concern along roadways because motor vehicles are the most notable source of CO. For this reason, CO concentrations are usually indicative of the local air quality generated by a roadway network, and are used as an indicator of its impacts on local air quality. Local air quality impacts can be assessed by comparing future carbon monoxide levels with State and Federal carbon monoxide standards, and by comparing future CO concentrations with and without the Project. The Federal and State standards for carbon monoxide were presented in Table V.B-2, above.

Future carbon monoxide concentrations associated with the Proposed Project were forecasted with the CALINE4 computer model. CALINE4 is a fourth generation line source air quality model developed by the California Department of Transportation ("CALINE4," Report No. FHWA/CA/TL-84/15, June 1989). The purpose of the model is to forecast air quality impacts near transportation facilities in what is known as the “microscale region”, which encompasses the region a few thousand feet around the pollutant source. Given source strength, meteorology, site geometry, and site characteristics, the model can reliably predict pollutant concentrations.

With regard to meteorology, wind speed, stability class, directional characteristics, and temperature data used for the modeling are those recommended in the “Development of Worst Case Meteorology Criteria” (California Department of Transportation, June 1989). Other worst case model parameters were determined as recommended in the CALINE4 Manual. Emission factors for the arterials used with the CALINE4 computer model were calculated utilizing the EMFAC2000 program published by CARB. The emission factors from EMFAC2000 were used in the CALINE4 computer modeling.

The peak hour volumes and the level-of-service (LOS) data at the critical intersections are used in the CALINE4 computer modeling. The LOS data are important in the CALINE4 computer modeling because it determines the speeds used, which determines the emission factors. The lower the speeds, the higher the emission factors, and as a result, the higher the CO results. The worst-case (a.m. or p.m.) peak hour traffic was used for the CALINE4 computer modeling to ensure that the worst case scenario is modeled.

The peak traffic hour conditions result in the peak 1-hour CO concentration. According to the Caltrans Air Quality Technical Analysis Notes, changes in meteorology and traffic over time disperse CO and cause it to be less severe than the peak 1-hour concentration. Therefore, it is highly unlikely that the 1-hour CO levels would persist for a full eight hours. As a result, a 1-hour CO level is generally considered to be the peak level and is higher than an 8-hour CO level.

Eight-hour CO levels were projected using Caltrans methodology described in its "Transpiration Project-Level Carbon Monoxide Protocol". The method essentially uses a persistence factor that is multiplied by the 1-hour emission projections. The projected 8-hour ambient concentration is then added to the product. The persistence factor is estimated using the average of the ratio of 8-hour to 1-hour concentrations from the ten highest 8-hour carbon monoxide concentrations from the most recent three years that data is available. For the Project, a persistence factor of 0.77 was used. The data and results of the CALINE4 modeling are also provided in the appendix. (The CALINE4 CO emission results shown in the appendix do not include the ambient background CO levels.)

The future ambient (background) CO concentration levels were taken from documents posted on the SCAQMD web site (http://www.aqmd.gov/ceqa/hdbk.html accessed on October 10, 2002). The future background levels utilized are taken from the West Los Angeles Receptor Area, and they are 4.4 ppm for CO 1-hour level, and 2.8 ppm for 8-hour CO level.

The CALINE4 computer modeling results for the year 2006 are shown in Tables V.B-10 and V.B-11. This represents a worst case condition because vehicle emissions are projected to be lower in future years, but have not been reduced for purposes of this analysis. Except in the most extreme conditions the reduction emissions offset any increases in traffic volumes resulting in lower pollutant concentrations near intersections in future years.

Table V.B-10 shows the results of the 1-hour CO concentration modeling and Table V.B-11 shows the results of the 8-hour CO concentration modeling. The existing modeled concentrations are shown for reference in the first column of concentrations in the tables. The second column shows the modeled concentrations for the Future No Project scenario. That is, the future CO concentrations without the Project. The third column shows the concentrations with the Proposed Project. The pollutant levels are expressed in parts per million (ppm) for each receptor. The carbon monoxide levels reported in Tables V.B-10 and V.B-11 are composites of the background levels of carbon monoxide coming into the area plus those generated by the local roadways.

