V. ENVIRONMENTAL IMPACT ANALYSIS
B. AIR QUALITY

ENVIRONMENTAL SETTING

Regulatory Setting

Federal Clean Air Act

Air quality in the United States is governed by the Federal Clean Air Act (CAA). The CAA is administered by the United States Environmental Protection Agency (USEPA). The CAA and its subsequent amendments provide the framework for all pertinent organizations to protect air quality.[1] The USEPA's principal responsibilities under the CAA, as amended in 1990, include:

- setting National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to the public health and environment;
- ensuring the air quality standards are met or attained (in cooperation with the States) through national standards and strategies to control air emission standards from sources;
- ensuring the sources of toxic air pollutants are well controlled; and
- monitoring the effectiveness of the program.

In administering the CAA, the USEPA has set national air quality standards for six common pollutants (also referred to as "criteria" pollutants). These pollutants include carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable particulate matter (PM_{10}), and lead (Pb). A summary of these criteria pollutants and their adverse health effects is provided below:

Carbon Monoxide (CO)

Carbon monoxide (CO) is a colorless and odorless gas. CO interferes with the transfer of oxygen to the brain and can cause dizziness, fatigue, and can impair central nervous system functions. CO is emitted almost exclusively from the incomplete combustion of fossil fuels. In urban areas, CO is emitted by motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. Automobile exhausts release most of the CO in urban areas. CO is a non-reactive air pollutant that dissipates relatively quickly, so ambient concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are

[1] *The Clean Air Act was first enacted in 1955 and was subsequently amended in 1963, 1965, 1967, 1970, 1977, and 1990.*

influenced by local meteorological conditions—primarily wind speed, topography, and atmospheric stability.

Ozone (O_3)

Ozone is a colorless toxic gas and is the chief component of urban smog. Ozone enters the blood stream and interferes with the transfer of oxygen, depriving sensitive tissues in the heart and brain of oxygen. It also inhibits the growth of vegetation. Although ozone is not directly emitted, it forms in the atmosphere through a chemical reaction between reactive organic gas (ROG) and nitrogen oxides (NO_x) under sunlight. Ozone is present in relatively high concentrations within the South Coast Air Basin, and the damaging effects of photochemical smog are generally related to the concentration of ozone. Meteorology and terrain play major roles in ozone formation. Ideal conditions occur during summer and early autumn, on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. The greatest source of smog-producing gases is the automobile.

Nitrogen Dioxide (NO_2)

Nitrogen dioxide is a brownish gas that is formed through a reaction between nitric oxide (NO) and atmospheric oxygen. NO_2 irritates the lungs and can cause breathing difficulties at high concentrations. NO and NO_2 are collectively referred to as nitrogen oxides (NO_x) and are major contributors to ozone formation. NO_2 also contributes to the formation of particulate matter (see discussion below). At atmospheric concentration, NO_2 is only potentially irritating. In high concentrations, however, the result is 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).

Sulfur Dioxide (SO_2)

Sulfur dioxide (SO_2) is a product of high-sulfur fuel combustion. Main sources of SO_2 are coal and oil used in power stations, in industries, and for 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 cause plant leaves to turn yellow, and can erode iron and steel. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels. SO_2 concentrations have been reduced to levels well below the state and national standards, but further reductions in emissions are needed to attain compliance with standards for sulfates and PM_{10}, of which SO_2 is a contributor.

Suspended Particulate Matter (PM_{10} and $PM_{2.5}$)

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 gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. PM_{10} and $PM_{2.5}$ represent fractions of particulate matter. Respirable particulate matter (PM_{10}) refers to particulate matter less than 10 microns in diameter. Fine particulate matter ($PM_{2.5}$) refers to particulate matter that is 2.5 microns or less in diameter. Major sources of PM_{10} include motor vehicles; 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. $PM_{2.5}$ results from fuel combustion (from motor vehicles, power generation, industrial facilities), residential fireplaces, and wood stoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur dioxide, nitrogen oxides, and volatile organic compounds. PM_{10} and $PM_{2.5}$ 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_{10} and $PM_{2.5}$ 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. Suspended particulates also damage and discolor surfaces on which they settle, as well as produce haze and reduce regional visibility.

