V. ENVIRONMENTAL IMPACT ANALYSIS
I. TRAFFIC, ACCESS AND PARKING
1. TRAFFIC AND ACCESS

INTRODUCTION

This section summarizes the traffic impact analysis prepared by Kaku Associates, dated August 2003. The analysis method was developed in coordination with the City of Los Angeles Department of Transportation (LADOT). The complete traffic report and detailed calculation worksheets are contained in Appendix D to this EIR.

As acknowledged by LADOT in responding to the Notice of Preparation, the scope of analysis and mitigation measures for this study were developed in consultation with LADOT. The base assumptions, technical methodologies, and geographic coverage of the study were identified as part of the study approach as described below.

This study assumes completion of the Proposed Project in the Year 2006. The potential impacts of the Proposed Project are, therefore, reliant on the assessment of future conditions for weekday games in 2006. These include an analysis of the following traffic scenarios:

- Existing (2002/2003) Conditions -- The analysis of existing traffic conditions provides a basis for the remainder of the study. The existing conditions analysis includes an assessment of streets, traffic volumes, and operating conditions.

- Cumulative Base (2006) Conditions -- Future traffic conditions without the Proposed Project were developed for the year 2006. The objective of this analysis is to project future traffic growth and operating conditions that could be expected to result from regional growth and related projects in the vicinity of the Project Site by the year 2006. This condition also includes traffic generated by the Staples Center and the Los Angeles Convention Center.

- Cumulative (2006) Conditions Plus Project -- Traffic expected to be generated by the Proposed Project is added to the Cumulative Base traffic forecasts. The impacts of the Proposed Project on future traffic operating conditions can then be identified.

The study examines the conditions for a weekend (Saturday) college football game at the Coliseum, based on a November 30, 2002 game between USC and Notre Dame. This scenario is examined in detail, as it represents a worst possible scenario for the weekend game. The attendance was 87,944 persons, which exceeds the proposed 78,000-person capacity expected for an NFL weekend game. The potential impacts of the Proposed Project are, therefore, reliant on the assessment of present conditions for weekend USC games.

The weekday games are due to commence at 6 p.m. Pacific Standard Time, meaning that approximately 50 percent of the vehicles going to the Coliseum will arrive in the hour prior to the start of the game. This time period is the approximate peak traffic hour for the area surrounding the Coliseum and, as such, represents the largest traffic volumes. It should be noted however, that weekday NFL games would only occur for one night during each season and would not occur during every season.

The following 26 intersections, which are illustrated in Figure V.I.1-1, along with the project location, are to be analyzed with respect to the scenarios above:

1. Figueroa Street and Adams Boulevard
2. Figueroa Street and Jefferson Boulevard
3. Flower Street and Exposition Boulevard
4. Figueroa Street and Exposition Boulevard & 37th Street
5. Flower Street and 37th Street
6. Figueroa Street and State Drive
7. Figueroa Street and 38th Place/Flower Street
8. I-110 High Occupancy Vehicle (HOV) ramps and 39th Street
9. Figueroa Street and 39th Street/Coliseum Drive
10. I-110 Northbound Ramps/Hill Street and Martin Luther King Jr. Boulevard
11. I-110 Southbound Ramps and Martin Luther King Jr. Boulevard
12. Figueroa Street and Martin Luther King Jr. Boulevard
13. Hoover Street and Martin Luther King Jr. Boulevard
14. Vermont Avenue and Martin Luther King Jr. Boulevard
15. Vermont Avenue and 39th Street
16. Vermont Avenue and Exposition Boulevard
17. Normandie Avenue and Martin Luther King Jr. Boulevard
18. Normandie Avenue and Exposition Boulevard
19. Vermont Avenue and Jefferson Boulevard

20. Normandie Avenue and Jefferson Boulevard
21. Vermont Avenue and Adams Boulevard
22. Normandie Avenue and Adams Boulevard
23. Vermont Avenue and I-10 eastbound ramps
24. Normandie Avenue and I-10 eastbound ramps
25. Vermont Avenue and I-10 westbound ramps
26. Normandie Avenue and I-10 westbound ramps

ENVIRONMENTAL SETTING

Existing Street System

Regional access to the Project Site is provided by the Harbor Freeway (Interstate 110) and the Santa Monica Freeway (Interstate 10). The Harbor Freeway is located less than ½ mile east of the Project Site and the Santa Monica Freeway is located approximately 1½ miles north of the Proposed Project. The study area is bounded by Martin Luther King Jr. Boulevard on the south, Vermont Avenue on the west, Exposition Boulevard on the north, and Figueroa Street on the east. Street descriptions are provided below:

Martin Luther King Jr. Boulevard -- Martin Luther King Jr. Boulevard, which borders the Project Site to the south, provides six travel lanes during the a.m. peak period and five lanes during the p.m. peak period (three westbound lanes and two eastbound lanes) south of the Project Site. The travel lanes are separated by a dual left turn centerline except between Broadway and Figueroa Street (where a double yellow centerline is used). Parking is prohibited between Figueroa Street and Vermont Avenue on the southbound side of the street during the a.m. peak period and on the north side at all times. The posted speed limit is 35 miles per hour.

Vermont Avenue -- Vermont Avenue borders the Project Site to the west and provides four travel lanes separated by a double yellow striped centerline except between Martin Luther King Jr. Boulevard and Adams Boulevard, where a combination of dual left-turn centerline, double yellow centerline, and a raised median are used. The posted speed limit is 35 miles per hour.

Figure V.I.1-1, Study Location and Analyzed Intersections

Hoover Street -- Hoover Street provides four travel lanes separated by a double yellow striped centerline between Vernon Avenue and Martin Luther King Jr. Boulevard and a dual left turn centerline between Jefferson Boulevard and Venice Boulevard. The posted speed limit is 35 miles per hour.

Figueroa Street -- Figueroa Street borders the Project Site to the east and provides six travel lanes between 48th Street and 39th Street, which are separated by a dual left turn centerline during the a.m. and p.m. peak periods. Between 39th Street and Venice Boulevard there are five travel lanes (three northbound and two southbound). The lanes are separated by a raised median from 39th street to Jefferson Boulevard and by a dual left turn centerline from Jefferson Boulevard to Venice Boulevard. The posted speed limit is 35 miles per hour.

Normandie Avenue -- Normandie Avenue has four travel lanes between 48th Street and Washington Boulevard. These travel lanes are separated by a double yellow centerline between 48th Street and Jefferson Boulevard and a dual left turn centerline between Jefferson Boulevard and Washington Boulevard. The posted speed limit is 35 miles per hour.

Adams Boulevard -- Adams Boulevard provides four travel lanes between Maple Avenue and Normandie Avenue. The travel lanes are separated by a double yellow centerline for the majority of the street except between Hill Street and I-110 ramps and Hoover Street and Magnolia Avenue, where a dual left turn centerline is used. The posted speed limit is 35 miles per hour.

Jefferson Boulevard -- Jefferson Boulevard provides four travel lanes between Maple Avenue and Figueroa Street and these are separated by a double yellow centerline. There are six travel lanes between Figueroa Street and Vermont Avenue separated by a raised center median, and there are four travel lanes between Vermont Avenue and Normandie Avenue separated by a combination of dual left turn and double yellow centerlines. The posted speed limit is 35 mile per hour.

Exposition Boulevard -- Exposition Boulevard borders the Project Site to the north and provides between five and seven travel lanes between the I-110 Northbound ramp and Normandie Avenue. These lanes are separated by a raised median and the posted speed limit is 35 miles per hour.

Public Transit

The study area is served by bus lines and the Metro Blue Line operated by Los Angeles County Metropolitan Transportation Authority (LACMTA) and two bus lines operated by the LADOT. These transit lines are described below and their routes in relation to the Project Site are shown in Figure V.I.1-2.