Table V.B-10
Worst Case Projections of 1-Hour Carbon Monoxide Concentrations-Year 2006

	1-Hour CO Concentration (ppm)		
Intersection	**Existing**	**Future No Project**	**Future With Project**
Veteran at Wilshire	11.7	8.7	8.8
Westwood at Lindbrook	9.4	7.1	7.2
Glendon and Tiverton at Lindbrook	8.8	6.6	7.6
State CO Concentration Standard	20	20	20
No. Greater Than Standard	0	0	0
The 1-hour CO concentrations include the ambient concentrations of 5.8 ppm for existing conditions and 4.4 ppm for future conditions.			

Table V.B-11
Worst Case Projections of 8-hour Carbon Monoxide Concentrations-Year 2006

	8-Hour CO Concentration (ppm)		
Intersection	**Existing**	**Future No Project**	**Future With Project**
Veteran at Wilshire	8.1	6.1	6.2
Westwood at Lindbrook	6.4	6.9	5.0
Glendon and Tiverton at Lindbrook	5.9	4.5	5.3
State CO Concentration Standard	9	9	9
No. Greater Than Standard	0	0	0
The 8-hour CO concentrations include the ambient concentrations of 3.6 ppm for existing conditions and 3.4 ppm for future conditions.			

Two conditions are required for a significant local air quality impact to occur. First, the CO concentrations with the Project must be shown to be above the 1-hour or 8-hour State standard. Second, the Project must significantly increase CO concentrations over future "No Project" conditions. SCAQMD criteria considers a 1 ppm increase in the 1-hour concentration or a 0.45 ppm increase in the 8-hour standard to be significant.

Tables V.B-10 and V.B-11 show that none of the receptors at either intersection are projected to exceed either the 1-hour or 8-hour state CO concentration standards in the future with the Project. Table V.B-10 shows that the future with Project 1-hour concentrations will be between 7.2 and 8.8 ppm, well below the 20 ppm concentration standard. Table V.B-11 shows that in the future with Project 8-hour concentrations will be between 5.0 and 6.2 ppm, well under the 9 ppm concentration standard. Therefore the first condition is not met for either the 1-hour or 8-hour standard.

The second condition, the Project's contribution to CO concentration compared to the future "No Project", was also evaluated. SCAQMD criteria considers a 1.0 ppm increase in the 1-hour concentration or a 0.45 ppm increase in the 8-hour concentration to be significant. As shown in Tables V.B-10 and V.B-11, future with Project CO concentrations at Veteran at Wilshire will be 0.1 ppm greater than the future without Project condition in both 1-hour and 8-hour projections. At Westwood at Lindbrook the future with Project 1-hour projection is 0.1 ppm greater, while the 8-hour projection is 1.9 ppm less than the future without Project projection. Both of these intersections are below the significance threshold. At Glendon and Tiverton at Lindbrook, the future with Project CO concentrations will be 1.0 ppm (1-hour) and 0.8 ppm (8-hour) greater than the future without Project concentrations. Therefore, the increases are at the threshold for 1-hour averaging time and above the threshold for 8-hour averaging time. However as indicated above, the future concentrations are projected to be well below the CO concentration and the first condition of significance is not satisfied. Therefore the Project will not result in a significant CO concentration increase and does not result in a significant local CO air quality impact.

Consistency with Regional Air Quality Policies

An EIR must discuss any inconsistencies between the Proposed Project and applicable General Plans and regional plans (CEQA Guidelines Section 15125). Regional plans that apply to the Proposed Project include the AQMP. In this regard, this section will discuss any inconsistencies between the Proposed Project and the AQMP.

The purpose of the consistency discussion is to set forth the issues regarding consistency with the assumptions and objectives of the AQMP and discuss whether the Project would interfere with the region's ability to comply with Federal and State air quality standards. If the decision-maker determines that the Project is inconsistent, the lead agency may consider Project modifications or inclusion of mitigation to eliminate the inconsistency.