Lead (Pb)

Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been motor vehicles (such as cars and trucks) and industrial sources. Due to the phase-out of leaded gasoline, metals processing is the major source of lead emissions to the air today. The South Coast Air Basin is currently in compliance with the state and federal standards for lead. Thus, it is not analyzed in this EIR.

The sections of the CAA that most apply to the Proposed Project include Title I (Non-Attainment Provisions) and Title II (Mobile Source Provisions). Title I provisions were established with the goal of attaining the National Ambient Air Quality Standards for the above-mentioned criteria pollutants. The CAA established two types of National Ambient Air Quality Standards: "Primary" standards, which are designed to establish limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly; and "Secondary" standards, which set limits to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. The Ambient Air Quality Standards are included in Table V.B-1. Title II Provisions were established with the goal of regulating mobile source emissions. These provisions require the use of cleaner-burning gasoline and other cleaner-burning fuels such as methanol and natural gas.

Table V.B-1
Ambient Air Quality Standards

Air Pollutant	State Standard	National Standards		Health Effect
		Primary	Secondary	
Ozone (O_3)	0.09 ppm, 1-hr. avg.	0.12 ppm, 1-hr. avg. 0.08 ppm, 8-hr. avg.	0.12 ppm, 1-hr. avg. 0.08 ppm, 8-hr. avg.	Aggravation of respiratory and cardiovascular diseases; impairment of cardiopulmonary function
Carbon Monoxide (CO)	9.0 ppm, 8-hr. avg. 20 ppm. 1-hr. avg.	9 ppm, 8-hr. avg. 35 ppm, 1-hr. avg.	None	Aggravation of respiratory diseases (asthma, emphysema)
Nitrogen Dioxide (NO_2)	0.25 ppm, 1-hr. avg.	0.0534 ppm, annual avg.	0.0534 ppm, annual avg.	Aggravation of respiratory illness
Sulfur Dioxide (SO_2)	.25 ppm 1-hr. 0.04 ppm, 24-hr. avg.	0.03 ppm, annual avg. 0.14 ppm, 24-hr. avg.	0.50 ppm, 3-hr. avg.	Aggravation of respiratory diseases (asthma, emphysema)
Respirable Particulate Matter (PM_{10})	50 g/m^3, 24-hr. avg. 20 g/m^3 AGM[1]	150 g/m^3, 24-hr. avg. 50 g/m^3 AAM	150 g/m^3, 24-hr. avg.; 50 g/m^3 AAM	Increased cough and chest discomfort; reduced lung function; aggravation of respiratory and cardio-respiratory diseases
Fine Particulate Matter ($PM_{2.5}$)	No 24-hr, State std. 12 g/m^3 AGM[1]	65 g/m^3, 24-hr. avg. 15 g/m^3 AAM	65 g/m^3, 24-hr. avg. 15 g/m^3 AAM	
Sulfates (SO_4^{2-})	25 g/m^3, 24-hr. avg.	--	--	Increased morbidity and mortality in conjunction with other pollutants
Lead (Pb)	1.5 g/m^3, monthly avg.	1.5 g/m^3, calendar quarter	1.5 g/m^3	Impairment of blood and nerve function; behavioral and hearing problems in children
Hydrogen Sulfide (H_2S)	0.03 ppm, 1-hr. avg.	--	--	Toxic at very high concentrations
Vinyl Chloride	0.010 ppm, 24-hr. avg.	--	--	Carcinogenic
Visibility-Reducing Particles	In sufficient amount to reduce prevailing visibility to less than 10 miles at relative humidity less than 70%, 1 observation	--	--	--

[a] *Will become effective after approval by the Office of Administrative Law, expected in May 2003.*

Notes:
ppm = parts per million by volume
g/m^3 = micrograms per cubic meter
AAM = annual arithmetic mean
AGM = annual geometric mean
Source: California Air Resources Board, March 2003.

California Clean Air Act

In addition to being subject to the requirements of the CAA, air quality in California is governed by more stringent regulations under the California Clean Air Act (CCAA). The CCAA is administered by the California Air Resources Board (CARB) at the state level and by the Air Quality Management Districts at the regional and local levels. The CARB divides the State into air basins that share similar meteorological and topographical features. The City of Los Angeles is in the South Coast Air Basin (SCAB), a 6,600-square-mile area comprised of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The SCAB's climate and topography are highly conducive to the formation and transport of air pollution. Peak ozone concentrations in the SCAB over the last two decades have occurred at the base of the mountains around Azusa and Glendora in Los Angeles County and at Crestline in the mountains above the City of San Bernardino. Both peak ozone concentrations and the number of days the standards were exceeded decreased everywhere in the SCAB throughout the 1990s. Carbon monoxide concentrations also dropped significantly throughout the SCAB as a result of strict new emission controls and reformulated gasoline sold in winter months.

