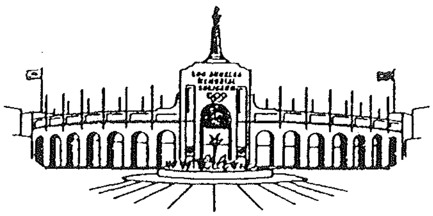
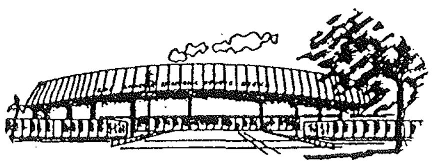


SITE OF 1932 AND 1984
OLYMPICS ATHLETICS COMPETITION
OPENING & CLOSING CEREMONIES



SITE OF 1984 OLYMPICS
BOXING COMPETITION

LOS ANGELES MEMORIAL COLISEUM COMMISSION
COLISEUM, 3911 S. FIGUEROA ST. • (213) 765-6711 • SPORTS ARENA, 3939 S. FIGUEROA ST. • (213) 748-6136
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NOTICE OF COMPLETION OF THE DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE LOS ANGELES MEMORIAL COLISEUM RENOVATION PROJECT

TO: All Concerned Public Agencies, Organizations and Individuals

FROM: The Los Angeles Memorial Coliseum Commission

PROJECT LOCATION: Los Angeles Memorial Coliseum,
3911 South Figueroa Street, Los Angeles, California

DATE: September 5, 2003

Pursuant to the California Environmental Quality Act (P.R.C.§21000 et seq.), the Los Angeles Memorial Coliseum Commission ("Coliseum Commission"), as the Lead Agency, is providing public notice that it has completed a Draft Environmental Impact Report (Draft EIR) for the Los Angeles Memorial Coliseum Renovation Project ("Proposed Project").

Project Location

The Los Angeles Memorial Coliseum ("Coliseum") occupies a 27.4-acre parcel of land within the boundaries of the Exposition Park Master Plan Area. Exposition Park is located approximately two miles southwest of the downtown Los Angeles area and encompasses a total of 160 acres. Exposition Park is bounded by Exposition Blvd. to the north, Figueroa St. on the east, Martin Luther King Jr. Blvd. on the south, and Vermont Ave. on the west. The Coliseum is generally situated in the center of Exposition Park.

Project Description

The Proposed Project includes a conceptual plan to renovate the Coliseum, including the rehabilitation of portions of the 27.4-acre project site surrounding and containing the Coliseum structure itself. The Proposed conceptual design would reduce the fixed seating capacity for all events from the existing level of 92,500 seats to a maximum of approximately 78,000 seats. In addition, the conceptual design includes approximately 200 luxury suites and two approximate 20,000-square-foot structures outside of the stadium for ancillary retail or office use. One of the principle goals of the Proposed Project is to renovate the Coliseum in conformance with the generally accepted standards of design for National Football League (NFL) stadiums, thus enabling the Coliseum Commission to support an NFL franchise in the City of Los Angeles. The NFL and USC Trojans football teams would be the primary tenants at the Coliseum, holding all of their home games in the stadium. Other events that would be held at the renovated Coliseum would include those already occurring such as soccer matches, off-road vehicle events, political rallies, concerts and other cultural events.

The Proposed conceptual design will retain and restore as much of the existing Coliseum façade, bowl geometry and seating areas as physically and practically possible, within the constraints of operational, programmatic and historic restoration guidelines. The Proposed Project would be constructed over an approximate 18- to 20-month period. Current plans call for the commencement of construction activities in 2004 with completion by 2006.

Probable Environmental Effects

In summary, the Draft EIR concludes that the Proposed Project would result in less than significant environmental impacts for the following issue areas: Aesthetics (Visual Impacts, Light and Glare), Land Use, Noise, Geology/Seismic Hazards, Public Services (Police and Fire), Public Utilities (Energy Conservation, Water Conservation, Wastewater, Solid Waste), and Parking. The Draft EIR found the Proposed Project would result in significant and unavoidable environmental impacts for the following issue areas: Air Quality, Cultural and Historical Resources, and Traffic.

Public and Agency Comment

In accordance with the State CEQA Guidelines (C.C.R. § 15105), the Draft EIR will be circulated for a 45-day review period beginning September 8, 2003. During this period, all public agencies, interested individuals and organizations are encouraged to provide written comments regarding the adequacy and completeness of the EIR. All comments should be submitted in writing to the Coliseum Commission at the following address no later than October 22, 2003:

Los Angeles Memorial Coliseum Commission
Attn: Margaret Farnum, Chief Administrative Officer
3911 S. Figueroa Street
Los Angeles, California, 90037
Fax: (213) 748-5828

The Draft EIR will be made available to the general public at the address listed above. Copies of the Draft EIR will also be made available to view in electronic format on the Coliseum Commission's official website at http://www.lacoliseum.com.

LOS ANGELES MEMORIAL COLISEUM RENOVATION PROJECT

DRAFT
ENVIRONMENTAL IMPACT REPORT

Prepared for:
Los Angeles Memorial Coliseum Commission

September 5, 2003
SCH# 1990011065

Prepared by:
CHRISTOPHER A. JOSEPH & ASSOCIATES
Environmental Planning and Research

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TABLE OF CONTENTS

APPENDICES

FIGURES

FIGURES (continued)

TABLES

TABLES (continued)

I. INTRODUCTION

OVERVIEW OF THE ENVIRONMENTAL REVIEW PROCESS

The California Environmental Quality Act (CEQA) (Public Resources Code (P.R.C.) Division 13, § 21000 et seq.) was enacted in 1970 with the main objective of providing public disclosure to inform Decision-Makers and the public of the significant environmental effects of proposed activities and to require agencies to avoid or reduce the environmental effects by implementing feasible alternatives or mitigation measures.

CEQA applies to all discretionary activities proposed to be carried out or approved by California public agencies, including state, regional, county, and local agencies. The proposed Los Angeles Memorial Coliseum Renovation Project ("Proposed Project") requires discretionary approval from the Los Angeles Memorial Coliseum Commission ("Coliseum Commission") and, therefore, is subject to the environmental review requirements established under CEQA. For purposes of complying with CEQA, the Coliseum Commission is identified as the Lead Agency for the Proposed Project.

This Draft Environmental Impact Report (EIR) is a "Project EIR" prepared in accordance with CEQA and the State CEQA Guidelines (California Code of Regulations (C.C.R.), Title 14, Division 6, Chapter 3, § 15000-15387, as amended). As provided by the State CEQA Guidelines § 15121(a):

> *"An EIR is an informational document which will inform public agency decision-makers and the public generally of the significant environmental effect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project. The public agency shall consider the information in the EIR along with other information which may be presented to the agency."*

The subject of this Draft EIR is the proposed renovation of the Los Angeles Memorial Coliseum ("Proposed Project"), located at 3911 South Figueroa Street in the City of Los Angeles. For a detailed description of the Proposed Project, see Section III.C, Project Characteristics. For a detailed description of the Project Site and the surrounding locale, see Section IV.A, Overview of Environmental Setting.

As Lead Agency for the Proposed Project, the Coliseum Commission conducted an initial review of the Proposed Project's potential impacts and determined that the Project could have a significant effect on the environment and has required that an EIR be prepared. On May 22, 2003, the Coliseum Commission distributed a Notice of Preparation (NOP) and project description to local and regional responsible agencies and other interested parties. Written responses to the NOP (received during a 30-day comment period ending on June 23, 2003) were evaluated and considered in the development of this Draft EIR. A matrix identifying each NOP respondent and categorizing each response by subject matter is contained in Appendix A to this report. Copies of each response are also contained in Appendix A to this report.

Based upon the initial review of the Proposed Project and a review of the NOP responses from responsible and trustee agencies, and other interested organizations and preservation interest groups, the EIR focuses on the following set of issues:

- Aesthetics (Visual Impacts and Light and Glare);
- Air Quality;
- Cultural and Historic Resources;
- Geology/Seismic Hazards;
- Land Use;
- Noise;
- Public Services (Fire and Police Services);
- Public Utilities (Energy Conservation, Water Conservation, Sanitary Sewers, Solid Waste Disposal); and
- Traffic, Access and Parking.

FORMAT OF THE EIR

Including this introductory Chapter, this Project EIR is comprised of nine Sections.

Section II of this EIR includes a concise summary of the probable environmental effects of the Proposed Project, mitigation measures and the levels of significance assuming all of the identified mitigation measures are implemented.

Section III of this EIR includes the Project Description. The Project Description is comprised of three subsections, including: the location and boundaries, the project objectives and the project characteristics.

Section IV of this EIR provides an overview of the environmental setting. This Section includes a description of the environmental conditions at the time the NOP was published, a statement of the analytical assumptions that were employed in preparing the analyses, and a description of cumulative related projects.

Section V of this EIR includes the environmental impact analysis for the proposed project. The environmental impact analysis section includes detailed analysis on nine environmental issue areas, as previously identified above. Each analysis provides a detailed account of the environmental setting, a statement of the thresholds of significance in which the potential impacts were evaluated, a list if feasible mitigation measures (if applicable), a cumulative impact analysis, and a statement of the level of environmental impact after implementation of the recommended or required mitigation measures.

Section VI of this Draft EIR includes a discussion of mandatory general impact statements including: a summary of significant unavoidable impacts of the Proposed Project, growth-inducing impacts of the Proposed Project, and effects of the Proposed Project found not to be significant.

Additionally, CEQA requires that the EIR include a reasonable range of project alternatives that may reduce the effects of the proposed project. Section VII, Alternative to the Proposed Project, includes an analysis of the following Project Alternatives:

1) No Project Alternative;

2) Alternative Design Without Roof Structure;

3) Evaluation of Alternative Site(s).

Section VIII of this EIR includes a list of organizations and persons consulted during the preparation of the EIR.

Section IX of this EIR includes a list of references and acronyms used in creating this environmental report.