The SCAQMD's CEQA Handbook states "New or amended General Plan Elements (including land use zoning and density amendments), Specific Plans, and significant projects must be analyzed for consistency with the AQMP." Strict consistency with all aspects of the plan is usually not required. A Proposed Project should be considered to be consistent with the plan if it furthers one or more policies and does not obstruct other policies. The Handbook identifies two key indicators of consistency:

(1) Whether the project will result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP (except as provided for CO in Section 9.4 for relocating CO hot spots).

(2) Whether the project will exceed the assumptions in the AQMP in 2010 or increments based on the year of project buildout and phase.

Both of these criteria are evaluated in the following sections.

<u>Criterion 1 - Increase in the Frequency or Severity of Violations</u>

Based on the air quality modeling analysis contained in this report, it is expected that there will be short-term construction and long-term operational impacts for the project. While emissions will be generated in excess of SCAQMD's threshold criteria, it is unlikely that short-term construction activities will increase the frequency or severity of existing air quality violations due to required compliance with SCAQMD Rules and Regulations. The analysis showed that local pollutant concentrations are not projected to exceed any of the air quality standards.

The proposed project is not projected to contribute to the exceedence of any air pollutant concentration standards, thus the project is found to be consistent with the AQMP for the first criterion.

Criterion 2 - Exceed Assumptions in the AQMP

Consistency with the AQMP assumptions is determined by performing an analysis of the Project with the assumptions in the AQMP. Thus, the emphasis of this criterion is to insure that the analyses conducted for the Project are based on the same forecasts as the AQMP. The Regional Comprehensive Plan and Guide (RCPG) consists of three sections: Core Chapters, Ancillary Chapters, and Bridge Chapters. The Growth Management, Regional Mobility, Air Quality, Water Quality, and Hazardous Waste Management chapters constitute the Core Chapters of the document. These chapters currently respond directly to Federal and State requirements placed on SCAG. Local governments are required to use these as the basis of their plans for purposes of consistency with applicable regional plans under CEQA.

The AQMP assumptions are based upon projections from local general plans. Accordingly, projects that are consistent with the local general plan are also consistent with the AQMP assumptions. The Proposed Project is generally consistent with the General Plan, the Westwood Community Plan and (in terms of land use) with the Westwood Village Specific Plan. None of the requested amendments to the Specific Plan relate to issues that would affect air quality emissions generated by the Project, and the Project as a whole would not exceed the overall permitted FAR averaged over the entire Project site. Therefore, the second criterion is met for consistency with the AQMP.

Mitigation Measures

Construction Phase Mitigation

NOx emissions associated with the demolition and excavation phases of the Project were shown to exceed the threshold of significance. In addition, ROG emissions associated with excavation of the Project site were shown to exceed the threshold of significance.

Required Construction Phase Mitigation

The following mitigation measures are required by the SCAQMD unless they can be shown to be infeasible and are intended to reduce pollutant emissions from construction activities.

1. Use low emission mobile construction equipment, where feasible.
2. Develop a trip reduction plan to achieve a 1.5 average vehicle ridership (AVR) for construction employees.
3. Water site and clean equipment morning and evening to comply with AQMP Fugitive Dust Measure BCM-03 and BCM-06.
4. Wash off trucks leaving the site to comply with AQMP Fugitive Dust Measure BCM-01. This suggested measure is already required by the SCAQMD.
5. Spread soil binders on site, unpaved roads and parking areas per SCAQMD Rule 403.
6. Apply chemical soil stabilizers according to manufacturer's specifications to all inactive construction areas (previously graded areas, which remain inactive for 96 hours).
7. Sweep streets if silt is carried over to adjacent public thoroughfares.
8. Reduce traffic speeds on all unpaved road surfaces to 15 miles per hour or less.
9. Suspend grading operations during first and second stage smog alerts.