Regional Conditions

The South Coast Air Quality Management District (SCAQMD) has divided the South Coast Air Basin into 37 Source Receptor Areas, each area is represented by data collected at an air quality monitoring station operated by the SCAQMD. The Coliseum is located within Source Receptor Area Number 1 (Central Los Angeles). This Receptor Area covers approximately 110 square miles and is roughly bounded by Mulholland Drive on the north, the Long Beach Freeway (Interstate 710) on the east, Slauson Avenue on the south and La Cienega Boulevard on the west. The monitoring station for the area is located at 1630 North Main Street. This location is approximately five miles northeast of the Coliseum.

Air quality concerns in the South Coast Basin typically focus on changes in concentration levels of CO, NO_2, SO_2, particulates (PM_{10}), and reactive organic gases (ROG). Potential changes in carbon monoxide levels are one of the best relative indicators of potential air quality impacts because carbon monoxide is the pollutant that is most sensitive to mobile sources such as vehicular traffic. Worst-case carbon monoxide concentrations typically occur at night and during early morning hours during the fall and winter when temperature inversions trap carbon monoxide close to the ground. As the sun warms, the inversion dissipates and the carbon monoxide can disperse. Events at the Coliseum typically occur in the afternoon or evenings. Thus, there is generally no time when Coliseum events would occur simultaneously with worst-case meteorological conditions that contribute to the highest carbon monoxide concentrations. In addition, the highest attendance Coliseum events (USC football games) typically occur on weekends. According to sample daily pollution indices prepared by the SCAQMD, carbon monoxide concentrations on Saturdays and Sundays for the Los Angeles area are about 75 percent of weekday concentrations.

Historical air quality monitoring data from the North Main Street station are shown in Table V.B-2. As indicated in this table, the highest carbon monoxide concentration recorded in 2001 was 6 parts per million (ppm) for the one-hour period and 4.57 ppm for the 8-hour period. The eight-hour federal standard of 9.5 ppm and state standard of 9 ppm were not exceeded at all in the year 2001. Monitoring data for 2001 recorded for other pollutants show that the state ozone standard was exceeded eight days. The particulate (PM_{10}) standard was exceeded 20 days in 2001.

Local Meteorology

Near downtown Los Angeles, winds blow primarily from the southwest (30%) and south (13%), with lower frequencies for adjacent wind sectors (about 10% for west and for southeast, and about 8% for east), and still lower frequencies for opposing wind sectors (5% each for northwest and for north). Nocturnal drainage winds, especially in the cooler months, blow from the northeast, as do the occasional Santa Ana winds. The strongest average winds are from the west-southwest (7.7 miles per hour (mph), annual average) and southwest (6.9 mph), except during strong occasional Santa Anas, the lightest winds are normally from the north-northeast (3.6 mph).[2]

Sensitive Receptors

For purposes of this air quality impact assessment, air quality-sensitive locations are defined as areas where people may be exposed to pollution concentrations over a relatively long period of time prior to and following an event at the Coliseum. Identified sensitive receptors near the Project Site include:

- The Child Care Center and Senior Center at the Exposition Park Intergenerational Community Center;
- Passive recreational and open space areas in Exposition Park north and east of the Coliseum;
- Los Angeles County and State Museums in Exposition Park, including the Rose Garden;
- Multi-family housing located on the east side of Figueroa Street north of 39th Street;
- Multi-family housing located on the south side of Martin Luther King Jr. Boulevard between Figueroa Street and Menlo Avenue;
- Multi-family housing located on the south side of Martin Luther King Jr. Boulevard between Menlo Avenue and Vermont Avenue;

[2] *Meteorological data taken from California Department of Water Resources, 1978, Winds in California, Central Los Angeles SCAQMD Monitoring Station, 1956-76.*