Figure V.I.1-2, Existing Transit Services

- LACMTA Blue Line -- The Metro Blue Line is a north/south rail line that runs from Long Beach to downtown Los Angeles. The Blue Line travels close to the Project Site and has stops located at Vernon Avenue, Washington Boulevard, and Grand Avenue. The hours of operation are from 5 a.m. until midnight.

- LACMTA Line 40 -- LACMTA Line 40 is a local east/west line from Union Station in downtown Los Angeles to the South Bay Galleria Transit Center in the City of Redondo Beach.

- LACMTA Line 40 -- travels on Martin King Luther Jr. Boulevard through the study area. The service runs daily, evenings, and weekends.

- LACMTA Line 42 -- LACMTA Line 42 is a local east/west line from Union Station in downtown Los Angeles to the LAX Bus Center. LACMTA Line 42 travels on Martin King Luther Jr. Boulevard through the study area. The service runs daily, evenings, and weekends.

- LACMTA Lines 204/754 -- LACMTA Lines 204/754 are local north/south lines from the Children's Hospital in Los Angeles to the Athens community in Los Angeles County. LACMTA lines 204/754 travel on Vermont Avenue through the study area. The service runs daily, evenings, and weekends.

- LACMTA Lines 81/381 -- LACMTA Lines 81/381 are local north/south lines from Eagle Rock Plaza to the Rosewood Community in Los Angeles County. LACMTA Lines 81/381 travel on Figueroa Street through the study area. The service runs daily, evenings, and weekends.

- LACMTA Line 102 -- LACMTA Line 102 is a local east/west route from La Brea Avenue to City of Vernon. LACMTA Line 102 travels along Exposition Boulevard through the study area. The service runs daily, evenings until 9 p.m., and weekends.

- LACMTA Line 550 -- LACMTA Line 550 is a north/south express route from San Pedro to West Hollywood. LACMTA Line 550 travels along Exposition Boulevard through the study area. The service runs daily, evenings, and weekends.

- LADOT Dash Southeast Line -- The LADOT Dash Southeast Line is a community transit line that provides service to USC, Exposition Park, and southeast Los Angeles. The LADOT Dash Southeast Line provides a connection to the Metro Blue Line stations in the southeast Los Angeles area. The LADOT Dash Southeast line travels on Vermont Avenue, Exposition Boulevard, and Figueroa Street through the study area. The service runs weekdays between 6:30 a.m. and 7:00 p.m. and on Saturdays between 10:00 a.m. and 5:30 p.m.

- LADOT Dash King-East Line -- The LADOT Dash King-East Line is a community transit line that provides service along Martin Luther King Jr. Boulevard east of Figueroa Street. The

service operates in a clockwise direction and goes as far as Washington Boulevard to the north, Martin Luther King Jr. Boulevard to the south, Central Avenue to the east and Figueroa Street to the west. The service runs weekdays between 7:00 a.m. and 7:00 p.m. and on Saturdays between 9:00 a.m. and 6:00 p.m.

- LADOT Dash Leimert/Slauson -- The LADOT Dash Leimert/Slauson Line is a community transit line that provides service along Martin Luther King Jr. Boulevard west of Vermont Avenue. It has stops along Vermont Avenue and travels west to Crenshaw Boulevard. The service runs weekdays between 6:30 a.m. and 7:00 p.m. and on Saturdays between 9:00 a.m. and 6:30 p.m..

- LADOT Dash Downtown Los Angeles Route F -- The LADOT Dash Route F is a transit line that provides service to USC, Exposition Park, and downtown Los Angeles. The LADOT Dash Downtown Route F line travels on Exposition Boulevard and Figueroa Street through the study area. The service runs weekdays between 6:30 a.m. and 6:30 p.m. and weekends between 10:00 a.m. and 5:00 p.m..

Level of Service Methodology

Level of service (LOS) is a qualitative measure used to describe the condition of traffic flow, ranging from excellent conditions at LOS A to overload conditions at LOS F. LOS D is the typically recognized minimum acceptable level of service in urban areas. Level of service definitions for signalized intersections are provided in Table V.I.1-1.

The "Critical Movement Analysis-Planning" method from the *Transportation Research Circular No. 212 - Interim Materials on Highway Capacity* (Transportation Research Board, 1980) was used to determine the intersection volume to capacity (V/C) ratio and corresponding level of service for the signalized intersections.

The 26 analyzed intersections are all controlled by traffic signals, and all but two of the signalized intersections are currently operated under the Automated Traffic Surveillance and Control (ATSAC) system. In accordance with LADOT procedures, capacity values were increased by seven percent at intersections included in the ATSAC system as a reflection of ATSAC's estimated benefit to the transportation system. The two intersections not included in the ATSAC system are:

- Figueroa Street and Exposition Boulevard

- I-110 northbound ramps/Hill Street and Martin Luther King Jr. Boulevard

The area is under the ATSC (Adaptive Traffic Control System), but the estimated benefit from this system, an increase of approximately three percent per intersection, has not been included due to the

Table V.I.1-1
Level of Service Definitions for Signalized Intersections

Level of Service	Volume/Capacity Ratio	Definition
A	0.000–0.600	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	> 0.601–0.700	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel some what restricted within groups of vehicles.
C	> 0.701–0.800	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	> 0.801–0.900	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	> 0.901–1.000	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 1.000	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.

Source: Transportation Research Board, Highway Capacity Manual, Special Report 209, 1994.

system not running in "adaptive" mode. The adaptive mode is a set of procedures that adapt the system, using real time traffic information, to optimize the signals and hence improve the intersection LOS.

Existing Traffic Conditions

Existing Weekend Scenario

The following section presents the existing traffic volumes for a weekend USC Trojans Football game at the Coliseum and the resulting level of service (LOS) at each of the study intersections. This analysis is used as a proxy for a projected weekend NFL game at the Coliseum, which will have a reduced capacity in comparison to current USC games. The overall reduction in maximum seating capacity is 14,500 seats. Therefore, the USC game is considered a worse scenario in terms of traffic than an NFL game would present.

Existing Weekend Traffic Volumes

Weekend afternoon (2:00 p.m. to 5:00 p.m.) and evening (6:30 p.m. to 9:30 p.m.) traffic counts were conducted by Kaku Associates, Inc. on Saturday, November 30, 2002 at the 26 analyzed intersections. These counts were conducted on the day of a collegiate football game between USC and Notre Dame, where the attendance was 87,944 people. These volumes are illustrated in Figure V.I.1-3 and represent the existing weekend traffic.

This particular date was chosen because the counts (from 6:30 p.m. to 9:30 p.m.) would capture the traffic associated with the National Hockey League (NHL) Los Angeles Kings and Chicago Blackhawks game at the Staples Center in downtown Los Angeles on the same day.

Existing Levels of Service -- Weekend Scenario

Table V.I.1-2 summarizes the existing V/C ratios and corresponding LOS at each of the study intersections for both weekend and weekday conditions. As shown in Table V.I.1-2, during weekend conditions 25 out of the 26 intersections operate at LOS C or better. The intersection at Vermont Avenue and Adams Boulevard operates at LOS D. The existing volume analysis shows that the 26 intersections are currently working satisfactorily prior to game day traffic.

Existing Weekday Scenario

Existing Weekday Traffic Volumes

Weekday intersection turning movement counts were conducted during the afternoon (4:00 p.m. to 7:00 p.m.) peak periods on Tuesday, Wednesday, and Thursday, April 22-24, 2003, at the 26 analyzed intersections. These counts are considered representative for a Monday or Thursday night game, when weekday NFL games are traditionally played.