10. Suspend all grading operations when wind speeds (as instantaneous gusts) exceed 25 miles per hour.
11. Maintain construction equipment engines by keeping them tuned.
12. Use low sulfur fuel for stationary construction equipment, as required by SCAQMD rules 431.1 and 431.2.
13. Provide on-site power sources during the early stages of the Project.
14. Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators.
15. Use low emission on-site stationary equipment (e.g., clean fuels).
16. Configure construction parking to minimize traffic interference.
17. Minimize obstruction of through-traffic lanes.
18. Provide a flagperson to properly guide traffic and ensure safety at construction sites.
19. Schedule operations affecting traffic for off-peak hours, where feasible.
20. Develop a traffic plan to minimize traffic flow interference from construction activities (the plan may include advance public notice of routing, use of public transportation and satellite parking areas with a shuttle service).
21. Provide rideshare and transit incentives for construction personnel.

Rejected Mitigation

The following measures are recommended for consideration by the SCAQMD, but have been rejected because of inapplicability to this project or because they will have an improbable or negative impact upon construction emissions. The measures are underlined in the following paragraphs and the reasons for rejection follow each measure.

Implement or contribute to an urban tree-planting program to offset the loss of existing trees at the construction site. The idea that such a measure would have significant air quality benefits is of dubious origin. Quantification of this suggested mitigation is clearly impossible. It is, of course, not feasible to determine the air quality benefit of any trees that might exist in a particular location. The quantification of the air quality impacts of the removal of trees is similarly infeasible. Determining the air quality benefit of planting "replacement" trees is, as one would expect, infeasible also.

Schedule goods movements for off-peak hours. As with a number of the previous measures, this measure is recommended, but the air quality benefits are unquantifiable because it seeks to avoid the creation of an impact, rather than mitigate an impact.

Employ construction activity management techniques, such as: extending the construction period; reducing the number of pieces of equipment used simultaneously; increasing the distance between the emission sources; reducing or changing the hours of construction; and scheduling activity during off-peak hours. If this measure is implemented, the timetable for the project’s construction period would be lengthened. This would probably reduce the amount of emissions per day generated by the construction activities, but by an unquantifiable (and probably minimal) amount. The total emissions generated by the construction of the project, however, would not be reduced (and could, in fact, be increased). There is no ultimate benefit to the implementation of this measure. This measure could, in fact, have a detrimental impact upon regional air quality because lengthening construction periods will increase the likelihood that a greater number of construction projects will occur simultaneously in the basin. If this is the case, emissions per day from construction projects could be greater than under conditions where this measure is not implemented.

Require a phased schedule for construction activities to minimize emissions. This measure would, presumably, extend the construction period, which would, in turn, lessen the average daily emissions from grading activities. It is impossible to determine the air quality benefit of such a plan without specific details. Note that it is very possible that this measure could have no air quality benefit or even a negative impact on air quality. A longer construction period could cause a graded area to be left exposed to the effects of wind erosion for a longer period of time. As a result, particulate emissions generated by the project could increase overall. Also, additional fossil fuel combustion emissions would probably occur from the implementation of this measure because construction personnel would have to make more trips to the site and watering trucks would have to operate on the site for a lengthened period.

Reestablish ground cover on construction site through seeding and watering on portions of the site that will not be disturbed for lengthy periods (such as two months or more). There are no areas of the site that are not expected to be disturbed for lengthy periods. Almost the complete project area will be excavated for the subterranean parking.

Operational Phase Mitigation

<u>Regional Emissions</u>

Recommended Measures

The most significant reductions in regional and local air pollutant emissions are attainable through programs which reduce the vehicular travel associated with the project. Support and compliance with the AQMP for the basin is the most important measure to achieve this goal. The AQMP includes improvement of mass transit facilities and implementation of vehicular usage reduction programs. Additionally, energy conservation measures are included. None of these recommended measures are strictly required by SCAQMD. However, SCAQMD wants to see all relevant measures applied.

<u>TDM Measures</u>

22. Schedule truck deliveries and pickups during off-peak hour. This will alleviate traffic congestion, and therefore, emissions during the peak hour. However, the quantity of the reduction is unknown.
23. Provide adequate ingress and egress at all entrances to public facilities to minimize vehicle idling at curbsides. Presumably, this measure would improve traffic flow into and out of the parking lot. The air quality benefits are incalculable because more specific data is required.