Table V.B-2
Air Quality Data Source Receptor Area 1- North Main Street Monitoring Station

Pollutant	California Standard (ppm)[a]	National Standard (ppm)	Year	Maximum	Days State Standard Exceeded
Ozone	0.09 (1 hour)	0.12 (1 hour)	1998 1999 2000 2001	0.15 0.13 0.14 0.116	17 13 8 8
Particulate (PM_{10})[b]	50 g/m^3 [c] (24 hours)	150 g/m^3 (24 hours)	1998 1999 2000 2001	126 88 80 97	- 19 15 20
Total Suspended Particulate[d]	No State Standard	150 g/m^3 (24 hours) 260 g/m^3 (24 hours)	1998 1999 2000 2001	80 138 127 131	10 - - -
Carbon Monoxide	20 ppm (1 hour)	35 ppm (1 hour)	1998 1999 2000 2001	8 0.13 7 6	0 13 0 0
Carbon Monoxide	9.0 ppm (8 hours)	9.0 ppm (8 hours)	1998 1999 2000 2001	6.1 0.11 6 4.57	0 13 0 0
Nitrogen Dioxide	0.25 ppm (1 hour)	0.0534 ppm (annual average)	1998 1999 2000 2001	0.17 0.21 0.16 0.14	0 0 0 -
Sulfate	25 g/m^3	No Federal Standard	1998 1999 2000 2001	10.6 17.9 16.4 15.9	0 0 0 0
Lead	1.5 g/m^3 (monthly average)	1.5 (quarterly average)	1998 1999 2000 2001	0.06 0.13 0.06 0.06	0 - - -

[a] *Parts per million.*

[b] *Particulate standard for California was changed in 1984 to include only matter with an aerodynamic diameter of 10 micrometers or less (PM10). There was no State standard before 1987 for PM10.*

[c] *Micrograms per cubic meter.*

[d] *State standard for 1984 was 100 g/m^3. For the federal standard the first number refers to the 150 g/m^3 standard and the second number refers to the 260 g/m^3 standard.*

Source: South Coast Air Quality Management District, Air Quality Data, 1998-2001.

- USC Parkside Dormitories located on the north side of Exposition Boulevard near Vermont Avenue;

- The Los Angeles Child Guidance Center on the west side of Vermont between 39th Street and 38th Street.

Existing Coliseum-Related Emissions

A key characteristic of the Coliseum is that it generates a substantial number of vehicle trips on an average of 34 days a year that generates high levels of traffic congestion for short periods prior to and following events. The attendance level and associated vehicle trips generated by specific Coliseum events varies significantly from an average of approximately 8,000 for relatively small special events to approximately 87,944 for USC football games. Due to the broad and uncertain range of events that can be held at the Coliseum it is impossible to accurately estimate the level of daily air pollution associated with existing or future Coliseum operations with any degree of certainty. This task is further complicated by the fact that the SCAQMD's CEQA thresholds are based on daily emission rates, which do not accurately assess the true air quality impacts of a regional entertainment venue such as the Coliseum. Theoretically, an assessment of the worst-case air pollution impacts of a Coliseum event would be based on the maximum seating capacity for the venue. In this regard, the Proposed Project would result in a net beneficial air quality impact as the Proposed Project would decrease the maximum seating capacity of the Coliseum by approximately 14,500 seats. Based on a conservative average vehicle occupancy (AVO) of 2.7, the Proposed Project would decrease the amount of traffic that would be generated by a sold out event by approximately 5,370 vehicles. This would result in a decrease in the amount of air pollution emissions that would be generated for any single event. This methodology, however, does not account for the increased air emissions that would be generated by an increase in the number of events scheduled throughout any given year. It also does not account for the fact that the attendance levels at the Coliseum have rarely approached the current maximum capacity.

To provide a representative estimate of the amount of air pollution that would be generated under the Proposed Project, Table V.B-3 provides an estimate of daily pollutant emissions for two scenarios, (1) an event reaching the maximum capacity of 92,500 persons, and (2) an event with an average football event attendance level of approximately 48,775 persons. For all pollutants, the projected air pollutant emissions associated with existing operations exceed SCAQMD threshold criteria levels, (see Thresholds of Significance, below).