The peak hour was extrapolated from the counts as 4:45 p.m. to 5:45 p.m. for 15 of the intersections and from 5:00 p.m. to 6:00 p.m. for seven intersections. The remaining four intersections are outside of these periods. For the purpose of this study, 5:00 p.m. to 6:00 p.m. was used as the peak hour for the study in the vicinity of the project location. This period is used to reflect the traffic conditions that are expected prior to a game in the evening peak rush hour.

Figure V.I.1-4 illustrates the existing weekday traffic volumes and turning movements for the 5:00 p.m. to 6:00 p.m. peak hour.

Existing Levels of Service – Weekday Scenario

Television scheduling and the need to broadcast games live throughout the United States currently governs the timing of NFL weekday night football games. While this does not represent a concern for games that are played on the east coast or in the central United States, games on the west coast operate on Pacific Standard Time, which is three hours behind Eastern Standard Time, two hours behind Central Time region and one hour behind the Mountain Time region. Hence games would not start any

Figure V.I.1-3, Existing Weekend Traffic Volumes Without Project

Table V.I.1-2
Intersection Level of Service Analysis – Existing Conditions

Intersection	Time Period	Weekend Conditions		Weekday Conditions	
		V/C	LOS	V/C	LOS
Figueroa St. & Adams Bl.	PM	0.112	A	0.881	D
Figueroa St. & Jefferson Bl.	PM	0.411	A	0.714	C
Flower St. & Exposition Bl.	PM	0.326	A	0.517	A
Figueroa St. & Exposition Bl.	PM	0.798	C	0.985	E
Flower St. & 37th St.	PM	0.274	A	0.365	A
Figueroa St. & State Dr.	PM	0.174	A	0.239	A
Figueroa St. & 38th St.	PM	0.359	A	0.716	C
I-110 HOV Ramps & 39th St.	PM	0.286	A	0.271	A
Figueroa St. & 39th St.	PM	0.362	A	0.524	A
I-110 NB Ramps/Hill & M.L.King Jr. Bl.	PM	0.672	B	0.760	C
I-110 SB Ramps & M.L.King Jr. Bl.	PM	0.302	A	0.459	A
Figueroa St. & M.L.King Jr. Bl.	PM	0.449	A	1.047	F
Hoover St. & M.L.King Jr. Bl.	PM	0.386	A	0.552	A
Vermont Av. & M.L.King Jr. Bl.	PM	0.699	B	0.865	D
Vermont Av. & 39th St.	PM	0.494	A	0.568	A
Vermont Av. & Exposition Bl.	PM	0.479	A	0.783	C
Normandie Av. & M.L.King Jr. Bl.	PM	0.631	B	0.784	C
Normandie Av. & Exposition Bl.	PM	0.579	A	0.741	C
Vermont Av. & Jefferson Bl.	PM	0.739	C	0.882	D
Normandie Av. & Jefferson Bl.	PM	0.726	C	0.757	C
Vermont Av. & Adams Bl.	PM	0.818	D	0.922	E
Normandie Av. & Adams Bl.	PM	0.763	C	0.958	E
Vermont Av. & I-10 EB Ramps	PM	0.762	C	0.800	C
Normandie Av. & I-10 EB Ramps	PM	0.711	C	0.849	D
Vermont Av. & I-10 WB Ramps	PM	0.651	B	0.743	C
Normandie Av. & I-10 WB Ramps	PM	0.738	C	0.745	C

Source: Kaku Associates, Traffic Study for the Los Angeles Memorial Coliseum Renovation Project, August 2003.

Figure V.I.1-4, Existing Weekday Traffic Volumes Without Project

later than 6:00 p.m. Pacific Standard Time.

Traffic count data from the 5:00 to 6:00 p.m. peak hour was used to analyze the LOS for all 26 intersections. This time period was used as it is considered the time when game-generated traffic will be at its most concentrated level. This period is deemed to attract approximately 50 percent of NFL game-generated traffic.

The results in Table V.I.1-2 show that there is currently one intersection operating at LOS F: Figueroa Street and Martin Luther King Jr. Boulevard. Three intersections operate at LOS E (Figueroa Street and Exposition Boulevard, Vermont Avenue and Adams Boulevard, and Normandie Avenue and Adams Boulevard). The other 22 intersections operate between LOS A and LOS D.

Congestion Management Program

Intersection analyses complying with Los Angeles County 2002 Congestion Management Program (CMP) requirements were also completed. The Transportation Impact Analysis (TIA) section of the CMP requirements describes the threshold criteria used to identify potential CMP monitoring locations that needed to be included in the traffic analysis. Based on the CMP criteria, the following locations needed to be analyzed:

- All CMP arterial monitoring intersections, including monitored freeway on- or off-ramp intersections where the Proposed Project will add 50 or more trips during either the a.m. or p.m. weekday peak hours (of adjacent street traffic).

- All mainline freeway monitoring locations where the Proposed Project will add 150 or more trips, in either direction, during either the weekday a.m. or p.m. peak hours.

METHODOLOGY

In order to correctly evaluate the potential impact of the Proposed Project on the local street system, it was necessary to develop estimates of traffic conditions both with and without the Proposed Project.

Weekend Traffic Analysis

Traffic volumes are first estimated for the study area without the Proposed Project, which were taken from the observed ground counts from November 30, 2002. These can be seen in Figure V.I.1-3. In addition the weekend volumes with Proposed Project can be seen in Figure V.I.1-5 and V.I.1-6, which represent the pre-event and post-event traffic conditions respectively. The observed traffic counts used in the analysis for pre- and post-event conditions reflect the street closures and turn prohibitions that are part of LADOT's event management plan.

Weekday Traffic Analysis

Future traffic volumes are first estimated for the study area without the Proposed Project. These future forecasts reflect traffic increases due to general regional growth, traffic that is generated by other specific developments in the vicinity of the Project Site, and event related traffic at the Staples Center and Los Angeles Convention Center. These future conditions serve as the Cumulative Base conditions. The estimated project traffic is then added to the Cumulative Base traffic forecasts, resulting in the forecast of future conditions. This represents the Cumulative Plus Project conditions.

Weekday Traffic Generation of Cumulative Development Projects

The Cumulative Base conditions include three distinct elements: (1) growth in existing background traffic volumes reflecting the effects of overall regional growth and development both inside and outside of the study area, (2) traffic generated by the Staples Center and Los Angeles Convention Center, and (3) the traffic generated by specific cumulative projects within or near a two-mile radius of the study area.

Areawide Traffic Growth

The background growth in traffic reflected the overall regional growth both inside and outside of the study area. A growth factor of one percent per year was used in the analysis, based on general traffic volume growth factors suggested in the *2002 Congestion Management Program for Los Angeles*.[1] The Coliseum is situated in Regional Statistical Area (RSA) 17. Annual growth in RSA 17 is 0.86 percent. Using a more conservative growth rate of one percent, the existing traffic volumes are adjusted upwards by three percent to reflect three years of background traffic growth, ultimately representing the year 2006.

Staples Center and Los Angeles Convention Center Traffic Projections

The Staples Center and Los Angeles Convention Center traffic projections represent additional traffic that may occur on a game day. This is added to the existing conditions traffic volumes. It is expected that all attempts will be made to avoid a conflict on game day, as the NFL weekday games occur occasionally. The traffic volumes for the Staples Center and Convention Center were taken from the *Traffic Impact Analysis for the Proposed Los Angeles Sports and Entertainment Complex* prepared by Korve Engineering, Inc. in March, 1997.

[1] *Los Angeles County Metropolitan Transportation Authority, June 2002.*

Figure V.I.1-5, Pre Event Weekend Traffic Volumes with Project

Figure V.I.1-6, Post Event Weekend Traffic Volumes with Project

Traffic Generation of Cumulative Development Projects

The next future traffic scenario is that of cumulative projects, which will be added to the project traffic. This is traffic expected to be generated by specific development projects within, or with the potential to affect, the study area. Information regarding potential future projects either under construction, planned, or proposed for development was obtained from several sources including recently conducted traffic studies, the Los Angeles Unified School District (LAUSD), the City of Los Angeles Planning Department, the Community Redevelopment Agency (CRA), and the LADOT. The locations of the cumulative projects are illustrated in Figure V.I.1-7.