PUBLIC PARTICIPATION

To provide full public disclosure of potential environmental impacts that may occur as a result of a Proposed Project, CEQA requires that Draft EIRs be noticed and circulated to all responsible and trustee agencies as well as the general public. In accordance with the State CEQA Guidelines, this Draft EIR will be circulated for a 45-day review period. During this period, all public agencies and interested individuals and organizations are encouraged to provide written comments addressing their concerns with the adequacy and completeness of the EIR. When providing written comments on the subject matter of the EIR, the readers are referred to State CEQA Guidelines, 15204(a), which state:

> *"In reviewing Draft EIRs, persons, and public agencies should focus on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the project might be avoided or mitigated. Comments are most helpful when they suggest additional specific alternatives or mitigation measures that would provide better ways to avoid or mitigate the significant environmental effects. At the same time, reviewers should be aware that the adequacy of an EIR is determined in terms of what is reasonably feasible, in light of factors such as the magnitude of the project at issue, the severity of its likely environmental impacts, and the geographic scope of the project. CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commentors. When responding to comments, lead agencies need*

> *only respond to significant environmental issues and do not need to provide all information requested by reviewers, as long as a good faith effort at full disclosure is made in the EIR."*

The 45-day public review period will commence on September 8, 2003 and end on October 22, 2003. All comments regarding the adequacy of the Draft EIR should be submitted in writing to the Coliseum Commission at the following address no later than October 22, 2003:

Los Angeles Memorial Coliseum Commission
Attn: Margaret Farnum, Chief Administrative Officer
3911 S. Figueroa Street
Los Angeles, California, 90037
Fax: (213) 748-5828

The Draft EIR will be made available to the general public at the address listed above. Copies of the Draft EIR will also be made available to view in electronic format on the Coliseum Commission's official website at *http://www.lacoliseum.com*. Public and agency notice of availability of the Draft EIR will be made in accordance with CEQA. Following the public review period, the Lead Agency will prepare a Final EIR. The Final EIR will include additions and corrections to the Draft EIR, as warranted, and will include written responses addressing the comments and recommendations received by individuals, organizations, and public agencies during the review period.

INTENDED USES OF THIS EIR

Pursuant to Section 15124 (d) of the CEQA Guidelines, the following section describes the intended uses of this EIR, to the extent that this information is known at the time of this writing. The purpose of this EIR is to provide an objective analysis of the environmental implications of the Proposed Project through the evaluation of potentially significant environmental issues. In addition, feasible mitigation measures are recommended, when applicable, that could reduce such adverse impacts to insignificant levels.

Public Agency Actions

The Proposed Project will require the following discretionary approvals from the Los Angeles Memorial Coliseum Commission, the designated Lead Agency:

- Certification of the Final Environmental Impact Report;
- Approval of the Mitigation Monitoring Program;
- Approval of the Development and Concept Plan.

Other ministerial and/or discretionary approvals required in order to execute and implement the Proposed Project, as necessary, may include but are not limited to permits for excavation, shoring, barricades in public ways, and installation of public improvements; permits that may include grading, foundation support, and building permits; required permits for mechanical, electrical, plumbing, and heating/ventilating/air conditioning (HVAC) system; and approval of a haul route for export of soil/debris materials. Jurisdiction for such permits and/or approvals may be ceded to the City of Los Angeles, County of Los Angeles or State of California, as may be appropriate.

II. EXECUTIVE SUMMARY

This EIR has been prepared at the direction and under the supervision of the Los Angeles Memorial Coliseum Commission ("Coliseum Commission)" in accordance with the California Environmental Quality Act (CEQA)[1] and the Guidelines for Implementation of CEQA (State CEQA Guidelines)[2], as amended. The Coliseum Commission is the Lead Agency for the EIR pursuant to CEQA.

This Executive Summary provides a brief description of the Proposed Project, a summary of the potential environmental impacts, mitigation measures, and levels of impact after mitigation.

PROJECT LOCATION

The Los Angeles Memorial Coliseum ("Coliseum") occupies a 27.4-acre parcel of land within the boundaries of the Exposition Park Master Plan Area. Exposition Park is located approximately two miles southwest of the downtown Los Angeles area and encompasses a total of 160 acres. Exposition Park is bounded by Exposition Boulevard to the north, Figueroa Street on the east, Martin Luther King Jr. Boulevard on the south, and Vermont Avenue on the west. The Coliseum is generally situated in the center of Exposition Park. The 27.4-acre parcel of land that includes the Coliseum and the areas immediately surrounding the Coliseum define the "Project Site."

Other land uses immediately adjacent to the Project Site include grass-covered athletic fields and surface parking for Exposition Park facilities across Menlo Avenue to the west, the Los Angeles Memorial Sports Arena and adjacent surface parking across South Coliseum Drive to the southeast, and the California Science Center and the Los Angeles County Museum of Natural History across North Coliseum Drive to the north. All of these adjacent facilities are also within Exposition Park. All of Exposition Park, including the Coliseum, is located within the City of Los Angeles in the City's South Central Los Angeles District Plan area.

PROJECT CHARACTERISTICS

The Proposed Project would reduce the Coliseum's existing maximum seating capacity from 92,500 persons for all events to approximately 78,000 persons. The renovation includes the addition of approximately 200 luxury suites and two approximate 20,000-square-foot structures outside of the stadium for ancillary retail or office use. The NFL and USC Trojans football teams would be the primary tenants at the Coliseum, holding all of their home games in the stadium. Other events that would be held at the

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[1] *State of California Public Resources Code Section 21000 et. seq.*

[2] *California Code of Regulations (CCR), Title 14, Sections 15000 et seq.*

renovated Coliseum would include those already occurring such as international soccer matches, off-road vehicle events, public speaking events, political rallies, and concert performances.

The existing exterior wall of the Coliseum would remain virtually intact and existing ancillary structures would be removed. The Peristyle end of the Coliseum would remain intact, along with the adjacent Coliseum Commission offices. New press facilities would be integrated into the upper suite level, eliminating the press box that currently extends above the exterior wall of the seating bowl. The interior of the renovated Coliseum would continue to feature the Peristyle as the dominant architectural element in the east end of the bowl. The color video board, black and white matrix boards and sound clusters that are currently attached to the top of the Peristyle would be removed and relocated to other areas of the stadium. Pedestrian access to the Project Site would continue to remain substantially as at present from the outlying parking areas off-site. The existing perimeter fence bordering the Peristyle area of the Coliseum would be removed, providing increased general pubic open space areas immediately surrounding the Coliseum. No major alterations to the existing parking arrangement(s) at the Coliseum are contemplated as part of the Proposed Project

The Proposed Project would be constructed over an approximate 18 to 20-month period. Current plans call for the commencement of construction activities in 2004 with completion of the renovations to be achieved by 2006.

SUMMARY OF ENVIRONMENTAL IMPACTS

Unavoidable Significant Environmental Impacts

The Proposed Project would result in significant unavoidable environmental impacts for the following environmental issue areas:

- Air Quality (construction and operational),
- Cultural and Historic Resources, and
- Traffic

Refer to Section VI.A, Unavoidable Significant Environmental Impacts, for discussion on each of these impact areas.

Effects Found Not to be Significant

The following environmental impact or issue areas were determined to have less than significant impacts and would not require analysis or mitigation: Agricultural resources, Biological Resources, Hazards and Hazardous Materials, Mineral Resources, and Population and Housing. Refer to Section VI.C, Effects Found Not to be Significant, for discussion on each of these impact areas.

The EIR included a detailed discussion of the following environmental issue areas and concluded that Project impacts to these issue areas would be less than significant and warranted no mitigation measures:

Aesthetics

Impact on the Visual Character of the Site and Locale

The Proposed Project would renovate the interior of the Coliseum, altering its existing interior appearance but the historically significant exterior fabric will remain intact. The separation of the stadium's seating into three main sections would effectively change the perception of the existing stadium as a homogeneous symmetrical, elliptical bowl. The addition of a new upper seating deck above the new suite levels and horizontally positioned closer to the field could create the general effect of a smaller, less expansive stadium. The overall alteration of the interior of the Coliseum would be considered a significant visual change. From an aesthetic point of view, this change could be considered either adverse or beneficial. In keeping the exterior facade intact and retaining as much of the original seating fabric as possible, the existing portions of the seating areas would remain visible behind the new seating areas from the main concourse and club level areas. As a result, the Coliseum would retain its historic image and feel within a modern state-of-the art sports venue.

Alterations to Viewsheds

Impacts to views of the Project Site from north to south, from south to north, from west to east, and from east to west would not be considered adverse or significant. Views of the Coliseum from west to east would be opened by the removal of ancillary structures and the surrounding gate. The Coliseum's existing facade would continue to be prominent in the foreground and virtually unchanged. Impacts to viewsheds from surrounding areas are expected to be neither adverse nor significant.

Light and Glare

A detailed lighting system has not yet been designed for the Proposed Project. However, the Proposed Project includes the incorporation of a tensile fabric roof canopy facing inward along the north and south sides of the stadium with floodlights attached to the roof to illuminate the field. As the floodlight design of the Proposed Project directs lighting more accurately than the existing lighting system, a significant beneficial reduction in the amount of light projected onto adjacent properties would result as compared to existing conditions. Thus, the *magnitude* of direct light and glare from the field lighting will be reduced significantly with the Proposed Project.

Land Use

Land Use Compatibility

Development of the Proposed Project would modify various aspects of the Coliseum, but would continue the site's existing character of use. As a result, the Project would facilitate the continuance of existing uses, which are considered to be physically compatible with the surrounding environment with respect to traffic, access and parking, noise and demands on public services (i.e., Police and Fire). Implementation of the project would maintain the existing physically compatible aspects of the Coliseum resulting from its location in Exposition Park. It is anticipated that the Proposed Project would secure the continued long-term utilization of the Coliseum at or near historic levels, and facilitate the land use objectives of the Exposition Park Master Plan, the South Los Angeles Community Plan, and the Hoover Redevelopment Plan with respect to promoting revitalization of the Park and preserving cultural monuments. Therefore, land use compatibility impacts would be less than significant.

Public Services - Fire Protection

Development of the Proposed Project would not be expected to alter the existing administrative fire protection procedures currently in place at the Coliseum and in the immediately surrounding area. According to the LAFD, the Proposed Project would not require any changes to the existing fire-flow conditions. Since the Coliseum is an existing use, the required fire flow is currently maintained at an acceptable level. Impacts to fire protection services are therefore considered less than significant.

Public Utilities -Energy Conservation

Electricity

Electricity consumed by the Proposed Project would be approximately 63,323 kilowatt hours (kWh) per event, and 1,317 kWh per day on non-event days. On event and non-event days the Proposed ancillary uses are expected to consume approximately 1,419 kWh per day. Annually, the Proposed Project will consume approximately 3.4 million kWh (based on 46 events per year and ancillary use daily throughout the year). This represents an increase of approximately 1.2 million kWh per year over existing conditions. The ability of the DWP's regional infrastructure to deliver the peak electrical requirement to the site would not be expected to be severely affected by implementation of the Proposed Project. However, additional power facilities could be required in order to serve the load growth associated with the Proposed Project. Such improvements could be made with minimal impact upon the surrounding land uses. Impacts to electricity infrastructure and supply are therefore expected to be less than significant.