24. Provide dedicated turn lanes as appropriate and provide roadway improvements at heavily congested roadways. Again, the areas where this measure would be applicable are the intersections in and near the project area. Presumably, these measures would improve traffic flow. Emissions would drop as a result of the higher traffic speeds, but to an unknown extent.

25. Provide on-site services. Provide incentives such as on-site ATMs and other similar measures that address lifestyle needs. These measures reduce the VMT, but the air quality benefit can not be quantified because more specific data is required

Energy Efficiency Measures

26. Improve thermal integrity of the buildings and reduce thermal load with automated time clocks or occupant sensors. Reducing the need to heat or cool structures by improving thermal integrity will result in a reduced expenditure of energy and a reduction in pollutant emissions. The air quality benefit depends upon the extent of the reduction of energy expenditure which is unknown in this case. The air quality benefit is also unknown, therefore.
27. Install energy efficient street lighting. Implementation of this measure is not feasible because of varying definitions of the phrase "energy efficient."

28. Capture waste heat and reemploy it in nonresidential buildings. This measure is applicable to the commercial buildings in the project.

29. Provide lighter color roofing and road materials and tree planning programs to comply with the AQMP Miscellaneous Sources MSC-01 measure. This measure reduces the need for cooling energy in the summer.

30. Comply with the AQMP Miscellaneous Sources PRC-03, and Stationary Sources Operations Enhanced Inspection and Maintenance and ADV-MISC to reduce emissions of restaurant operations. Introduce efficient heating and other appliances, such as water heaters, cooking equipment, refrigerators, furnaces and boiler units. Also, incorporate appropriate passive solar design, and solar heaters. This measure is intended to reduce VOC and PM10 emissions.

31. Provide local shuttle and transit shelters, and ridematching services. This measure is recommended, but no information is available regarding its effectiveness in improving air quality. Such a program might reduce the VMT associated with the project. No evidence is available that VMT will be reduced by any significant amount, however.

32. Provide bicycle lanes, storage areas, and amenities, and ensure efficient parking management. This measure includes implementing the formation of bike clubs and providing additional bike racks, lockers, showers, bike repair areas, and loaner bikes. Also, provide lockers, showers, safe walk path maps, walk clubs and free walking shoes. These measures are necessary, but no data is available regarding the effectiveness of this package of measures. Quantification of air quality benefits is not possible because of this fact.
33. Provide preferential parking to high occupancy vehicles and shuttle services. Also, designate additional car pool or vanpool parking. The air quality benefit cannot be quantified.
34. Employers should provide variable work hours and telecommuting to employees to comply with the AQMP Advanced Transportation Technology ATT-01 and ATT-02 measures. These measures allow employees to have compressed workweeks, flextime, staggered work hours, or work out of their homes. The air quality benefit cannot be quantified.

35. Provide dedicated parking spaces with electrical outlets for electrical vehicles. This measure would accommodate electric car charging if any electric cars are driven by employees or customers. The air quality benefit depends upon the number of employees driving electric cars which is unknown in this case. The air quality benefit is also unknown.

36. Develop a trip reduction plan to comply with SCAQMD Rule 2202. SCAQMD Rule 2202 has revamped the requirements for carpooling. In general, mandatory carpooling is no longer required. Compliance with Rule 2202 will be mandatory.

37. Employers should provide ridematching, guaranteed ride home, or car pool or vanpool to employees as a part of the TDM program and to comply with the AQMP Transportation Improvements TCM-01 measure. These services reduce the VMT, however, the air quality benefit cannot be quantified because more specific data is required.

38. Employers should provide compensation, prizes or awards to ridesharers. These measures include subsidizing costs or provide compensation to employees who carpool and vanpool.

39. Synchronize traffic signals. The areas where this measure would be applicable are roadway intersections within the project area. This measure would be more effective if the roadways beyond the project limits are synchronized as well. The air quality benefits are incalculable because more specific data is required.