It is also expected that the Los Angeles Memorial Sports Arena will not pose a problem on game nights. Since the Sports Arena is controlled by the Coliseum Commission, it is assumed that every attempt will be made to ensure that there is no event scheduled on the same day as an NFL game.

Trip generation estimates for the cumulative projects were prepared using rates/equations contained in Trip Generation, 6th Edition.[2] The cumulative projects would generate a total of approximately 77,000 daily trips and 12,500 afternoon peak hour trips.

Cumulative Base Traffic Volumes

The Cumulative Base traffic volumes, future conditions without the Proposed Project, were produced by adding the traffic expected to be generated by the cumulative projects, the Staples Center, and the Los Angeles Convention Center to the existing volumes (which were increased by three percent to account for ambient growth). The resulting traffic volumes at the 26 analyzed intersections represent the Year 2006 Cumulative Base conditions, i.e., future conditions in 2006 without the Proposed Project. Figure V.I.1-8 describes these conditions.

Weekday Project Traffic Volumes

The preparation of traffic generation estimates for the Proposed Project involves three steps: trip generation, trip distribution, and traffic assignment.

Average Vehicle Occupancy (AVO) and Protect Traffic Generation

The Coliseum currently has a maximum seating capacity of 92,500. While maximum capacity has not been achieved in recent years, the highest recorded attendance level reached during the past four years occurred during a USC football game with a recorded attendance of 87,944 persons. The Proposed Project would decrease the Coliseum's maximum seating capacity to approximately 78,000 seats. In comparison to a maximum capacity event under existing conditions, the Proposed Project would decrease maximum attendance levels by approximately 14,500 persons. In comparison to the highest

[2] *Institute of Transportation Engineers, 1997.*

Figure V.I.1-7, Cumulative Development Projects

Figure V.I.1-8, Cumulative Base Weekday Traffic Volumes

attendance level achieved during the past four years, the Proposed Project would reduce attendance by approximately 10,000 persons.

Average Vehicle Occupancy

Discussions were held with the LADOT staff to determine the most appropriate trip generation rate to estimate traffic generation characteristics of the Proposed Project. It was decided that a detailed analysis of the Average Vehicle Occupancy (AVO) should be carried out to accurately reflect a typical NFL weekday game, as the average number of occupants per vehicle significantly affects the total number of vehicles that can be accommodated at the Coliseum. Kaku Associates, Inc. has recently undertaken a study for the proposed NFL Cardinals stadium in Arizona where the trip generation was determined using a 3.0 AVO. Details from this study are attached in Appendix D.

A previous study for the Coliseum undertaken by DKS Associates in 1991 discusses the adoption of specific rates for vehicle occupancy based on events at Los Angeles Dodger Stadium and the Greek Theatre. It concluded that average vehicle occupancy of 2.7 persons per vehicle was a reasonable, conservative value. Historical data from this study was analyzed for different events at the Coliseum; these events included college football games and concerts. The results are shown in Table V.I.1-3. Details from this study are attached in Appendix D.

A study by Korve Engineering, Inc. was completed in 1997 for the proposed Los Angeles Sports and Entertainment Complex. This is now known as the Staples Center, located in downtown Los Angeles. The study recommends an AVO of 2.75 persons. Details from this study are attached in Appendix D.

For the purpose of trip generation analysis for this study, the AVO rate was assumed to be 2.7 persons per vehicle. This rate is slightly lower than other NFL stadiums in order to produce a more conservative estimate.

Trip Generation

Based on consultation with LADOT, it can be assumed that approximately five percent of patrons arrive at the Coliseum by transit and 95 percent arrive by automobile. Therefore, the 78,000 seats for NFL games at the Coliseum would generate approximately 3,900 transit trips and using an AVO of 2.7, the remaining trips would arrive in approximately 27,450 vehicles.

It is assumed that 50 percent of the inbound trips occur during the p.m. peak hour. This would generate approximately 13,750 vehicle trips during the pre-event p.m. peak hour. The trip generation was developed using the equations below:

$$\text{Number of Vehicle trips} = \frac{78{,}000 \times 95 \text{ percent auto arrival}}{2.7 \text{ persons/auto}} = 27{,}444 \text{ vehicle trips}$$

Pre Event Peak Auto Arrival = 27,444 x 50 percent peak hour inbound = 13,722 vehicle trips

Table V.I.1-3
Average Vehicle Occupancy Based on Historical Coliseum Data

Event	Typical Attendance Levels (persons)	Arriving via Automobile (Persons)	Average Parking Demand (Spaces)	Ave. Vehicle Occupancy (Persons Per Auto)
College Football	65,178	52,142	19,312	2.7
Professional Soccer	47,032	37,626	13,936	2.7
Soccer	17,757	14,206	5,261	2.7
Concerts	66,598	53,278	19,732	2.7
Motocross	35,391	28,313	10,486	2.7
Special Events	16,700	13,360	4,948	2.7

Source: Kaku Associates, Traffic Study for the Los Angeles Memorial Coliseum Renovation Project, August, 2003.

Weekday Project Traffic Distribution/Assignment

The geographic distribution of the traffic generated by the Proposed Project was determined in consultation with LADOT staff. The direction that traffic will approach the stadium depends largely on the efficiency of the highway system serving the site and the geographical distribution of population in the region. The distribution of spectators arriving is as follows and is illustrated in Figure V.I.1-9:

South on the Harbor Freeway (I-110) and southbound on arterials	27%
West on the Santa Monica Freeway (I-10) and westbound arterials	20%
North on the Harbor Freeway (1-110) and northbound on arterials	24%
East on the Santa Monica Freeway (I-10) and eastbound arterials	29%
TOTAL	**100%**

The trips generated by the Proposed Project were assigned to the street system utilizing the distribution pattern illustrated in Figure V.I.1-9 and were assigned the destination of a parking lot at either USC or the Coliseum (with the Coliseum lots being filled first). It was decided to assign vehicles to parking lots, as this is where the majority of vehicles end up parking. Vehicles may also opt to use private parking lots in the area if they fail to find parking in the lots used by the Coliseum and USC.

Figure V.I.1-9, Project Traffic Distribution

Figure V.I.1-10 illustrates parking entrances and restrictions that are applied during weekend game days for USC. It is assumed that these restrictions and entrances would apply for a weekday NFL football game and were taken into account when assigning project traffic to the street network. The resultant weekday project traffic volumes at the analyzed intersections are shown in Figure V.I.1-11.

Weekday Cumulative Plus Project Traffic Projections

Project traffic volumes were added to the Cumulative Base traffic projections to develop the Cumulative Plus Project traffic forecasts. The Cumulative Plus Project traffic volumes, illustrated in Figure V.I.1-12, represent future conditions with project traffic.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

CEQA Thresholds of Significance

The California Environmental Quality Act (CEQA) defines a significant effect as being "a substantial or potentially substantial adverse change in any of the physical conditions within the area affected by the activity." Guidelines for implementing CEQA provisions have been adopted which allow each jurisdiction the latitude to define a "substantial or potentially substantial" adverse change (significant impact) on the environment.

LADOT has established criteria that are used to determine if a project has a significant traffic impact at an intersection. Using the LADOT standard, a project impact would be considered significant if the conditions listed in Table V.I.1-4 are met.

Using these criteria, a project would not have a significant impact at an intersection if, for example, it is operating at LOS C after the addition of project traffic and the incremental change in the V/C ratio is less than 0.040. If the intersection is operating at a LOS F after the addition of project traffic, however, and the incremental change in the V/C ratio is 0.010 or greater, the project would be considered to have a significant impact at this location.