Natural Gas

Natural gas consumption by the Proposed Project was estimated using the amount of electricity currently consumed on the Project Site and projecting an increase in up to 12 additional football games per year. Natural gas consumed by the Proposed Project would be approximately 33,835 cf per event. The proposed ancillary uses would consume approximately 2,630 cf of natural gas per day. Annually, the Proposed Project would be anticipated to consume approximately 2.3 million cf (based on stadium consumption during 46 events per year and ancillary use daily throughout the year). This represents an increase of approximately 1.3 million cf of natural gas per year over existing conditions. The ability of the Southern California Gas Company's regional infrastructure to deliver the peak natural gas requirement to the site would not be expected to be severely affected by implementation of the Proposed Project. Project impacts to natural gas services are expected to be less than significant.

No significant impacts upon electricity or natural gas resources or infrastructure systems have been identified, thus no mitigation measures are required. Nevertheless, the LADWP recommends the following measures be incorporated into the final design as feasible, to reduce the Project's demands for energy resources.

1. During the design process, the applicant should consult with the Los Angeles Department of Water and Power, Efficiency Solutions Business Group, regarding possible energy efficiency measures. The applicant shall incorporate measures to meet or, if possible, exceed minimum efficiency standards for Title XXIV of the California Code of Regulations.

Public Utilities - Sanitary Sewers

The Proposed Project would be estimated to generate approximately 390,000 gallons of sewage per event, assuming maximum attendance at all Coliseum events. Ancillary structures will generate approximately 6,000 gallons of wastewater per day. It should be noted that the maximum possible sewage consumption from the site experienced during any Coliseum event could be reduced from projected levels upon implementation of the Proposed Project. This reduction would be accomplished through the installation of a more water-efficient infrastructure and fixtures which could result in a reduction in the average per-person per-event sewage generation. Sewage generated by the project would continue to flow to the Hyperion Treatment Plant, which will have adequate capacity to accommodate the increase in wastewater flows. The City of Los Angeles Department of Public Works, Bureau of Sanitation has determined that impacts on City of Los Angeles sewer services by the Proposed Project will be less than significant, assuming maximum capacity conditions.[3]

Public Utilities - Solid Waste

The Proposed Project is anticipated to generate approximately 1,860,671 pounds (or approximately 930 tons) of solid waste per year. Existing uses on the site generate approximately 837,071 pounds (or approximately 419 tons) of solid waste per year. Therefore, implementation of the Proposed Project would generate a net increase of approximately 1,023,600 pounds (or approximately 512 tons) per event. Development of the Proposed Project could potentially result in an approximate 23 % increase

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[3] *City of Los Angeles, Department of Public Works, Bureau of Sanitation, July 29, 2003.*

in the volume of solid waste generated by the Coliseum. Since the Proposed Project represents a relatively low increase in annual solid waste generation at the Project Site as compared to existing conditions, and regional landfill capacity is currently adequate to accommodate the regional solid waste demands for the City of Los Angeles, impacts associated with the Proposed Project would be considered less than significant.

Parking

The Proposed Project does not include any major changes to existing parking facilities at the Coliseum, Exposition Park, or the USC Campus, which are all currently available to meet the parking demand of existing Coliseum events. Reduced seating capacity at the Coliseum for NFL games would result in a reduction in the demand for off-site parking, on-street parking in residential areas or in off-street small private lots, as well as a reduction in the amount of congestion associated with people searching for parking. In addition to all the existing parking around the Coliseum, a subterranean parking structure is being constructed adjacent to the California Science Center. Utilization of this structure would further reduce impacts upon parking demand. Currently, the Coliseum has the potential to generate parking demands on the order of 27,407 spaces. This is currently met by a cumulative parking availability of 19,820 parking spaces at the Coliseum, within Exposition Park and on the USC Campus. The remaining cars generally park off-site in the neighborhoods to the west and south of the Coliseum. The Proposed Project will decrease the demand for parking spaces by approximately 2,207 spaces and will be served by additional 2,160 spaces. As such the Project will experience a net increase in parking availability by approximately 4,367 spaces or 15% percent as compared to the existing conditions. Thus, impacts associated with parking availability are expected to be less than significant.

Impacts Determined to be Potentially Significant, but Can be Mitigated to Less Than Significant Levels

Based upon the environmental characteristics of the Proposed Project Site and surrounding areas, and the characteristics of the Proposed Project, implementation of the Proposed Project could create significant environmental impacts in the following areas: Aesthetics, Geoloy/Seismic Hazards, Land Use, Noise, Public Services, and Public Utilities. These issues were examined in detail in the EIR and the findings of the analysis are summarized below for each issue.

Air Quality

Construction

Construction of the 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). 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 project's fugitive dust emissions would result in a significant impact. Various forms of tractors and diesel equipment will be used during the demolition, excavation and site preparation phase of the project. Emissions associated with these phases of project construction would not exceed SCAQMD thresholds for ROG or SOx criteria pollutants; however the thresholds would be exceeded for NOx CO, and $PM_{10.}$ These exceedances would be considered significant.

Operations

Future operational emissions are estimated based on the maximum seating capacity of 78,000. Future attendance under both scenarios would be below the maximum attendance capacity of the existing Coliseum, thus vehicle trips and associated air emissions would be reduced as compared to a sold out event at the existing Coliseum. Mobile source emissions would exceed SCAQMD thresholds for ROG, NOx, CO and PM_{10} emissions. The threshold would not be exceeded for SOx emissions.

Localized 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.

AQMP Consistency

The renovation of the Coliseum 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 Project would be consistent with growth forecasts adopted by the City and therefore consistent with the local City of Los Angeles General Plan. The Project is therefore consistent with the AQMP.

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 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 Project shall implement the required traffic management measures described in Section IV.C.6 of this report, Traffic, Parking, and Access.

Level of Impact After Mitigation

With the implementation of the mitigation measures described above, daily construction emissions would still exceed threshold criteria established by the SCAQMD for ROG, CO, SOx and NOx emissions. PM_{10} emissions would be reduced to below the significance thresholds and would therefore be less than significant.

Implementation of the mitigation measures described above would reduce the Project's operational air quality emissions. However, for maximum-attendance Coliseum events, the amount of reduction achieved by the mitigation measures would not be sufficient to reduce impacts to acceptable levels.

Cultural and Historic Resources

The Coliseum is designated as a National Historic Landmark, a State Historical Landmark, and is listed on the National Register of Historic Places (National Register). It should also be noted that the Coliseum is listed as a National Historic Landmark because of the events that have occurred there and that the stadium itself has been a backdrop to these events. Most of the alterations of the Proposed Project preserve the historic character-defining features of the Coliseum. The Proposed Project retains and enhances the character-defining features of the Coliseum. A few elements will be covered over by new construction, and an even smaller number of features will be removed.

The Proposed Project will update the Coliseum and make it economically viable while keeping consistent its use as a sports facility, thus there will be no impact on its historic designations. Its historic use is largely why it has been designated a National and State landmark, and this rehabilitation will guarantee that historic use can continue in the future. The proposed rehabilitation meets all of The Secretary of Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Structures (The Standards) except for the removal of the seating at some locations. The removal of some of the existing seating, considered to be part of the historic fabric of the Coliseum, is a significant impact and cannot be feasibly mitigated. The exterior of the Coliseum will be returned to its former appearance and the Peristyle will be restored enhanced with the removal of the large electronic scoreboards.

Mitigation Measures

The following mitigation measures are recommended to reduce the Proposed Project's impact upon historic resources. Mitigation measures shall be included in all contracts between the applicant and Project contractors to assure compliance with the following:

1. Recordation. Demolition of any historic fabric shall be documented in a report consistent with Historic American Buildings Survey (HABS) standards. The report shall document the significance and physical condition of the historic resources proposed for demolition, both historic and current, photographs, written data, and text. The documentation shall include:

    a. A brief written historic and descriptive report shall be completed in narrative format, including an architectural data form.

    b. A site plan on 8" x 11" paper showing the location of the buildings should be included. This site plan shall include a photo-key.

    c. A sketch floor plan on 8" x 11" paper shall accompany each architectural data form.

d. Large format (4" x 5" or larger negative size) photographs in accordance with HABS guidelines. Views shall include several contextual views, all exterior elevations, detailed views of significant exterior architectural features, and interior views of significant historical architectural features or spaces.

e. Field photographs (35mm) based on HABS guidelines. Views as detailed in large format photographs.

f. The report shall include copies or prints of any available original plans and historic photographs.

g. Archivally stable reproductions of any available significant historic construction drawings and photographs.

h. Archival copies of the documentation shall be submitted to the Los Angeles Memorial Coliseum Commission.

2. In accordance with Standard 7 of the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings*, the surface cleaning of structures shall be undertaken with the gentlest means possible. Sandblasting and other cleaning materials that will damage the historic building materials shall not be undertaken.

3. The Proposed Project shall be constructed in substantial compliance with the Conceptual Historic Fabric Retention Plan, as depicted in Figure III-3 of this EIR.

Level of Impact After Mitigation

As a result of the Proposed Project, there is no specific mitigation for the loss of historic materials, primarily the removal of portions of the seating. Other alterations to the Coliseum either improve the character-defining features or could be reversed in the future. Therefore, an unavoidable adverse impact is created through the removal of some original seating.

Geology/Seismic Hazards

Implementation of the Proposed Project would result in the excavation and removal from the site of approximately 250,000 cubic yards of soil and demolition debris material.

Geology

Impacts associated with implementation of the Proposed Project on the site's geologic formations, inclusive of the near surface alluvial deposits, are expected to be minimal. Laboratory testing indicated that the surface soils within the foundation area of the proposed development are not expansive, collapsible, or compressible. Therefore, implementation of the Proposed Project is not expected to produce any adverse impacts relative to non-seismic geotechnical issues.

Grading and Excavation

Dust raised during grading would have an incremental short-term adverse impact on local and regional air quality. In addition, the excavation and hauling of earth materials would temporarily increase noise levels in the immediate area for the expected 18 to 20 month duration of Project construction activities. Discarded building and/or earth materials containing any hazardous materials, primarily asbestos, would be disposed of in accordance with all applicable local, state, and federal regulations.

Groundwater

Groundwater is not expected to be encountered during grading or construction; however, perched groundwater or saturated soil conditions may exist in scattered areas underneath the site. Implementation of the Proposed Project is not expected to produce any adverse impacts relative to groundwater.

Liquefaction

Due to the depth of the groundwater table and the relatively high density of the soils underlying the site area, the potential for soil liquefaction is considered very remote. Therefore, the Proposed Project would not be subject to significant impacts caused by seismically-induced liquefaction.

Seismicity

Since no known or mapped active, potentially active, or inactive faults, if projected, would trend toward or directly through the Project Site area, and the Coliseum does not lie in an Alquist-Priolo Special Study Zone, impacts associated with implementation of the Proposed Project relative to the seismic displacement of structures on the site would be less than significant.