Table V.B-3
Existing Coliseum Mobile Emissions By Event Type

Event Profile	Pollutant Emissions [a] (lbs/day)				
	ROG	NO_X	CO	SO_2	PM_{10}
92,500 (max. seating capacity)	2,025.09	309.66	3,378.68	2.63	241.74
48,775 (Ave. attendance for current USC Football games)	1,066.20	161.11	1,757.81	1.37	125.77

[a] *Emissions calculated by the California Air Resources Board's Urbemis 2002 Microcomputer model. Model assumed an average 35 mile round trip for event patrons. Trip generation assumed to be 0.296 trips per seat.*

Source: Christopher A. Joseph & Associates, 2003.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

Appendix G of the California CEQA Guidelines offers the following five tests of air quality impact significance. A project would have a potentially significant impact if it:

a) Conflicts with or obstructs implementation of the applicable air quality plan,

b) Violates any air quality standard or contributes substantially to an existing or projected air quality violation,

c) Results in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors),

d) Exposes sensitive receptors to substantial pollutant concentrations,

e) Creates objectionable odors affecting a substantial number of people.

Air quality impacts are considered significant if they cause clean air standards to be violated where they are currently met, or if they measurably contribute to an existing violation of standards. Any substantial emission of air contaminants for which there is no safe exposure, or nuisance emissions such as dust or odors, would also be considered a significant impact.

Many pollutants require further chemical transformation before they reach their most harmful form. Impact quantification on a single-project basis is therefore not feasible. To overcome this difficulty, the SCAQMD has designated significant emissions levels as surrogates for evaluating impact significance

Table V.B-4
SCAQMD Emissions Significance Thresholds (lbs/day)

Pollutant	Construction	Operation
ROG	75	55
NOx	100	55
CO	550	550
SOx	150	150
PM_{10}	150	150

Source: SCAQMD CEQA Air Quality Handbook, November, 1993 Rev.

independent of chemical transformation processes. As shown in Table V.B-4, projects in the SCAB with daily emissions that exceed any of the following emission thresholds are recommended by the SCAQMD to be considered significant. These threshold levels have been used in analyzing the air quality impact of the Proposed Project's implementation.

Project Impacts

Construction Emissions

Construction-related air quality emissions would be generally concentrated during the initial 18-20 months of construction. Construction of the Proposed Project would generate pollution emissions from the following activities: (1) demolition activities; (2) grading operations; (3) travel by construction workers to and from the Project Site; (4) delivery and hauling of construction materials and supplies to and from the Project Site; (5) fuel combustion from on-site construction equipment; and (6) the application of architectural coatings and other building materials that release reactive organic compounds (ROC).

Site preparation, clearing, grading, excavation and heavy equipment/truck use on unpaved surfaces would create large quantities of dust during the construction process. Earthwork would be required with respect to changes to the playing field, and the replacement of seating currently constructed on engineered earthberms. The SCAQMD, in its 1993 "CEQA Air Quality Handbook," estimates daily PM_{10} emissions during construction to be 26.4 pounds per day per acre (lbs/day/acre) disturbed when standard dust control procedures required by SCAQMD Rule 403 are used. Rule 403 was subsequently strengthened to require enhanced dust control beyond regulatory minimums. Enhanced dust control procedures can further reduce the average daily PM_{10} emission rate. Compliance with the SCAQMD Rule 403 (fugitive dust) can reduce PM_{10} emissions to roughly 10.2 (lbs/day/acre) with the use of best available control methods (BACMs) for fugitive dust. The Project Site occupies an approximate 27.4-

acre parcel of land within Exposition Park.[3] Based on the above fugitive dust generation factors, and assuming earthwork activities include disturbance to the entire Project Site, such activities would generate approximately 279.48 lbs/day of fugitive dust with the use of BACMs. This is above the SCAQMD's threshold criteria of 150 lbs/day; thus the Proposed Project's fugitive dust emissions would result in a significant impact. The Environmental Protection Agency (EPA) indicates that the primary impact distance from large diameter construction dust is less than 100 feet. Since the perimeter of the Project Site is more than 500 feet from the nearest off-site sensitive receptor area (i.e., the Child Care Center and Senior Center at EPICC) dust emissions would likely be localized on-site and would not affect neighboring land uses. Nevertheless, since the PM_{10} emissions will exceed the threshold criteria, daily PM_{10} emissions would be considered significant during the initial earthwork and building pad excavation/preparation period.