Figure V.I.1-10, Parking Entrances and Restrictions

Figure V.I.1-11, Project Only Weekday Traffic Volumes

Figure V.I.1-12, Cumulative Base Plus Project Weekday Traffic Volumes

Table V.I.1-4
LADOT Significant Traffic Impact Criteria for Intersections

V/C Ratio	Level of Service	Project-Related Increase in V/C Ratio
> 0.701 – 0.800	C	Equal to or greater than 0.040
> 0.801 – 0.900	D	Equal to or greater than 0.020
> 0.900	E, F	Equal to or greater than 0.010

Source: Kaku Associates, Traffic Study for the Los Angeles Memorial Coliseum Renovation Project, August, 2003.

CMP Thresholds of Significance

The LACMTA has established its CMP TIA significance criteria indicating that a significant impact occurs when the project's traffic increases demand at a CMP freeway facility or arterial monitoring location by two percent of capacity (i.e., V/C increase is greater than or equal to 0.02), causing the location to operate at LOS F (V/C greater than 1.00). Under this criterion, a project would not be considered to have a significant impact if the analyzed facility is operating at LOS E or better after the addition of project traffic. If the facility, however, is operating at LOS F with project traffic and the incremental change in the V/C ratio caused by the project is 0.02 or greater, the project would be considered to have a significant impact.

Project Impacts

Weekend Conditions with Project

The weekend scenario with project conditions highlights the differences between traffic conditions with the addition of a football game at the Coliseum. A point worth consideration is that the scenario used in the analysis demonstrates the traffic impacts associated with a Coliseum event with a recorded attendance of 87,944 persons. This represents a conservative estimate for future weekend conditions under the Proposed Project, as the Proposed Project would redevelop the Coliseum with a maximum seating capacity of 78,000 seats (14,500 fewer seats than the current Coliseum seating capacity).

Weekend Pre-Event Scenario

Table V.I.1-5 shows the difference between the "With Project" and "Without Project" traffic volumes in the worst hour prior to the game. The worst hour is defined as the time period when the traffic volumes are at the heaviest through the 26 intersections. The results show that under the USC game scenario, 23 out of the 26 intersections operate at LOS D or better during the worst pre-event hour; two

intersections operate at LOS E (I-110 northbound ramps/Hill & Martin Luther King Jr. Boulevard and Normandie Avenue & I-10 eastbound ramps); and one intersection operates at LOF F (Vermont Ave. and Adams Ave.). Application of the significance criteria, previously described in this chapter, indicates that the Proposed Project would create significant traffic impacts at the following eight study intersections:

- Figueroa Street and Adams Boulevard
- I-110 NB Ramps/Hill Street and Martin Luther King Jr. Boulevard
- Vermont Avenue and Jefferson Boulevard
- Normandie Avenue and Jefferson Boulevard
- Vermont Avenue and Adams Boulevard
- Normandie Avenue and Adams Boulevard
- Normandie Avenue and 1-10 EB ramps
- Vermont Avenue and I-10 WB ramps

As mentioned previously, only three of the above eight intersections operate at LOS E or greater showing that Coliseum traffic for USC football games is well managed by the majority of the 26 intersections analyzed. These results take into account the LADOT traffic management plan implemented on game days to improve and facilitate traffic movement issues resulting from the increase in the number of vehicles on the surrounding street network.

Weekend Post-Event Scenario

Table V.I.1-6 shows the results for the post-event scenario for the 26 analyzed intersections. The table reflects the difference between the with- and without-project scenarios following a USC football game. The with-project scenario effectively takes traffic counts for the worst hour after the game (between 6:30 p.m. and 9:30 p.m.). The worst hour is defined as the time period when the traffic volumes are at the heaviest through the 26 intersections. The results show that 25 out of the 26 analyzed intersections

Table V.I.1-5
Pre-Event Intersection Level of Service Analysis—Weekend Conditions

Intersection	Time Period	Without Project Conditions		Pre Event w/ Project Scenario		Project Increase in V/C	Significant Project Impact
		V/C	LOS	V/C	LOS		
Figueroa St. & Adams Bl.	PM	0.112	A	0.834	D	0.722	**YES**
Figueroa St. & Jefferson Bl.	PM	0.411	A	0.668	B	0.257	NO
Flower St. & Exposition Bl.	PM	0.326	A	0.432	A	0.106	NO
Figueroa St. & Exposition Bl.	PM	0.798	C	0.744	C	-0.054	NO
Flower St. & 37th St.	PM	0.274	A	0.316	A	0.042	NO
Figueroa St. & State Dr.	PM	0.174	A	0.331	A	0.157	NO
Figueroa St. & 38th St.	PM	0.359	A	0.477	A	0.118	NO
I-110 HOV Ramps & 39th St.	PM	0.286	A	0.328	A	0.042	NO
Figueroa St. & 39th St.	PM	0.362	A	0.385	A	0.023	NO
I-110 NB Ramps/Hill & M.L.King Jr. Bl.	PM	0.672	B	0.907	E	0.235	**YES**
I-110 SB Ramps & M.L.King Jr. Bl.	PM	0.302	A	0.351	A	0.049	NO
Figueroa St. & M.L.King Jr. Bl.	PM	0.449	A	0.594	A	0.145	NO
Hoover St. & M.L.King Jr. Bl.	PM	0.386	A	0.333	A	-0.053	NO
Vermont Av. & M.L.King Jr. Bl.	PM	0.699	B	0.672	B	-0.027	NO
Vermont Av. & 39th St.	PM	0.494	A	0.551	A	0.057	NO
Vermont Av. & Exposition Bl.	PM	0.479	A	0.591	A	0.112	NO
Normandie Av. & M.L.King Jr. Bl.	PM	0.631	B	0.612	B	-0.019	NO
Normandie Av. & Exposition Bl.	PM	0.579	A	0.642	B	0.063	NO
Vermont Av. & Jefferson Bl.	PM	0.739	C	0.894	D	0.155	**YES**
Normandie Av. & Jefferson Bl.	PM	0.726	C	0.795	C	0.069	**YES**
Vermont Av. & Adams Bl.	PM	0.818	D	1.01	F	0.192	**YES**
Normandie Av. & Adams Bl.	PM	0.763	C	0.862	D	0.099	**YES**
Vermont Av. & I-10 EB Ramps	PM	0.762	C	0.797	C	0.035	NO
Normandie Av. & I-10 EB Ramps	PM	0.711	C	0.970	E	0.259	**YES**
Vermont Av. & I-10 WB Ramps	PM	0.651	B	0.74	C	0.089	**YES**
Normandie Av. & I-10 WB Ramps	PM	0.738	C	0.723	C	-0.015	NO

Source: Kaku Associates, Traffic Study for the Los Angeles Memorial Coliseum Renovation Project, August 2003.

operate at LOS D or better after the game. The intersection at Vermont Avenue and Adams Boulevard operates at LOS F. Application of the significance criteria, previously described in this chapter, indicates that the Proposed Project would create significant traffic impacts at the following six study intersections:

- I-110 NB Ramps/Hill Street and Martin Luther King Jr. Boulevard
- Vermont Avenue and Jefferson Boulevard
- Normandie Avenue and Jefferson Boulevard
- Vermont Avenue and Adams Boulevard
- Normandie Avenue and Adams Boulevard
- Vermont Avenue and I-10 WB ramps

As mentioned previously, only one of the six intersections above operates at LOS F and the rest operate at LOS D or better. These results take into account the LADOT traffic management plan implemented on game days to facilitate traffic movement caused by the increase in the number of vehicles on the Coliseum's surrounding street network. The results show that the intersections operate satisfactorily considering the additional traffic generated by the Coliseum by a weekend game.