Ground Shaking

Eleven faults were identified that could influence the site relative to earthquake ground shaking. Additional faults outside the local area, such as the San Andreas would also have the potential to create moderately strong ground motion effects in the project area. A significant impact posing an increased threat to public safety or destruction of property by ground shaking is not expected to occur with the development of the Proposed Project. Construction practices in strict compliance with the Uniform Building Code would reduce these inherent risks to acceptable standards. Impacts associated with seismic hazards would be less than significant.

Mitigation Measures

The following mitigation measures are required in order to effect a reduction in the severity of potential on-site impacts:

1. All structures to be constructed or renovated as part of the Proposed Project shall be designed as required by either the Uniform Building Code for structures within Seismic Zone 4, or other pertinent State and/or City building codes (such as Division 23, Section 91.2305 of the City of Los Angeles Building Code), to withstand the expected ground motions.

2. A comprehensive geotechnical investigation shall be prepared to the satisfaction of the responsible State and/or City reviewing agencies. The investigation shall verify the soil conditions under the proposed structures and derive the pile capacities.

3. All grading activities shall be in compliance with specific recommendations and requirements provided in the geotechnical report prepared for the Proposed Project, subject to review and approval by the appropriate State and/or City responsible agencies.

4. A copy of the foundation report and/or supplements and approval letter shall be attached to the State and/or City office and field sets of plans, with one copy of the foundation report and/or supplements submitted to the State and/or City plan checker prior to the issuance of the permit.

5. During construction, all grading shall be carefully observed, mapped, and tested by the project engineer. All grading shall be performed under the supervision of a certified engineering geologist and/or soils engineer in accordance with the applicable provisions of the State and/or City Building Codes to the satisfaction of the State and/or City building and safety authorities. The responsible engineer shall review and approve the foundation plan and/or the excavation/shoring plan prior to the issuance of any permits.

6. Artificial fills in the existing 35-foot earth berm shall not be considered suitable for the support of foundations unless excavated, recompacted, and tested to be in compliance with the applicable State and/or City Grading Codes.

7. The geologist or the soils engineer shall inspect and approve all fill and subdrain placement areas prior to placing fill.

8. Haul route approval for the transport of graded and excavated earth materials and removed building materials to receptor sites and/or local landfills shall be obtained from the City of Los Angeles Department of Building and Safety and/or other responsible City agencies. Haul routes for the transport of such materials shall be established, where possible, through non-residential areas so as to minimize the effects of noise, and shall maximize, where possible, the distance traveled on major arterials.

9. Discarded building and/or earth materials containing any hazardous materials, primarily asbestos, shall be disposed of in accordance with all applicable local, state, and federal regulations.

10. To the maximum extent feasible, uncontaminated graded materials shall be transported off-site to a receptor site needing imported fill material. Landfills shall only be considered as a last resort disposal option for materials from the site.

11. Prior to the issuance of building permits, if the soils and/or perched groundwater beneath the site are found to be contaminated, the City of Los Angeles Fire Department shall be notified and provided with a summary of all local, state, county, and federally required remediation activities and submit evidence of compliance.

12. Where encountered on the site, perched groundwater or saturated soils should be removed to the extent feasible or necessary.

Level of Impact After Mitigation

Implementation of the recommended mitigation measures would reduce, but not eliminate, impacts to local landfills from the disposal of earth and building materials. With implementation of the foregoing mitigation measures, project construction and operation impacts would be mitigated to less than significant levels.

Noise

Construction-Related Noise

Construction noise levels inside the Coliseum would be reduced by the Coliseum wall to approximately 79 dBA at a distance of 50 feet from the source. Noise generated by the demolition of the outbuildings and other landscaping improvements outside the Coliseum would not be attenuated, as there are no intervening structures or obstacles separating the Coliseum grounds from the rest of Exposition Park. Some of the sensitive receptors located within Exposition Park are within 100 feet of the proposed active construction areas and will experience significant noise levels (above 75 dBA). Off-site construction noise will likely result from the ingress and egress of haul trucks used to transport excavated materials. This would result in a relatively short-term and temporary noise impact for some sensitive receptors.

Coliseum Event Noise

The design for the stadium would include a distributed sound system including hundreds of small sound speakers throughout the stadium and concourse areas. As the project involves the renovation of an existing recreational facility that already creates significant noise impacts, and the project would not increase the intensity of crowds or number of events per year, the project's operational noise impacts would be less than significant.

Noise from Event Traffic

It is anticipated that the average attendance at Coliseum events would decrease as a result of the renovation. The decrease in attendance would, in all likelihood, result in a corresponding decrease in vehicle traffic. It is not expected that the reduced level of traffic would have a significant noise reduction impact because the decrease in traffic volume is not great enough to produce discernible noise reduction. However, as stated above, since the project involves the renovation of an existing recreational facility that already creates significant noise impacts, and the project would not increase the intensity of crowds or number of events per year, the project's operational noise impacts from event traffic would be less than significant.

Mitigation Measures

1. The Applicant shall comply with the construction hours as specified by the City LAMC Noise Ordinance, Chapter IV, Section 41.40., which prohibits construction before 7:00 a.m. or after 6:00 p.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday or any national holiday, and at anytime on Sunday.

2. The Applicant shall prepare a construction-related traffic plan detailing proposed haul routes and staging areas for the transportation of materials and equipment, with consideration for sensitive uses in the neighborhood. A traffic and parking plan for the construction phase will be submitted for approval by LADOT and the Department of Building and Safety prior to the issuance of any permits.

3. Adjacent museums and residents shall be given regular notification of major construction activities and their durations. A visible and readable sign (at a distance of 50 feet) shall be posted on the construction site identifying a telephone number where residents can inquire about the construction process and register complaints.

4. During construction, the project contractors shall muffle and shield intakes and exhaust, shroud and shield impact tools, and use electric-powered rather than diesel-powered construction equipment, as feasible.

5. The perimeter of the Project Site (including the ancillary outbuildings proposed to be demolished) shall be enclosed with a temporary barrier wall for security and noise protection purposes. This barrier wall shall consist of a solid, heavy vinyl material or ¾-inch plywood positioned to block direct line of sight from the active construction areas and other open space areas and sensitive uses within Exposition Park.

Level of Impact After Mitigation

Based on the analysis above, significant constriction noise impacts would result from construction activities in close proximity to two sensitive land uses within Exposition Park. Implementation of the noise reduction measures listed above and compliance with the City of Los Angeles Noise Ordinance would reduce noise impact to less than significant levels.

No significant new operational noise impacts would occur as a result of the proposed renovation of the Los Angeles Memorial Coliseum. Nevertheless, the recommended operational mitigation measures listed above would act to further reduce the operational noise impacts that already occur during major Coliseum events.

Public Services - Police Protection

The number and type of events to be held in the Coliseum following project implementation are anticipated to remain similar to existing levels of use, with the addition of the NFL as a permanent tenant. Therefore, development of the Proposed Project is not expected to place an increased burden on police services in the Southwest Area. Similarly, the Proposed Project is not anticipated to have any adverse impact on the ability of officers to respond to calls at the Coliseum. The current level of service will continue to be adequate assuming continued use of off-duty police officers and private civilian security personnel. Overall, the Proposed Project is not expected to result in the alteration of the existing police protection personnel arrangement in place at the Coliseum. However, the LAPD has indicated that a project of this size would have a significant impact upon police services in the Southwest Area.

Mitigation Measures

The following mitigation measures are recommended to ensure that an adequate level of police protection continues to be provided on the Project Site during Coliseum events:

1. Plot plans for the proposed renovation shall be submitted to the Los Angeles Police Department's Crime Prevention Section for review and comment. Security features subsequently recommended by the LAPD shall be implemented to the extent feasible.

2. Building plans shall be filed with the LAPD Southwest Area Commanding Officer. Plans shall include access routes, floor plans, evacuation routes, and any additional information that might facilitate prompt and efficient police response.

3. Security features shall be provided on the construction site(s), such as guards, fencing, and locked entrances.

4. Landscaping shall not be planted in a way that could provide cover for persons tampering with doors or windows of commercial facilities, or for persons lying in wait for pedestrians or parking lot users.

5. Additional lighting shall be installed where appropriate as determined in consultation with the LAPD.

6. Safety features shall be incorporated into the Proposed Project to assure pedestrian safety, assist in controlling pedestrian traffic flows, and avoid pedestrian/vehicular conflicts on-site. Safety measures may include provision of security and traffic control personnel; clearly designated, well-lighted pedestrian walkways on-site; special street and pedestrian-level lighting; physical barriers (e.g., low walls, landscaping), particularly around the perimeter of the Coliseum, to direct pedestrians to specific exit locations that correspond to designated crosswalk locations on adjacent streets.

7. A Security Plan shall be developed and implemented by the Applicant, in consultation with the LAPD, outlining the security services and features to be provided in conjunction with the Proposed Project. Security features may include but are not limited to the provision of a private on-site security force, implementation of a surveillance system, installation of locks and alarms on entryways where appropriate, security and parking lot lighting, "spotters" to survey parking lots, and maximum accessibility for emergency service personnel. The plan shall be reviewed by the LAPD, and any provisions pertaining to access shall be subject to review by the LADOT. A copy of the Plan shall be provided to the LAPD Southwest Area Commanding Officer.

8. An Emergency Procedures Plan shall be established and implemented by the Applicant outlining guidelines and procedures in the event of civil disturbance, evacuation, and other types of emergencies. The plan shall be subject to review by the LAPD, and any provisions pertaining to access shall be subject to review by the LADOT. A copy of the Plan shall be provided to the LAPD Southwest Area Commanding Officer.

9. Traffic control personnel may be provided on adjacent roadways and in parking areas during Coliseum events and immediately preceding and following events to help prevent vehicles and pedestrians from obstructing emergency access.

In addition to the foregoing recommendations and requirements, measures recommended and/or required under Section V.I, Traffic, Access, and Parking shall be implemented as appropriate.

Level of Impact After Mitigation

The LAPD has indicated that the Proposed Project would significantly impact the services rendered by the Los Angeles Police Department. However, it is expected that supplemental police personnel would continue to be requested and funded by the Coliseum or the NFL, as needed during Coliseum events. With implementation of the required mitigation measures identified above, including the implementation of the proposed Security Plan, and continued deployment of supplemental police personnel during Coliseum events, impacts to LAPD services would be reduced to less than significant levels.

Public Utilities - Water Conservation

Water consumption on the site is estimated to be approximately 468,000 gallons per event with the development of the Proposed Project, assuming maximum levels of attendance at all events, and 7,200 gallons of water per day on non-event days. This results in a total of approximately 24 million gallons of water consumed by the Project per year, based on a rate of 46 events per year and daily use of the ancillary structures. Water service for the Coliseum would continue to be provided by the City of Los Angeles Department of Water and Power from the existing infrastructure. Consequently, impacts to water service to the Proposed Project are considered less than significant.