Various forms of tractors and diesel equipment will be used during the demolition, excavation and site preparation phase of the Proposed Project. Table V.B-5 lists the equipment and associated pollutant emissions that are anticipated to be generated by the Proposed Project. As can be seen in Table V.B-5, the construction emissions would not exceed SCAQMD thresholds for ROG or SO_x criteria pollutants. SCAQMD thresholds would be exceeded for NO_x CO, and PM_{10}. These exceedances would be considered significant.

Operational Emissions

Table V.B-6 provides a summary of the operational future mobile emissions for the Proposed Project. As can be seen, future operational emissions are estimated based on the proposed maximum seating capacity of 78,000 persons. As can be seen in Table V.B-6, mobile source emissions would exceed SCAQMD thresholds for ROG, NO_x, CO and PM_{10} emissions on days when major events are held. The threshold would not be exceeded for SO_x emissions. While the table indicates that the amount of air pollution generated for any one event would be reduced as compared to the current conditions, it does not accurately represent the increase in up to 12 events per year that would occur under the Proposed Project. This is largely a function of the standardized SCAQMD methodology and the fact that the project is unique and does not operate under a conventional 365 day schedule. Under the proposed project, up to 46 major events would be anticipated each year. Air emissions on the level projected would only be generated on days when major events are scheduled.

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[3] *While the entire 27.4-acre area will not be graded over, the air quality impacts are based on the entire area of the Project Site as defined in Section III, Project Description. It should be noted that the SCAQMD methodology does not account for depth of excavation in estimating the impacts of earthwork and grading operations. Thus, utilizing the total area of the Project Site in this methodology provides a worst-case analytical assumption of the project's construction emissions.*

Local Carbon Monoxide Concentrations

The Proposed Project will not include any new or expanded parking areas. Congested traffic conditions on roadways, surface parking lots and parking structures would continue to create high concentrations of carbon monoxide concentrations in the hour preceding and following events. Carbon monoxide concentrations would be found adjacent to slow-moving streets and adjacent to parking lots. Motorists waiting in queues, pedestrians walking along sidewalks, and area residents would each be subject to the adverse effects of pollution.

Table V.B-5
Maximum Daily Construction Emissions[a]

Source	ROG	NO_x	CO	SO_2	PM_{10}
Phase 1 Demolition Activities					
Fugitive Dust	--	--	--	--	0.94[b]
Off-Road Diesel	26.67	196.71	203.09	--	8.71
On-Road Diesel	0.28	6.37	1.06	0.09	0.15
Worker Trips	0.37	0.70	7.46	0.00	0.03
Maximum lbs/day	27.32	203.788	211.61	0.09	9.83
Phase 2 Site Grading Emissions					
Fugitive Dust	--	--	--	--	191.00
Off-Road Diesel	37.27	286.80	274.72	--	12.96
On-Road Diesel	19.30	351.45	72.15	5.88	10.23
Worker Trips	0.14	0.06	1.67	0.00	0.02
Maximum lbs/day	56.71	638.31	348.54	5.88	214.21
Phase 3 – Building Construction					
Bldg. Const. - Off-Road Diesel	19.55	145.59	146.86	--	6.29
Bldg. Const. - Worker Trips	0.00	0.00	0.00	0.00	0.00
Architectural Coatings - Off-Gas	0.00	--	--	--	--
Architectural Coatings - Worker Trips	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	19.55	145.59	146.86	0.00	6.29
Total Construction Emissions	**56.71**	**638.31**	**348.54**	**5.88**	**214.21**
SCAQMD Thresholds	**550**	**75**	**100**	**150**	**150**
Significant Impact? (Yes/No)	**NO**	**YES**	**YES**	**NO**	**YES**

[a] *Based on a 20 month construction schedule with a total site disturbance of 19.5 acres.*
[b] *All emissions are projected without the implementation of mitigation measures.*

Source: Christopher A. Joseph & Associates, 2003.