Weekday Conditions With Project

Weekday Cumulative Base Traffic Conditions

The Cumulative Base peak hour traffic volumes, illustrated in Figure V.I.1-8, were analyzed to determine the V/C ratio and corresponding LOS for each of the analyzed intersections under these base conditions. Table V.I.1-7 summarizes these results for the pre-event hour weekday night scenario. As indicated in Table V.I.1-7, 19 of the 26 analyzed intersections are projected to operate at LOS D or better during the pre-event peak hour. Two of the remaining intersections operate at LOS F and five operate at LOS E.

It should be noted that LADOT's Automated Traffic Surveillance and Control (ATSAC) system is operational at 24 out of the 26 analyzed intersections. As a result, in accordance with LADOT procedures, capacity values were increased by seven percent to reflect the benefit of ATSAC.

Project Traffic Impact Analysis

The cumulative plus project traffic values were analyzed to determine potential future operating conditions and traffic impacts with the addition of the project-generated traffic associated with a weekday NFL football game at the Coliseum. As stated previously the occurrence of a weekday NFL game would occur no more than one time during any given season, and would not likely occur each and every season. These results of the future weekday operating conditions are also displayed in Table V.I.1-7.

Table V.I.1-6
Post-Event Intersection Level of Service Analysis – Weekend Conditions

Intersection	Time Period	Without Project Conditions		Post Event w/ Project Scenario		Project Increase in V/C	Significant Project Impact
		V/C	LOS	V/C	LOS		
Figueroa St. & Adams Bl.	PM	0.112	A	0.609	B	0.497	NO
Figueroa St. & Jefferson Bl.	PM	0.411	A	0.669	B	0.258	NO
Flower St. & Exposition Bl.	PM	0.326	A	0.441	A	0.115	NO
Figueroa St. & Exposition Bl.	PM	0.798	C	0.617	B	-0.181	NO
Flower St. & 37th St.	PM	0.274	A	0.568	A	0.294	NO
Figueroa St. & State Dr.	PM	0.174	A	0.236	A	0.062	NO
Figueroa St. & 38th St.	PM	0.359	A	0.279	A	-0.08	NO
I-110 HOV Ramps & 39th St.	PM	0.286	A	0.071	A	-0.215	NO
Figueroa St. & 39th St.	PM	0.362	A	0.199	A	-0.163	NO
I-110 NB Ramps/Hill & M.L.King Jr. Bl.	PM	0.672	B	0.733	C	0.061	**YES**
I-110 SB Ramps & M.L.King Jr. Bl.	PM	0.302	A	0.331	A	0.029	NO
Figueroa St. & M.L.King Jr. Bl.	PM	0.449	A	0.35	A	-0.099	NO
Hoover St. & M.L.King Jr. Bl.	PM	0.386	A	0.477	A	0.091	NO
Vermont Av. & M.L.King Jr. Bl.	PM	0.699	B	0.606	B	-0.093	NO
Vermont Av. & 39th St.	PM	0.494	A	0.525	A	0.031	NO
Vermont Av. & Exposition Bl.	PM	0.479	A	0.518	A	0.039	NO
Normandie Av. & M.L.King Jr. Bl.	PM	0.631	B	0.627	B	-0.004	NO
Normandie Av. & Exposition Bl.	PM	0.579	A	0.649	B	0.07	NO
Vermont Av. & Jefferson Bl.	PM	0.739	C	0.844	D	0.105	**YES**
Normandie Av. & Jefferson Bl.	PM	0.726	C	0.895	D	0.169	**YES**
Vermont Av. & Adams Bl.	PM	0.818	D	1.014	F	0.196	**YES**
Normandie Av. & Adams Bl.	PM	0.763	C	0.896	D	0.133	**YES**
Vermont Av. & I-10 EB Ramps	PM	0.762	C	0.705	C	-0.057	NO
Normandie Av. & I-10 EB Ramps	PM	0.711	C	0.671	B	-0.04	NO
Vermont Av. & I-10 WB Ramps	PM	0.651	B	0.894	D	0.243	**YES**
Normandie Av. & I-10 WB Ramps	PM	0.738	C	0.583	A	-0.155	NO

Source: Kaku Associates, Traffic Study for the Los Angeles Memorial Coliseum Renovation Project, August, 2003.

Table V.I.1-7
Weekday Intersection Level of Service Analysis, Pre-Event Hour
Cumulative Base and Cumulative Plus Project Conditions

Intersection	Time Period	Cumulative Base		Cumulative Base Plus Project		Project Increase in V/C	Significant Project Impact
		V/C	LOS	V/C	LOS		
Figueroa St. & Adams Bl.	PM	0.991	E	1.873	F	0.882	**YES**
Figueroa St. & Jefferson Bl.	PM	0.736	C	1.268	F	0.532	**YES**
Flower St. & Exposition Bl.	PM	0.520	A	1.002	F	0.482	**YES**
Figueroa St. & Exposition Bl.	PM	1.031	F	1.432	F	0.401	**YES**
Flower St. & 37th St.	PM	0.435	A	0.566	A	0.131	NO
Figueroa St. & State Dr.	PM	0.337	A	0.406	A	0.069	NO
Figueroa St. & 38th St.	PM	0.771	C	0.964	E	0.193	**YES**
I-110 HOV Ramps & 39th St.	PM	0.282	A	0.739	C	0.457	**YES**
Figueroa St. & 39th St.	PM	0.651	B	1.321	F	0.670	**YES**
I-110 NB Ramps/Hill & M.L.King Jr. Bl.	PM	0.806	D	1.175	F	0.369	**YES**
I-110 SB Ramps & M.L.King Jr. Bl.	PM	0.484	A	0.613	B	0.129	NO
Figueroa St. & M.L.King Jr. Bl.	PM	1.147	F	1.525	F	0.378	**YES**
Hoover St. & M.L.King Jr. Bl.	PM	0.599	A	0.984	E	0.385	**YES**
Vermont Av. & M.L.King Jr. Bl.	PM	0.969	E	1.827	F	0.858	**YES**
Vermont Av. & 39th St.	PM	0.703	C	1.242	F	0.539	**YES**
Vermont Av. & Exposition Bl.	PM	0.877	D	1.431	F	0.554	**YES**
Normandie Av. & M.L.King Jr. Bl.	PM	0.823	D	1.086	F	0.263	**YES**
Normandie Av. & Exposition Bl.	PM	0.797	C	1.066	F	0.269	**YES**
Vermont Av. & Jefferson Bl.	PM	0.924	E	2.078	F	1.154	**YES**
Normandie Av. & Jefferson Bl.	PM	0.794	C	1.277	F	0.483	**YES**
Vermont Av. & Adams Bl.	PM	0.969	E	1.629	F	0.660	**YES**
Normandie Av. & Adams Bl.	PM	0.999	E	1.643	F	0.644	**YES**
Vermont Av. & I-10 EB Ramps	PM	0.873	D	1.559	F	0.686	**YES**
Normandie Av. & I-10 EB Ramps	PM	0.888	D	1.755	F	0.867	**YES**
Vermont Av. & I-10 WB Ramps	PM	0.816	D	0.912	E	0.096	**YES**
Normandie Av. & I-10 WB Ramps	PM	0.780	C	0.876	D	0.096	**YES**

Source: Kaku Associates, Traffic Study for the Los Angeles Memorial Coliseum Renovation Project, August 2003.