Mitigation Measures

To reduce impacts to less than significant levels, the following mitigation measures are required:

1. The Project Applicant shall be required to comply with any improvements necessary to meet Los Angeles Fire Department fire-flow requirements for the Proposed Project.

2. The Proposed Project shall incorporate water saving techniques as required by the City of Los Angeles' mandatory water conservation program (Ordinance Nos. 166,080 and 163,532). Water conservation measures described in the ordinance include, but are not limited to, the following:

    - As necessary, the Project Site shall be landscaped with drought-tolerant/indigenous species (xeriscape).

    - Low flow flush valves and shower head water-conservation devices shall be installed in all restroom and/or locker room facilities.

In addition, the City of Los Angeles Department of Water and Power recommends the following water conservation measures:

3. Automatic sprinkler systems should be set to irrigate landscaping during early morning hours or during the evening to reduce water losses from evaporation. However, care must be taken to reset sprinklers to water less often in cooler months and during the rainfall season so that water is not wasted by excessive landscape irrigation.

4. Reclaimed water should be investigated as a source to irrigate large landscaped areas, including the grass playing field.

5. On-site recycling of drainage from water used for playing field irrigation should be investigated.

6. Recirculating hot water systems which can reduce water waste in long piping systems where water must be run for considerable periods before hot water is received at the outlet should be investigated.

7. Plumbing fixtures should be selected which reduce potential water loss from leakage due to excessive wear of washers.

Level of Impact After Mitigation

The Proposed Project's impacts to water service are expected to be less than significant after the implementation of the above mitigation measures.

Traffic, Access, and Parking

Traffic and Access

In consultation with the City of Los Angeles Department of Transportation, the Project Traffic Study evaluated 26 intersections in the vicinity of the Coliseum. The study evaluated the Proposed Project's traffic impacts using the City's established significance criteria and applied to three separate scenarios (1) Weekend Pre-Event Peak Hour, (2) Weekend Post-vent Peak Hour, and (3) weeknight Pre-Event Week Hour. The weekend traffic scenarios were based on actual traffic counts taken at a weekend Coliseum event with an attendance of approximately 87,944 persons. The Proposed Project will reduce the maximum seating capacity of the Coliseum to approximately 78,000 persons, thus the impacts projected in this analysis represent a worst-case scenario. The results of the Traffic Impact Study are summarized as follows concluded that during the Weekend Pre-Event Peak Hour, eight of the 26 study intersections would be significantly impacted. These intersections include:

- 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

During the Weekend Post-Event Peak Hour, 6 of the 26 intersections would suffer significant impacts. These intersections include:

- 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

The weeknight Coliseum event scenario was evaluated to consider the occurrence of a Monday or Thursday night NFL game. It should be prefaced, however, that the occurrence of a weeknight NFL game would occur at most only once in any given season. A weekday game would not likely occur each and every season. The Traffic Impact Study concluded that the weeknight event scenario would result in significant traffic impacts at 23 of the 26 study intersections, including:

- 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 Junior Boulevard
- Figueroa Street and Martin Luther King Junior Boulevard
- Hoover Street and Martin Luther King Junior Boulevard
- Vermont Avenue and Martin Luther King Junior Boulevard
- Vermont Avenue and 39th Street
- Vermont Avenue and Exposition Boulevard
- Normandie Avenue and Martin Luther King Junior 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

Congestion Management Program

Based on the threshold criteria of the CMP, it was determined that the Proposed Project would impact both of the CMP monitoring stations: the I-10 freeway monitoring station at Budlong Avenue and the I-110 freeway monitoring station at Slauson Avenue.

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.

CMP Mitigation Measures

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 are incorporated in the above mitigation measures. 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.

Level of Impact After Mitigation

Intersections

It should be noted that, while the proposed mitigation measures reduce the project's impacts to less than significant levels and improve forecast future traffic operations at both intersections, they are short-term measures designed to address current needs. The implementation of the above mentioned mitigation measures will reduce project impacts to less than significant levels.

CMP

The CMP monitoring stations affected by the Proposed Project are currently operating at LOS F during the weekday pre-event hour. With the development of the Proposed Project and the LOS at the two freeway monitoring stations would remain at LOS F. However, the mitigation measures above, as coordinated into an incident management, plan will reduce the project's design to capacity (D/C) ratio, thus reducing the level of impact to less than significant.

III. PROJECT DESCRIPTION
A. LOCATION AND BOUNDARIES OF THE PROJECT SITE

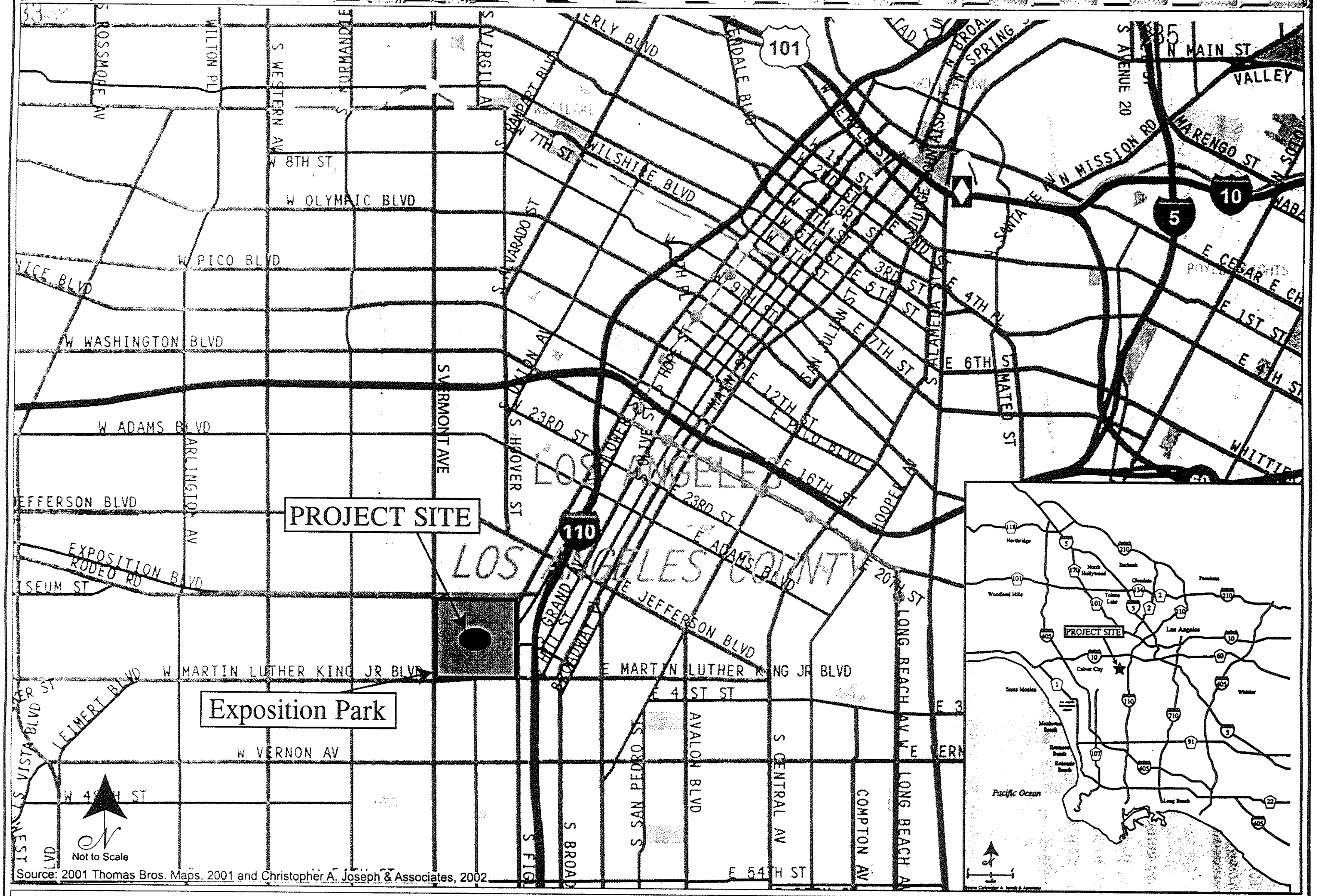
PROJECT LOCATION

The Los Angeles Memorial Coliseum ("Coliseum") occupies a 27.4-acre parcel of land within the boundaries of the Exposition Park Master Plan Area. Exposition Park is located approximately two miles southwest of the downtown Los Angeles area and encompasses a total of 160 acres. Exposition Park is bounded by Exposition Boulevard to the north, Figueroa Street on the east, Martin Luther King Jr. Boulevard on the south, and Vermont Avenue on the west. Exposition Park is the largest park in the Central Los Angeles area of the City of Los Angeles. The Los Angeles Memorial Coliseum is generally situated in the center of Exposition Park. The general location of the project area is illustrated in Figure III-1, Regional Location Map, on page III-A-2.

The Los Angeles Memorial Coliseum Renovation Project area (i.e., the "Project Site") includes the Coliseum and the immediately surrounding area contained within an oval formed by a 10-foot-high chain link and steel bar fence surrounding the Coliseum structure at a point approximately 100 feet from the base of the stadium's exterior wall. The two locations at which the site's boundary extends outward from the perimeter fence are at the southwestern edge of the site, where the boundary extends west to Menlo Avenue, and then north along Menlo to a point adjacent to the northern end of the maintenance shed, whereupon it runs easterly back to the perimeter fence; and along the eastern and northeastern sections of the Coliseum, where the boundary extends outward to North/South Coliseum Drive, which it parallels. The specific boundary of the Project Site is shown in Figure III-2, Project Vicinity Map on page III.A-3. The Project Site is generally bounded by Menlo Avenue on the west, the Los Angeles Swim Stadium and the Exposition Park Intergenerational Community Center (EPICC) complex on the south, North Coliseum Drive on the north, and South Coliseum Drive on the east.

Other land uses immediately adjacent to the Project Site include grass-covered athletic fields and surface parking for Exposition Park facilities across Menlo Avenue to the west, the Los Angeles Memorial Sports Arena and adjacent surface parking across South Coliseum Drive to the southeast, and the California Science Center and the Los Angeles County Museum of Natural History across North Coliseum Drive to the north. All of these adjacent facilities are also within Exposition Park. All of Exposition Park, including the Coliseum, is located within the City of Los Angeles in the City's South Los Angeles District Plan area.