Table V.B-6
Future Coliseum Mobile Emissions by Event

Event Type	Maximum Attendance	Pollutant Emissions [a] (lbs/day)				
		ROG	NO_x	CO	SO_2	PM_{10}
Sold Out Event (78,000 seats)	78,000	1,705.04	257.64	2,811.06	2.19	201.13
SCAQMD THRESHOLDS		55	55	550	150	150
SIGNIFICANT IMPACT?(Yes/No)		Yes	Yes	Yes	No	Yes

[a] *Emissions calculated by the California Air Resource Board's Urbemis 2002 Model assumed 35 mile round trip for Coliseum patrons. Trip generation assumed to be 0.296 trips per person.*

Source: Christopher A. Joseph & Associates, 2003.

The severity of the potential impact would be a direct function of the level of attendance and resulting numbers of vehicles attracted to the Coliseum vicinity. The Coliseum currently operates with a maximum seating capacity of 92,500 seats. Based on the assumption of a sold-out event and an average vehicle ridership (AVR) of 2.7 persons per vehicle, the total number of vehicles that can be generated to the Coliseum during any event is approximately 34,259 vehicles. The Proposed Project will reduce the maximum seating capacity to 78,000 seats. As a result, the total number of vehicle trips and parking demands will be reduced under the Proposed Project. The net effect would be a reduction in the existing CO emissions. Consequently, local CO concentrations would be reduced as compared to existing conditions.

The parking demand for existing events is currently accommodated with parking lots within and around Exposition Park and the USC campus, with overflow parking being accommodated in the surrounding off-site areas. Under the Proposed Project, traffic accessing or exiting the Coliseum would continue to utilize the existing routes and facilities that are currently used for Coliseum events, with the exception of a new 2,210-space parking structure that is currently under construction within Exposition Park (California Science Center and the California African American Museum Parking Structure). While this structure is not directly associated with the Coliseum, it will be available to all Exposition Park uses and to Coliseum patrons on event days. The utilization of this structure, in addition to the other existing lots that are currently used for Coliseum events, would result in a net improvement over existing conditions with respect to CO concentrations. For one, it is anticipated that the use of the parking structure would improve traffic flow around Exposition Park as more on-site parking spaces would be made available. This would reduce the number of drive-by trips generated by people looking for parking spaces. Secondly, this structure will be equipped with adequate ventilation in accordance

with the Uniform Building Code requirements.[4] Third, the reduction in the number of vehicles that could potentially be generated by a sold-out event would further reduce CO emissions as compares to existing conditions. As a result, the Proposed Project would result in a beneficial impact on localized CO emissions on a per event basis.

When compared to SCAQMD threshold criteria or to California Ambient Air Quality Standards, carbon monoxide emissions and/or concentrations from Coliseum events would continue to exceed these thresholds and the one-hour standard and would be considered significant impacts. To provide a context for the assessment of the impact, it should be noted that this is and would continue to be an infrequent occurrence, concentrated in the hour preceding and following a Coliseum event. On an annual basis, this would mean that carbon monoxide hot spots would be generated at least 78 hours out of a total of 8,760 hours during the year, or less than one percent of the time. Regardless of the frequency, however, the California Ambient Air Quality Standards dictate that any exceedance of a standard for any amount of time must be considered significant. Therefore, the operational impacts of the Proposed Project would result in a significant impact.

Conformance With Air Quality Management Plan

The Proposed Project relates to the AQMP through the land use and growth assumptions used to forecast automotive air pollution emissions. The SCAB AQMP is based on the growth projections prepared by SCAG for the various planning subareas in the air basin. Those projections for downtown Los Angeles are large based upon land use designations contained in the City of Los Angeles General Plan. To the extent that the Proposed Project is consistent with the existing local City of Los Angeles General Plan, it is also consistent with and supportive of the SCAG policies to assist in the revitalization of under-utilized urban area and assure protection of cultural resources. The Proposed Project would continue the current and historic use of the Coliseum and would reduce the maximum seating capacity on an event-by-event basis. As such, the Proposed Project would be consistent with growth forecasts adopted by the City and therefore consistent with the local City of Los Angeles General Plan. The Proposed Project is therefore consistent with the AQMP.