As indicated in Table V.I.1-7, traffic generated by the Proposed Project would result in a worsening of the LOS at 22 of the 26 intersections. The results show that 21 of the intersections are now projected to operate at LOS E or F. Application of the significance criteria previously described in this chapter indicates that the Proposed Project would create significant traffic impacts at the following 23 study intersections:

- Figueroa Street and Adams Boulevard
- Figueroa Street and Jefferson Boulevard
- Flower Street and Exposition Boulevard
- Figueroa Street and Exposition Boulevard & 37th Street
- Figueroa Street and 38th Place/Flower Street
- I-110 HOV Ramps and 39th Street
- Figueroa Street and 39th Street/Coliseum Drive
- 1-110 Northbound Ramps/Hill Street and Martin Luther King Jr. Boulevard
- Figueroa Street and Martin Luther King Jr. Boulevard
- Hoover Street and Martin Luther King Jr. Boulevard
- Vermont Avenue and Martin Luther King Jr. Boulevard
- Vermont Avenue and 39th Street
- Vermont Avenue and Exposition Boulevard
- Normandie Avenue and Martin Luther King Jr. Boulevard
- Normandie Avenue and Exposition Boulevard
- Vermont Avenue and Jefferson Boulevard
- Normandie Avenue and Jefferson Boulevard
- Vermont Avenue and Adams Boulevard
- Normandie Avenue and Adams Boulevard
- Vermont Avenue and I-10 eastbound ramps
- Normandie Avenue and I-10 eastbound ramps
- Vermont Avenue and I-10 westbound ramps
- Normandie Avenue and I-10 westbound ramps

The approach to the assignment of vehicle trips to the Coliseum revolved around a mode split of five percent transit and an AVO of 2.70, which are conservative estimates. If the AVO or transit trips were to increase, then potential impacts would substantially decrease. As this type of event is scheduled to occur occasionally during the weekday evening peak hour, it was decided to take a slightly different

approach to project traffic mitigation. Costly physical mitigation measures would not be justified outside of the game day scenarios, as the intersections currently operate at satisfactory levels.

The different approach to project traffic mitigation, discussed in detail under the mitigation measures section of this chapter, involves an incident traffic management plan. This was considered a more prudent, flexible approach to solving the traffic problems in lieu of physical mitigation.

Congestion Management Program Impact Analysis

Weekday PM CMP Freeway Analysis

Based on the threshold criteria of the CMP, it was determined that two CMP monitoring locations needed to be included. In accordance with the CMP TIA requirements, the freeway monitoring station I-10 freeway at Budlong Avenue and the I-110 freeway monitoring station at Slauson Avenue meet the CMP TIA requirements for analysis. There are no arterial monitoring stations in close proximity to the Project Site.

Table V.I.1-8 presents the CMP analysis for the analyzed CMP freeway monitoring station. As shown in Table V.I.1-8 the Proposed Project would significantly impact both of the CMP monitoring stations on the I-10 and the I-110.

CUMULATIVE IMPACTS

The analysis of traffic impacts considers the effects of both background growth in the region as well as the project growth with respect to related projects in the area. Consequently, impacts of cumulative growth are already incorporated into the traffic model. In the absence of the Proposed Project, conditions at study intersections would decline in the level of service, with a result of LOS E or worse at three of the 26 intersections during the p.m. peak hour (Figueroa Street & Exposition Boulevard, Vermont Avenue & Adams Boulevard, and Normandie Avenue & Adams Boulevard). Therefore, cumulative impacts to traffic around the project area are expected to be significant at three of the 26 intersections analyzed. Mitigation measures for future projects which contribute to cumulative traffic growth at the study intersections shall be implemented by all related projects in coordination with LADOT.

The Exposition Line rail line is a rail transit service that is under the jurisdiction of the Los Angeles County Metropolitan Transportation Authority (LACMTA). The first section of light rail to Venice Boulevard/Robertson Boulevard has been approved for development. While full funding had not been assured, the earliest that the Exposition Line could be in operation is 2010. The planned route uses Flower Street in downtown Los Angeles, where it will share the track with the Metro Blue Line and connect with the full Los Angeles metro rail network. The Exposition Line will run by the Staples Center, the Convention Center, and Los Angeles Trade Tech College. It will proceed to

Table V.I.1-8
CMP Freeway Level of Service Analysis—Weekday PM Pre-Event Hour

	I-10 at Budlong Avenue		I-110 at Slauson Avenue	
	EB	**WB**	**NB**	**SB**
Existing Year 2003				
Demand	18,615	17,340	8,242	11,914
Capacity	12,500	12,500	8,000	8,000
D/C	1.49	1.39	1.03	1.49
LOS	F(3)	F(2)	F(0)	F(3)
Cumulative Base Conditions 2006				
Demand	19,546	18,207	8,654	12,509
Capacity	12,500	12,500	8,000	8,000
D/C	1.56	1.46	1.08	1.56
LOS	F(3)	F(3)	F(0)	F(3)
Cumulative Base w/ Project Conditions 2006				
Demand	21,193	18,207	9,615	12,509
Capacity	12,500	12,500	8,000	8,000
D/C	1.70	1.46	1.20	1.56
LOS	F(3)	F(3)	F(0)	F(3)
Project Increase in D/C	0.13	0.00	0.12	0.00
Significant Project Impact	**YES**	**NO**	**YES**	**NO**

Notes:
Freeway mainline Levels of Service are based on the Demand to Capacity scale below:
LOS "A" = D/C Ratio of 0.000 – 0.350
LOS "B" = D/C Ratio of 0.351 – 0.540
LOS "C" = D/C Ratio of 0.541 – 0.770
LOS "D" = D/C Ratio of 0.771 – 0.930
LOS "E" = D/C Ratio of 0.931 – 1.000
LOS "F(0)" = D/C Ratio of 1.001 – 1.250
LOS "F(1)" = D/C Ratio of 1.251 – 1.350
LOS "F(2)" = D/C Ratio of 1.351 – 1.450
LOS "F(3)" = D/C Ratio > 1.450

Source: Kaku Associates, Traffic Study for the Los Angeles Memorial Coliseum Renovation Project, August 2003.

Exposition Park (Coliseum) and USC. The rail line may increase the transit mode share, thus somewhat relieving traffic congestion and parking demands in the area.

MITIGATION MEASURES

In order to mitigate the traffic and access impacts created by the Proposed Project, the Project Applicant will collaborate with LADOT, LAPD, California Department of Transportation, and

California Highway Patrol on implementation of a traffic management plan. The following are mitigation measures that shall be implemented in order to reduce potentially significant impacts to less than significant levels:

1. To facilitate movement of vehicles, the LAPD and LADOT staff shall have the authority to implement turn restrictions, parking prohibitions, lane closures, barriers/cones, and flexible signage. There shall be a temporary command post available on the site to control and monitor traffic conditions. The area shall be split up into zones, with an engineer assigned to each zone. These engineers would have the authority to react to situations and change restrictions if necessary.

2. Electronic ticketing shall replace parking guards at problem area lots and traffic signs on adjacent Coliseum streets to minimize parking lot back-up. In addition, season and regular ticket holders could be issued speed passes and assigned parking at specific lots.

3. Real time radio alerts and broadcasts via Highway Advisory Radio (HAR) shall be located where LADOT deems appropriate.

4. In conjunction with the aforementioned measures, Changeable Message Signs (CMS) shall be used to direct vehicles from the freeways and surface streets to the Coliseum/USC parking lots. At least eight or more signs would be needed for results to be noticeable and coordinated.

5. Project implementation shall include the development of a carpool incentive system to reduce the number of overall vehicle trips.

6. Alternate parking sites located away from the Coliseum shall be made available, as well as transportation to and from these parking areas and the Coliseum.

7. Existing turn prohibitions, as illustrated in Figure V.I.1-13, shall remain in place on game days.

LEVEL OF IMPACT AFTER MITIGATION

Intersections

For weekend Coliseum events, LADOT already applies traffic management measures to cope with the demand associated with the weekend USC games as reflected in the weekend results. As such the analysis demonstrates the level of significance with the implementation of all feasible mitigation measures.