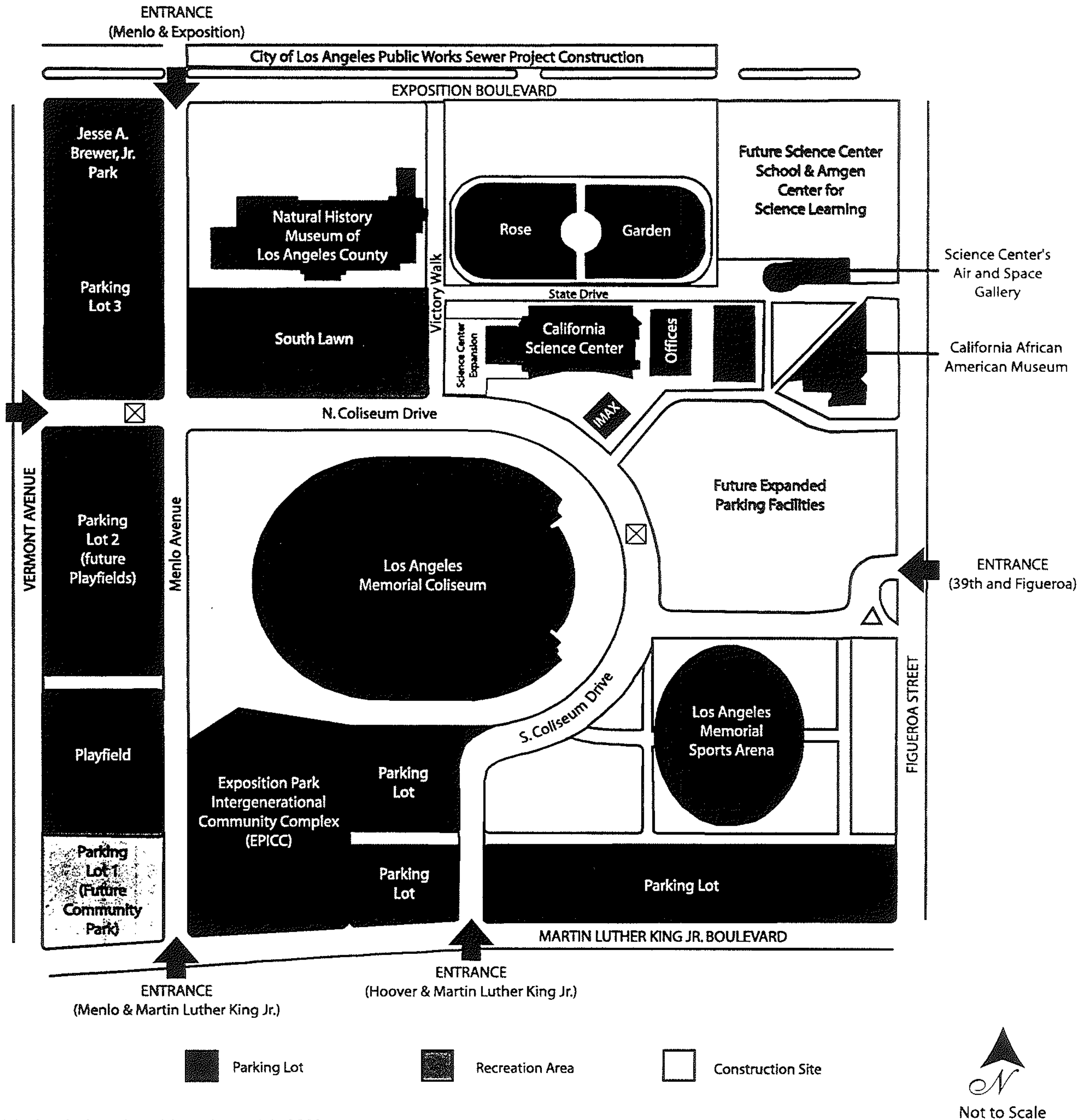
Major streets in the vicinity of the Proposed Project include Martin Luther King Jr. Boulevard, approximately 300 feet south of the Project Site; Vermont Avenue, approximately 500 feet west of the Project Site; Exposition Boulevard, approximately 0.2 mile north of the Project Site; and Figueroa Street, approximately 0.1 mile east of the Project Site. Regional access to the Coliseum is provided by the Harbor Freeway (Interstate 110), located approximately 0.3 mile east of the site; and by the Santa Monica Freeway (Interstate 10), located approximately 2.0 miles north of the site.



Source: 2001 Thomas Bros. Maps, 2001 and Christopher A. Joseph & Associates, 2002

CHRISTOPHER A. JOSEPH & ASSOCIATES
Environmental Planning and Research

Figure III-1
Project Location Map



Source: Los Angeles Memorial Coliseum and Christopher A. Joseph and Associates, July 2003.

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Environmental Planning and Research

Figure III-2
Project Vicinity Map

III. PROJECT DESCRIPTION
B. PROJECT BACKGROUND AND OBJECTIVES

HISTORICAL OVERVIEW - ORIGIN OF THE COLISEUM

Los Angeles Memorial Coliseum Commission

The Coliseum was constructed between 1921 and 1923 by the Community Development Association, a non-profit cooperative organization formed for that purpose, on property in Exposition Park leased from the Sixth District Agricultural Association of the State of California.[1] Original construction of the Coliseum was funded by both the City of Los Angeles (City) and the County of Los Angeles (County). The Coliseum is operated under the authority of the Los Angeles Memorial Coliseum Commission ("Coliseum Commission"), which was formed under the Joint Exercise of Powers Act on September 25, 1945. Although this governing body is comprised of representatives from the City of Los Angeles, the County of Los Angeles and the State of California, no taxpayer funds are used to support the facility.

The Los Angeles Memorial Coliseum

The Coliseum was constructed in the early 1920s and opened its doors to the public in June 1923. The first football game was played in the stadium on October 6, 1923, with the University of Southern California (USC) hosting Pomona College before a crowd of 12,836. It was a modest beginning for a venue that would later play a prominent role in college and professional football.

The history of the Coliseum spans eight decades. It is the only facility in the world to host two Olympiads (X^th^ and XXIII^rd^), two Super Bowls (I and VII), and one World Series (1959). Along with the adjacent Sports Arena, the Coliseum is credited with promoting the migration of professional sports to the West Coast. The Coliseum provided a home for the Los Angeles Rams (from Cleveland, 1946-79), the Los Angeles Dodgers (from Brooklyn, 1958-61), the Los Angeles Raiders (from Oakland, 1982-1994), and was the expansion home of the Los Angeles Chargers (1960, AFL).

In 1984, the State of California and the United States Government declared the Coliseum a State and Federal Historical Landmark for its contribution to the historical makeup of the 31st State of the Union as well as the United States of America.

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[1] *The Sixth District Agricultural Association is also known as the California Science Center. It is in the State and Consumer Services Agency and is deemed to be a tax-exempt organization as an instrumentality of this State in accordance with Section 23706 of the Revenue and Taxation Code (See Food and Agricultural Code Section 4101-4108).*

The 92,500-seat Coliseum served as the home of the NFL's Los Angeles Rams from 1946 through 1979, the NFL's Los Angeles Raiders from 1982 through 1994, and has, since its initial construction, served as the home for the USC Trojan football team (1923 - present). The Coliseum also hosts international soccer competitions, and hosted the L.A. Xtreme professional football team during the XFL's first and only season in 2001. Other world-class events that have occurred at the Coliseum include UCLA football games (1933 through 1981); numerous high school football contests, including the famed "Shrine All-Star Game"; political rallies, including John F. Kennedy's Democratic Presidential Nomination acceptance speech at the Democratic National Convention in 1960; religious conventions, including an all-time Coliseum attendance record of 134,254 for Billy Graham in 1963 and the 1987 Papal Mass (the first Papal Mass held in the United States by Pope John Paul II); the 1976 Bicentennial Spectacular; and numerous rock concerts and cultural events.

Prior to the 1993 football season, the Coliseum underwent a $15 million renovation. The Coliseum's floor was lowered 11 feet and the running track was removed to create a more intimate stadium. Fourteen new rows of seats (comprising approximately 8,000 seats) were added to the lower bowl area, bringing fans closer to the playing field. The first rows of seats between the goalposts were repositioned to a maximum of 54 feet from the sideline, instead of the previous distance of 120 feet. During this renovation the locker rooms, public restrooms, and concession facilities were also upgraded and expanded.

Southern California's damaging January 1994 earthquake resulted in major structural damage to the Coliseum, requiring approximately $93 million worth of repairs. In the summer of 1995, the Coliseum underwent a major seismic renovation and a new $6 million press box was constructed. The California Office of Emergency Services (OES) awarded $100.6 million to the Coliseum Commission to cover the costs of earthquake damage. A new press box was added to the south side of the Coliseum extending above the rim and upper seating bowl. The press box is comprised of two main levels, with a camera deck located on the roof. The square footage of the press box addition, including the rooftop and circulation areas, is approximately 18,400 square feet, surpassing the 8,300 square feet of the former press box.

The Coliseum has a present maximum capacity of approximately 92,500 seats. Almost all of the seats in the Coliseum are chair-back seats. There are approximately 25,000 seats from goal line to goal line, including both the north and south sides. Rows 1-43 have a 12-inch rise, rows 44-68 have a 15-inch rise, rows 69-93 have an 18-inch rise. The distance between each row of seats is 33-inches in rows 1-14 and 30-inches in rows 15-93. Seats vary between 19 and 20 inches in width. With the exception of the east end zone, which includes bench seating, all of the seats are theater-type, self-rising chairs, the first of their kind ever installed in a football stadium at the time.

The symbolic Olympic torch monument was originally built for the 1932 Summer Olympics. It stands 150 feet above ground level and 182 feet above the field level.

The color video board affixed to the top of the Peristyle, measures approximately 33 feet, 7 inches by 44 feet. The black-and-white matrix board, measuring approximately 50 feet by 51.5 feet, carries game-in-progress information and is capable of displaying messages, pictures, animations and video action.