CUMULATIVE IMPACTS

Table V.B-7 depicts the operational emissions from the related projects in the vicinity of the Coliseum. Daily emissions from approximately 101,323 vehicle trips (536,585 vehicle miles traveled) range from approximately 6,051.90 lbs/day of CO, 523.90 lbs/day of ROG, 1,106.02 lbs/day of NO_x, 36.58 lbs/day of SO_x, 45.76 lbs/day of PM_{10}. The addition of emissions from the average number of trips

[4] *The Uniform Building Code requires ventilation in underground parking garages sufficient to exhaust a minimum of 1.5 cubic feet / minute/ square foot of parking level area (CFM/SF). California Museum of Science and Industry Exposition Park Master Plan Draft EIR, SCH#92031080, May 1993.*

from Coliseum events in conjunction with related projects would substantially increase total cumulative emissions.

Related future projects that are included in adopted regional and local plans would be included in SCAQMD projections for the region. Where related projects propose plan amendments, environmental documentation will be required on a project-by-project basis 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 cumulative air quality emissions. However, until the South Coast

Table V.B-7
Cumulative Project Operational Impact Analysis

Project	Operational Emissions (lbs/day)				
	CO	**ROG**	**NO_X**	**SO_X**	**PM_{10}**
Total Cumulative Emissions (37 Related Projects Plus Proposed Project)	6,051.90	523.90	1,106.02	36.58	45.76

Source: Christopher A. Joseph & Associates, 2003.

Air Basin (SCAB) 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.

MITIGATION MEASURES

The following measures are recommended to reduce short-term impacts related to construction activities. Mitigation measures shall be included in all contracts between the applicant and project contractors to assure compliance with the following:

1. Haul trucks shall be staged on-site in the vacant parking areas within Exposition Park. Haul truck staging plan shall be subject to review by the City of Los Angeles Department of Building and Safety and the Department of Transportation. Trucks shall be called to the site by radio dispatch.

2. Diesel-powered equipment shall be located as far away as possible from sensitive land uses and areas. Specifically, diesel compressors, pumps and other stationary machinery shall be located

to the extent feasible on the south side of the Coliseum or within the interior of the Coliseum to avoid air pollution impacts on passive recreational spaces in Exposition Park (such as the area north of the Coliseum and south of the museum complex).

3. Grading activities shall be restricted on exceedingly windy days (winds in excess of 25 mph) when fugitive dust emissions are likely to be carried off-site. All truck loads of export debris shall be covered or shall provide at least 2 feet of freeboard.

4. Ground wetting shall be required in accordance with SCAQMD Rule 403 for dust control during grading and construction.

5. Contractors shall cover any stockpiles of soil, sand and similar materials.

6. Equipment engines shall be maintained in proper tune.

7. Construction equipment shall be shut off to reduce idling when not in direct use for extended periods of time.

8. Contractors shall discontinue construction activities during second-stage smog alerts.

The following measures are recommended to reduce emissions from long-term mobile sources:

9. To reduce the traffic-related air quality impact on the affected intersections, the Proposed Project shall implement the required traffic management measures described in Section IV.C.6 of this report, Traffic, Parking, and Access.

10. The Proposed Project applicant shall comply with all requirements of the South Coast Air Quality Management District's Regulation 15, which attempts to reduce employee vehicle trips through the implementation of various transportation management strategies.

LEVEL OF IMPACT AFTER MITIGATION

Short-term air quality impacts would result during the Proposed Project's 18-20 months of construction. As shown in Table V.B-8, implementation of the prescribed mitigation measures would reduce the construction-related air pollutants for PM_{10} emissions to below the level of significance. However, even with the inclusion of mitigation measures described above, the daily emission of pollutants from construction equipment would exceed threshold criteria established by the SCAQMD for ROG, CO, SO_x and NO_x emissions.

Implementation and compliance with the mitigation measures described above would reduce air quality emissions. For maximum-attendance Coliseum events, the amount of reduction achieved by the mitigation measures would not be sufficient to reduce impacts to acceptable levels.

Table V.B-8
Daily Construction Emissions Without and With Mitigation[a]

Source	ROG	NO_x	CO	SO_2	PM_{10}
Total Construction Emissions (Without Mitigation)	56.71	638.31	348.54	5.88	214.21
Total Construction Emissions (With Mitigation)	56.71	638.31	348.54	5.88	10.95
SCAQMD Thresholds	**550**	**75**	**100**	**150**	**150**
Significant Impact? (Yes/No)	**NO**	**YES**	**YES**	**NO**	**NO**

[a] *Based on a 22-month construction schedule with a total site disturbance of 19.5 acres.*

Source: Christopher A. Joseph & Associates, 2003.