Similarly, the Project weekday traffic analysis was modeled assuming the implementation of mitigation management techniques (i.e., turn restrictions and parking prohibitions and lane closures) for weekend events.

CMP

As mentioned in the previous chapter, the NFL football games at the Coliseum are projected to happen occasionally during the weekday p.m. peak hour. It would again be more appropriate to utilize an incident management plan that incorporates the I-10 and the I-110. The proposed management plans identified above cover the aspect of freeways in relation to the arterial streets. The plan advises the use of better education on freeway directions to and from games and it also addresses the possibility of game day signing. This can be achieved using CMS signs on freeways to alert drivers to incident spots or areas with less congestion. In summation, the freeway, along with the arterial streets, will be addressed in an integrated approach. The aim is to facilitate the movement of game day traffic and to relieve as much pressure as is feasible on the street network approaching the Coliseum. Nevertheless, CMP impacts would remain significant and unavoidable.

Figure V.I.1-13, Pre Event Turn Prohibitions

V. ENVIRONMENTAL IMPACT ANALYSIS
I. TRAFFIC, ACCESS AND PARKING
2. PARKING

ENVIRONMENTAL SETTING

There are 27 parking lots in the vicinity of the Project Site. Ten lots are within Exposition Park and provide parking for the museums and recreational areas as well as for the events at the Coliseum and the Sports Arena. A County of Los Angeles parking lot is located on the west side of Vermont Avenue, and two private parking areas are located on the south side of 40th Place. Four private parking lots, including one USC lot, are located on the east side of Figueroa Street, directly adjacent to Exposition Park, between Martin Luther King, Jr. Boulevard and Figueroa Street. The parking lot for the Department of Motor Vehicles is located east of the I-110 off of Exposition Boulevard, and the USC Parking Center is located north of the DMV's site on Jefferson Boulevard. Eight more parking areas are located to the north of Exposition Park, six of which are on the USC campus. The other two are located near the intersection of Jefferson Boulevard and Figueroa Street; one lot is located at the Shrine Auditorium, the other is private and is adjacent to the Shrine. Figure V.I.2-1 depicts the supply of off-street parking available for spectators at events in the Coliseum. The total number of existing parking spaces in the Coliseum, Exposition Park, and University Park (USC campus) is 19,820. On average, new NFL stadiums are requested to have approximately 18,000 parking spaces. However, many of these stadiums are located in areas where space is limited, and the average number of on-site parking spaces at these stadiums is only 7,200.[3]

ENVIRONMENTAL IMPACTS

Thresholds of Significance

The project would be considered to have a significant impact with regard to parking if the parking requirements of the Zoning Code are not met or if the anticipated parking demand, as provided through an appropriate analysis for the project, is not met by the supply of available on-site parking spaces. For purposes of this analysis, the provisions for providing parking for off site uses in accordance with pre-existing covenants and agreements shall be considered.

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[3] *Supplemental Report, Sports Marketing Issues Impacting Potential NFL Stadium Site Selection, prepared for the City of Los Angeles Community Redevelopment Agency, prepared by The Sports Business Group, January 2003.*

Project Impacts

The Proposed Project does not include any major changes to existing parking facilities at the Coliseum, Exposition Park, USC, or the surrounding area. In the same way that the Proposed Project and its reduced seating capacity will reduce traffic congestion for sold-out events, the Proposed Project will also reduce parking demands. The basis for this statement is that the capacity for Coliseum football games is currently at 92,500 persons. The proposed maximum capacity for future events under the Proposed Project would be 78,000 persons, a reduction of approximately 14,500 persons.

Compared with USC football games and other events currently held at the Coliseum, the impact of the reduced seating capacity at the Coliseum would reduce demands for off-site parking, on-street parking in residential areas or in private lots. The reduction in parking demands would also reduce the amount of traffic congestion generated by people searching for parking when the preferred parking lots within Exposition Park are full. In addition to the existing parking availability around the Coliseum, a subterranean parking structure is currently under construction adjacent to the California Science Center (see location 4 on Figure V.I.2-1). This structure is anticipated to be completed by 2004 and will have a final capacity of 2,210 vehicles. On game days, 50 of the aforementioned 2,210 spaces will be reserved for Museum Foundation members. The addition of 2,160 parking spaces will further serve to ameliorate existing parking deficiencies for events with capacities at or near full capacity. Aside from this new structure, it is not anticipated that there would be any change in the operation policy of museum parking. Therefore, the Proposed Project would not cause an impact on museum parking different from the current situation. Table V.I.2-1 illustrates the net beneficial impact that Coliseum events will experience under the Proposed Project. The supply of existing parking at Exposition Park and USC would come closer to satisfying all parking demands for an NFL game than either a USC game or a concert, assuming all is made available for use by attendees.

The full complement of non-Coliseum controlled lots may not be available for weekday parking by game time, as these lots may not be completely empty on game days due to USC, museum, and surrounding land use utilization. However, it is anticipated that weekday events would generate a larger percentage of people who would carpool or use transit services from the nearby downtown area.

This analysis does not mean to indicate that, just as at present, spectators will not still choose to park in residential neighborhoods or in the small private lots around the Coliseum. Those people who, for economic reasons or convenient access/egress reasons, prefer to park in locations where parking is less expensive will continue to do so. Therefore, there will always be some parking intrusion into residential neighborhoods on the immediate periphery of Exposition Park unless regulations are imposed against on-street parking. It is very difficult to monitor all the non-USC/Coliseum parking, as people open up their yards and lawns and allow vehicles to park in them. Retail establishments may also choose to close their parking lots and allow only Coliseum bound vehicles to park there. Figure V.I.2-2 shows the potential areas where yard and lot parking exists in relation to the project site.

Figure V.I.2-1, Parking Inventory

Table V.I.2-1
Parking Demand Summary

Event	Maximum Attendance	Maximum Parking Demand (spaces)	Parking Supply at Exposition Park & USC[a]	Maximum Overflow from Exposition Park & USC	Percentage of Demand Satisfied by Inventory
Existing Conditions	92,500	27,407	19,820[a]	7,587	72%
Proposed Project	78,000	25,200	21,980	3,220	87%
Net Change	-14,500	-2,207	+ 2,160	4,367	+ 15%

[a] *Parking supply based on the inventory depicted in Figure V.I.2-1.*
Source: Christopher A. Joseph & Associates, 2003, and Kaku Associates, August 2003.

In addition to the parking supplied by the Coliseum, USC, and other Exposition Park facilities, many Coliseum-bound spectators may choose to utilize parking away from the stadium to avoid the traffic congestion. There are large reservoirs of parking available in downtown Los Angeles such as the multi-story garage at Venice Boulevard and Grand Avenue. On days when there is no game/event scheduled at the Staples Center or the Los Angeles Convention Center, there is a possibility that the vacant parking lots belonging to those two land uses could also be utilized to cope with the demand for football games at the Coliseum. Shuttle buses that have specific pick-up and drop-off locations could provide access to the stadium.

As the Proposed Project would reduce maximum capacity at the project site from existing conditions, impacts to parking are expected to be less than significant.

CUMULATIVE IMPACTS

The existing parking infrastructure meets the City's code for required parking for the project. In addition, the parking demand created by the proposed project can be adequately met by the parking supply provided on and around the Project Site. Therefore, the project would not contribute to a cumulative shortage of parking in the area. The cumulative impact of the Proposed Project, in conjunction with the related projects, namely related project Number 32 (See Section IV.C, Cumulative Projects), would result in a net beneficial impact with respect to parking availability in the project vicinity. As such, cumulative impacts would be less than significant.

MITIGATION MEASURES

No significant parking deficiency impacts are anticipated; therefore, no mitigation measures are required.

Figure V.I.2-2, Location for Yard and Off-Street Parking