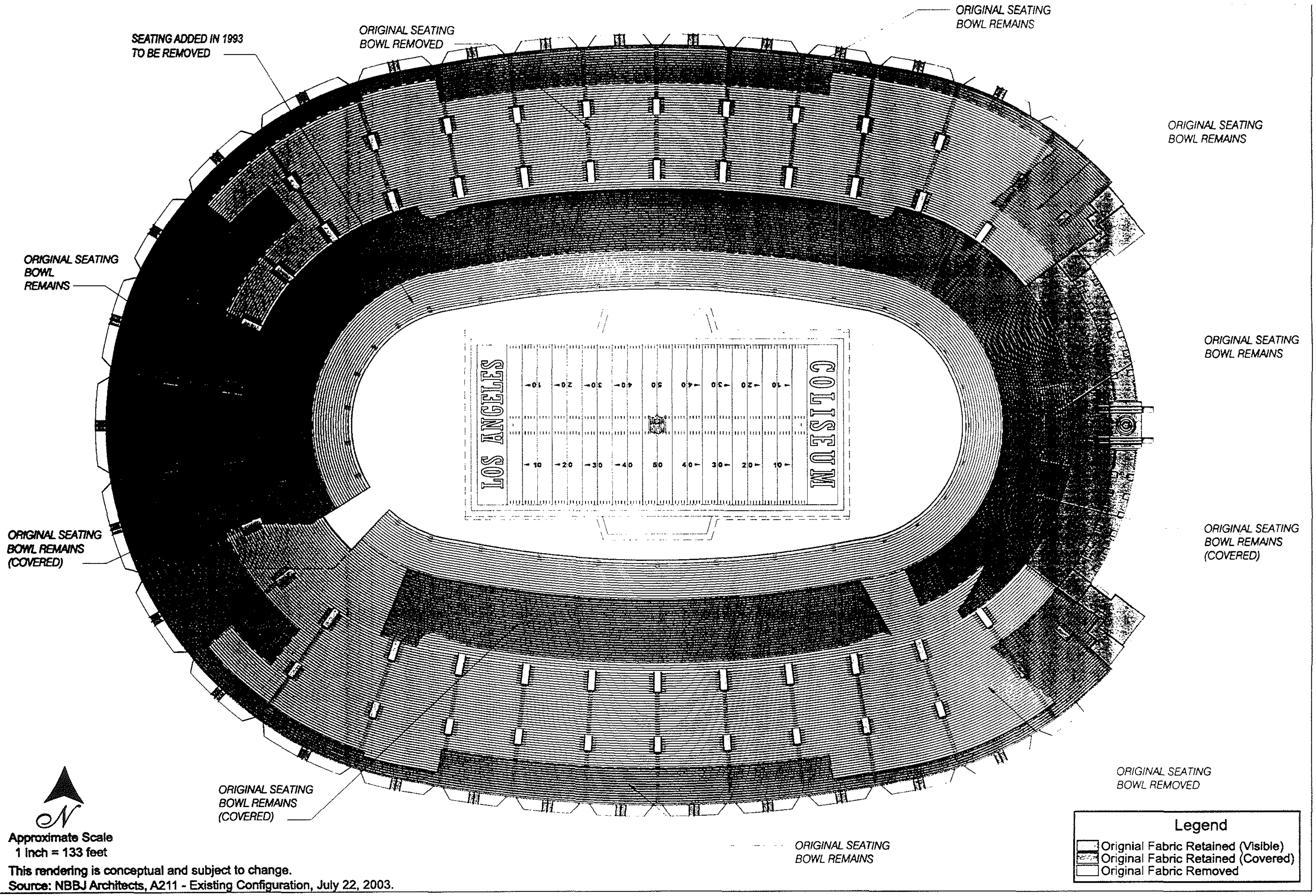
PROJECT BACKGROUND AND OBJECTIVES

In response to a 1999 study by the NFL to bring professional football back to Los Angeles, the Coliseum Commission retained NBBJ, an international architectural firm that has designed numerous NFL stadiums, to develop a vision for the historic Coliseum that would enable the 1920s-era stadium to become a premiere, state-of-the-art venue for an NFL franchise. NBBJ's approach capitalized on the strength of the existing architectural elements of the Peristyle and Olympic flame, while constructing a new, modern stadium within the existing structure. The conceptual design celebrates the rich heritage of this architectural landmark, while incorporating contemporary aesthetics.

The Los Angeles Memorial Coliseum Renovation Project ("Proposed Project") was conceived to enhance the Historic Landmark's presence and importance in both the Los Angeles region and the nation. It was determined that the Proposed Project should preserve the exterior wall, the emblematic Peristyle on the east end of the stadium, and as much of the seating fabric and bowl geometry as possible. These fundamental historic preservation principles became important guidelines as the design work began and are illustrated in the Conceptual Historic Fabric Retention Plan provided in Figure III-3. The stadium design renderings prepared by NBBJ, as presented later in Section III.C, Project Characteristics, present a stadium proposal that is representative of a possible design solution. They are not intended to serve as a final design. To the extent that design changes are anticipated during the planning and development phase, for purposes of this EIR, the final design will be required to be principally consistent with the Conceptual Historic Retention Plan.

Early in the process of designing the enhancements to the building to make it a competitive venue for use by an NFL franchise, NBBJ looked at geometries for the seating that were in line with the current geometry, enabling the design team to save at least part of the seating sections in the existing bowl. The importance of this decision was to make sure, as the building is experienced, that there would always be a part of the bowl in view. A large portion of the west end of the bowl will be retained and, while not used for regular NFL games, portions of the seating may used for large attendance events. The east end of the bowl is maintained in a similar manner to anchor each end of the Peristyle in its current form.

The conceptual design of the Proposed Project explores and enhances the full value of the heritage of its Exposition Park site. The Peristyle at the east end of the stadium, clad in stone, is a priceless monument to the historic events that have passed beneath its arches: two Super Bowls, two Olympics,



Approximate Scale
1 inch = 133 feet

This rendering is conceptual and subject to change.
Source: NBBJ Architects, A211 - Existing Configuration, July 22, 2003.

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Figure III-3
Conceptual Historic Fabric RetentionPlan

the celebrated arrival of presidential nominee John F. Kennedy and countless other sporting events. Within the Peristyle, an outdoor restaurant experience will be created. Intended to be the only open-air suites in the NFL, this area produces a distinct new club experience unlike any other in the NFL, allowing VIP ticket holders the uniquely "L.A." experience of seeing and being seen.

The seating bowl is designed to bring more fans closer to the field and along the sidelines. On three levels in favorable sideline positions, approximately 200 suites and a club level with premier seats create high-amenity areas with great views to the playing field, while maintaining the historic fabric and defining character of the Coliseum.

The Coliseum Commission's stated objective for this Project is to secure the highest possible level of management, operation, and maintenance of the Coliseum as a world-class, "state-of-the-art" public assembly facility of the first magnitude. The Coliseum Commission has identified the following goals and objectives for the Proposed Project:

- To renovate the Coliseum in conformance with the generally accepted standards of design for National Football League (NFL) stadiums, thus enabling the Coliseum Commission to acquire and maintain an NFL franchise in the City of Los Angeles.

- To extend the useful life of the Coliseum so as to assure that the stadium will continue to provide to the public an economically viable facility capable of hosting a wide variety of athletic, cultural, political, and community events.

- To renovate the Coliseum in conformance with the generally accepted standards of design for collegiate football, thus enabling the Coliseum Commission to continue its landlord/tenant relationship with the USC football team.

- To provide spectators and users of the Coliseum with the amenities and conveniences consistent with a state-of-the-art facility, including improved restrooms, concession, and press facilities; improved spectator viewing; luxury suites and club seating; improved locker and dressing facilities; additional circulation space; and better accessibility to seating, concessions, and restroom facilities.

- To assure that stadium operations generate enough revenue to enable the Coliseum Commission to preserve and maintain the Coliseum in a self-sufficient manner.

- To preserve, where feasible, the historic character of the Coliseum in a manner compatible with the other objectives of the Proposed Project.

- To extend the useful life of the Coliseum and modernize the existing infrastructure with energy conservation fixtures in accordance with Title 24 (C.C.R) requirements, improved emergency fire access, and upgraded accessibility standards in accordance with the Americans with Disabilities (ADA) requirements.

- To finance the renovation of the Coliseum without expending money from the City of Los Angeles or State of California General Funds.

III. PROJECT DESCRIPTION
C. PROJECT CHARACTERISTICS

The Proposed Project consists of the renovation of the Los Angeles Memorial Coliseum, including the rehabilitation of portions of the 27.4-acre Project Site surrounding and containing the Coliseum structure itself. The Proposed Project would also include the demolition of all of the existing extraneous outbuildings surrounding the Coliseum structure (except for one original (1932) ticket booth that will be retained) and the construction of two new approximate 20,000-square-foot ancillary buildings for supporting retail and office uses. This section first presents an overview of the Proposed Project, including a discussion of the guiding principles and program requirements. Following this, general elements of the Proposed Project's conceptual design envelope are presented.

As stated previously in Section III.B, Project Objectives, the renderings prepared by NBBJ, present a stadium proposal that is representative of a possible design solution. While the final stadium design has not yet been developed, the Conceptual Historic Fabric Retention Plan provided in Figure III-3 illustrates the fundamental historic preservation principles envisioned for the Proposed Project. Additional conceptual renderings depicting the general scale and massing of the representative design solution are presented in Figures III-4 through III-7.

Principles and Requirements Guiding the Proposed Project

The Proposed Project has been conceptually envisioned to provide a modern, state-of-the-art sports and entertainment venue within the existing Coliseum structure. The fundamental historic preservation principles which have guided the development of the Proposed Project are as follows:

- To retain and restore as much of the existing Coliseum façade, bowl geometry and seating areas as physically and practically possible, within constraints of operational, programmatic and historic restoration guidelines;

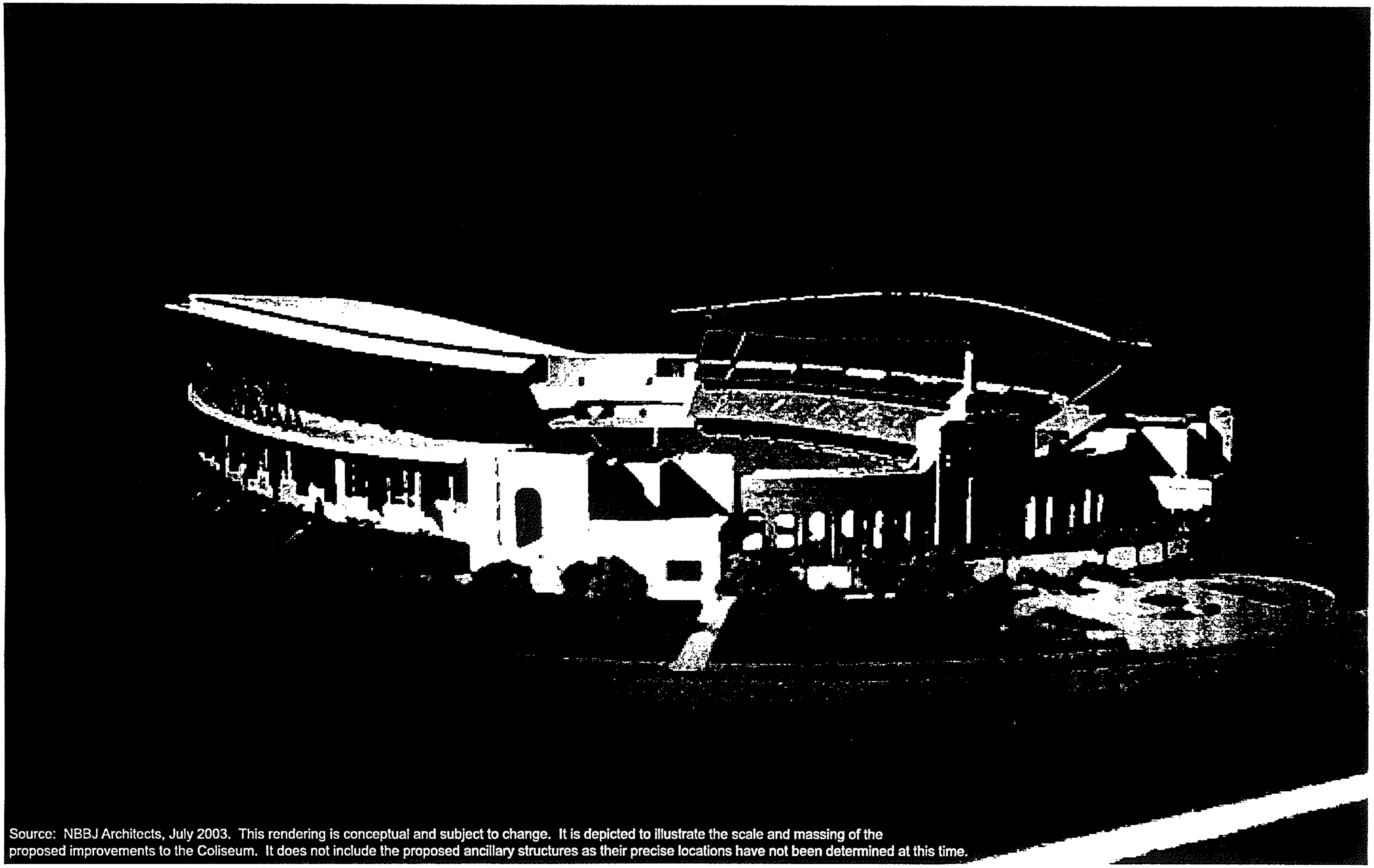
- Where modifications, alterations, and replacements to the existing Coliseum are required, the new work shall attempt to maintain the same spirit as the original aesthetic character;