40. Encourage the use of alternative fuel or low emission vehicles to comply with the AQMP On-Road Mobile M2 measure, and Off-Road Mobile Sources M9 and M10 measures. The technology required for this measure is slow in progress, and may not be practically applied to the project at this time. The air quality benefits are incalculable because more specific data is required.

41. Introduce window glazing, wall insulation, and efficient ventilation methods. The construction of buildings with features that minimize energy use is already required by the Uniform Building Code.

Measures Considered but Rejected

The following non-construction measures are recommended for consideration by the SCAQMD, but have been rejected because of inapplicability to this project or because they will have an improbable or negative impact upon non-construction emissions. The measures are underlined in the following paragraphs and the reason or reasons for rejection follow each measure.

Provide incentives for solid waste recycling. While an effective measure for reduction in solid waste impacts, the measure was not selected as an air quality mitigation measure. Although sometimes recommended for the mitigation of project air quality impacts, the connection between solid waste recycling and air quality is a tenuous one at best. There will be no air quality benefit resulting from the encouragement or coercion to recycle solid waste. Provisions of AB 939 are still relative as a required waste reduction measure.

Implement energy conservation measures beyond state and local requirements. This measure is simply too vague to be implemented.

Use devices that minimize the combustion of fossil fuels. This is another measure that is lacking specifics, such as a definition for the terms "devices" and "minimize."

Landscape with native drought-resistant species to reduce water consumption and to provide passive solar benefits. The connection between reducing water consumption and improving air quality is non-existent in the context of this analysis. A measure designed to reduce water consumption has no place in an air quality mitigation package. The assertion that such vegetation would provide "passive solar benefits" is false because drought resistant vegetation lacks both the height and the fullness to shade the building structures. No air quality benefit will occur as a result of the implementation of this measure.

Local Air Quality

Because local pollutant concentrations are not projected to exceed any of the air quality standards, because the Project complies with applicable local air quality requirements, and based on a qualitative analysis of local air quality impacts, the Project will not result in a significant local CO air quality impact. No mitigation is required.

Cumulative Impacts

Cumulative Construction Impacts

Of the projects noted in the related projects table (Chapter IV, Table IV-1), none are anticipated to be close enough to, or on a similar schedule with, the Project to create significant cumulative construction air quality impacts. The AQMP anticipates growth and associated construction in the region, consistent with SCAG projections. Each Project must be evaluated for the need for CEQA analysis, and mitigation measures applied to reduce impacts, where appropriate. Additionally, construction impacts are temporary in nature. No significant cumulative air quality impact is anticipated.

Cumulative Operational Impacts

Related future projects that are included in the adopted plans would be included in SCAQMD projections for the region and that individual projects will be reviewed for impacts and mitigation measures required, where possible and applicable. Where related projects propose plan amendments, environmental documentation will be required to assess impacts and mitigation. Further, the SCAQMP, and continuing updates of that plan, are required to include air emission reduction strategies for the basin (such as increased stationary source emission controls, improved vehicle emission standards, transportation alternatives, etc.). These, in concert with individual project mitigation measures will help reduce impacts. However, until the Basin as a whole attains all federal and state EPA standards, which is not anticipated to occur until 2010, cumulative air quality impacts are deemed significant.

Significant Project Impacts After Mitigation

The analysis indicates that project emissions from construction activities will exceed the SCAQMD's Thresholds of Significance for NOx during demolition and for NOx and ROG. Mitigation will reduce emissions, but not to the point that they will fall under the SCAQMD's thresholds. Therefore, demolition emissions of NOx and excavation emissions of NOx and ROG will exceed the SCAQMD thresholds even after mitigation, and construction impacts will remain significant.

The analysis also indicates that emissions associated with the project during operation will exceed the SCAQMD's Thresholds of Significance for CO and NOx. Mitigation will reduce emissions, but not to the point that they will fall under the SCAQMD's thresholds. Therefore, operation of the Project will generate emissions of CO and NOx that will exceed the SCAQMD thresholds even after mitigation, and operational impacts will remain significant.