- To remove and reorganize exterior accessory structures ("out-buildings") in order to facilitate exterior patron access and to enhance the appearance of the Coliseum grounds.

The program requirements essential to the Proposed Project are as follows:

- To reduce seating capacity while improving field proximity;

- To improve spectator access and egress within the Coliseum;



Source: NBBJ Architects, July 2003. This rendering is conceptual and subject to change. It is depicted to illustrate the scale and massing of the proposed improvements to the Coliseum. It does not include the proposed ancillary structures as their precise locations have not been determined at this time.

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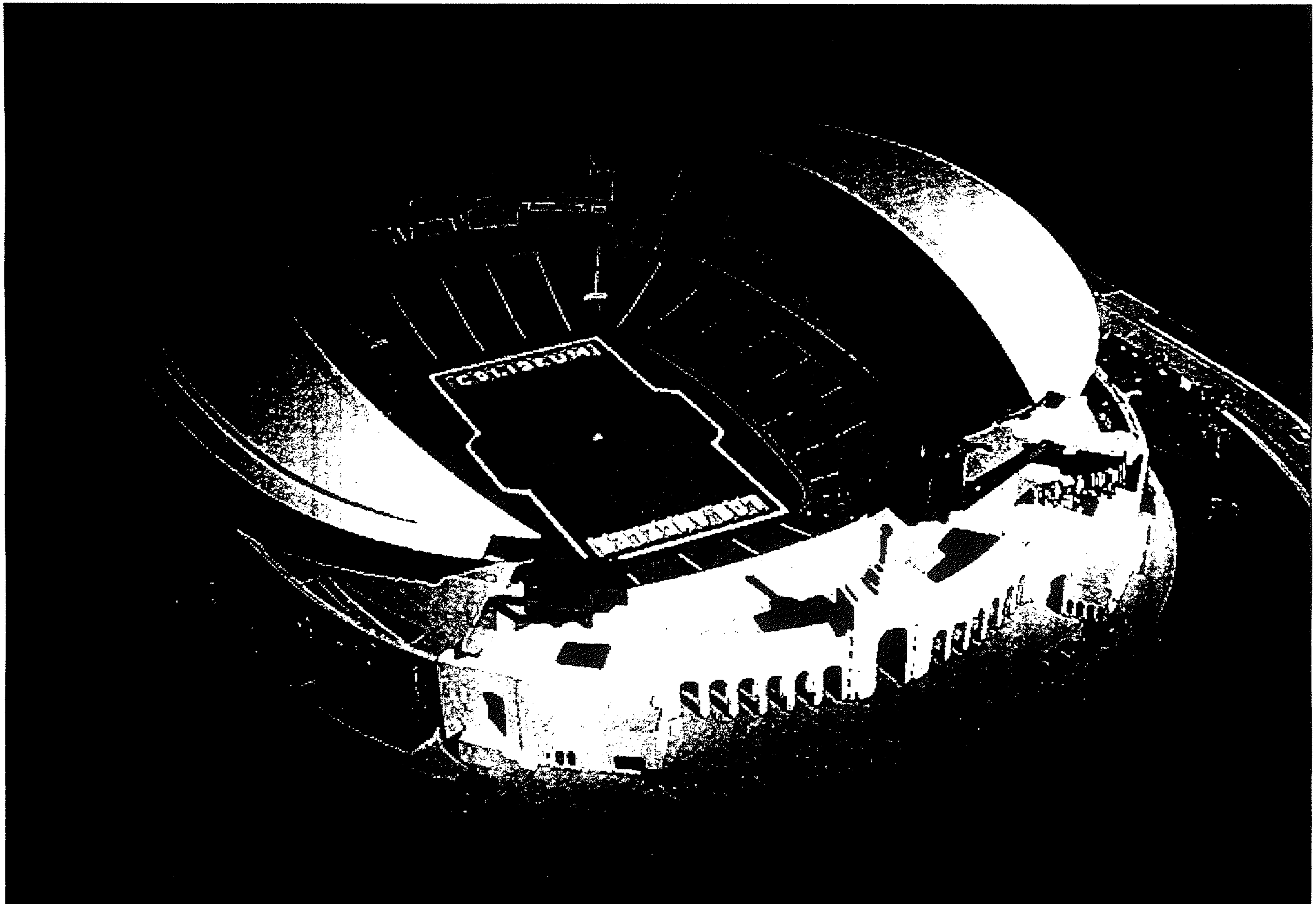
Figure III-4
Conceptual Model Rendering - Northwesterly Overhead View



Source: NBBJ Architects, July 2003. This rendering is conceptual and is subject to change. It is depicted to illustrate the scale and massing of the proposed improvements to the Coliseum. It does not include the proposed ancillary structures as their precise locations have not been determined at this time.

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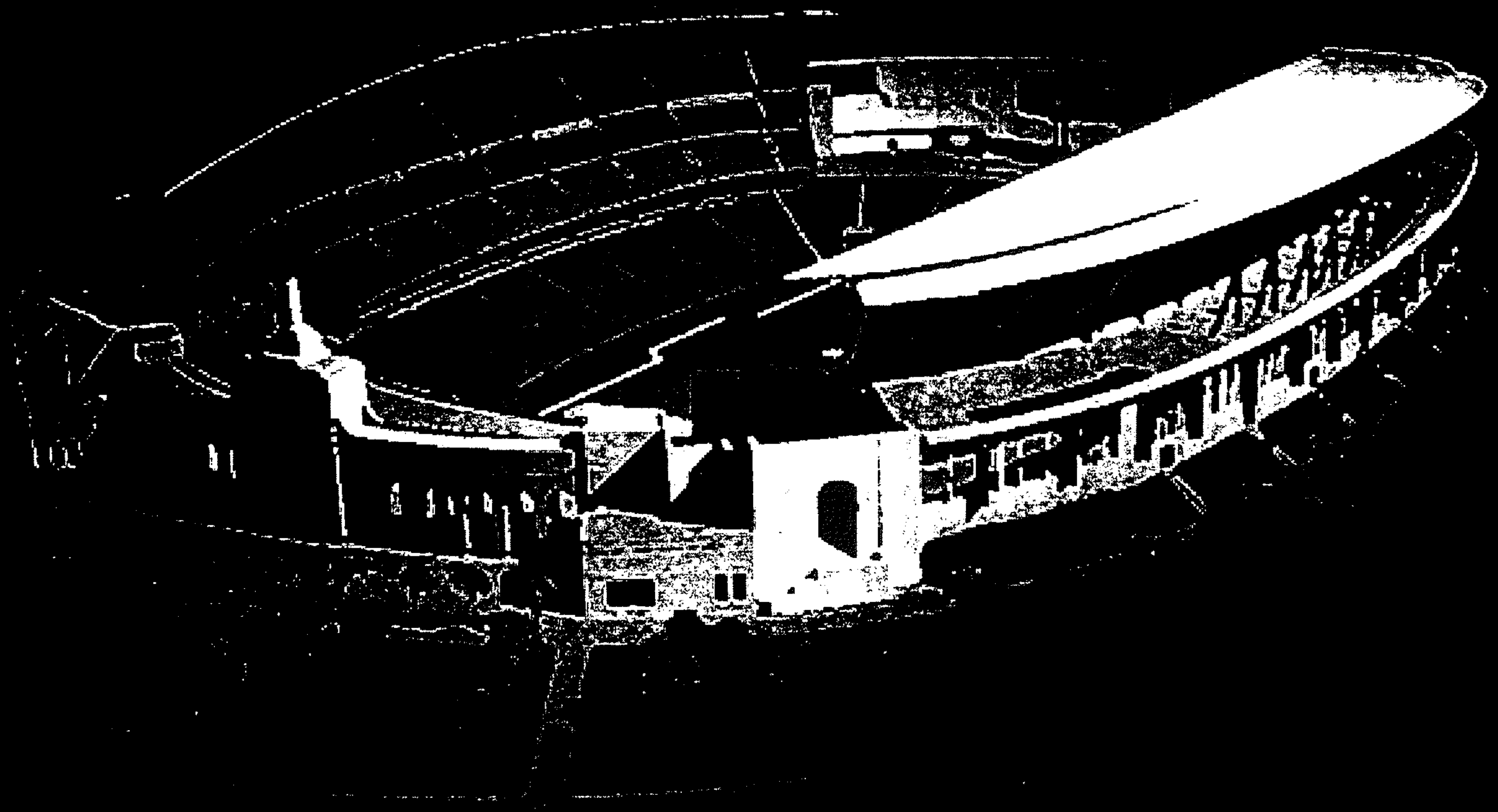
Figure III-5
Conceptual Model Rendering - Westerly Overhead View



Source: NBBJ Architects, July 2003. This rendering is conceptual and is subject to change. It is depicted to illustrate scale and massing of the proposed improvements to the Coliseum. It does not include the proposed ancillary structures as their locations have not been determined at this time.

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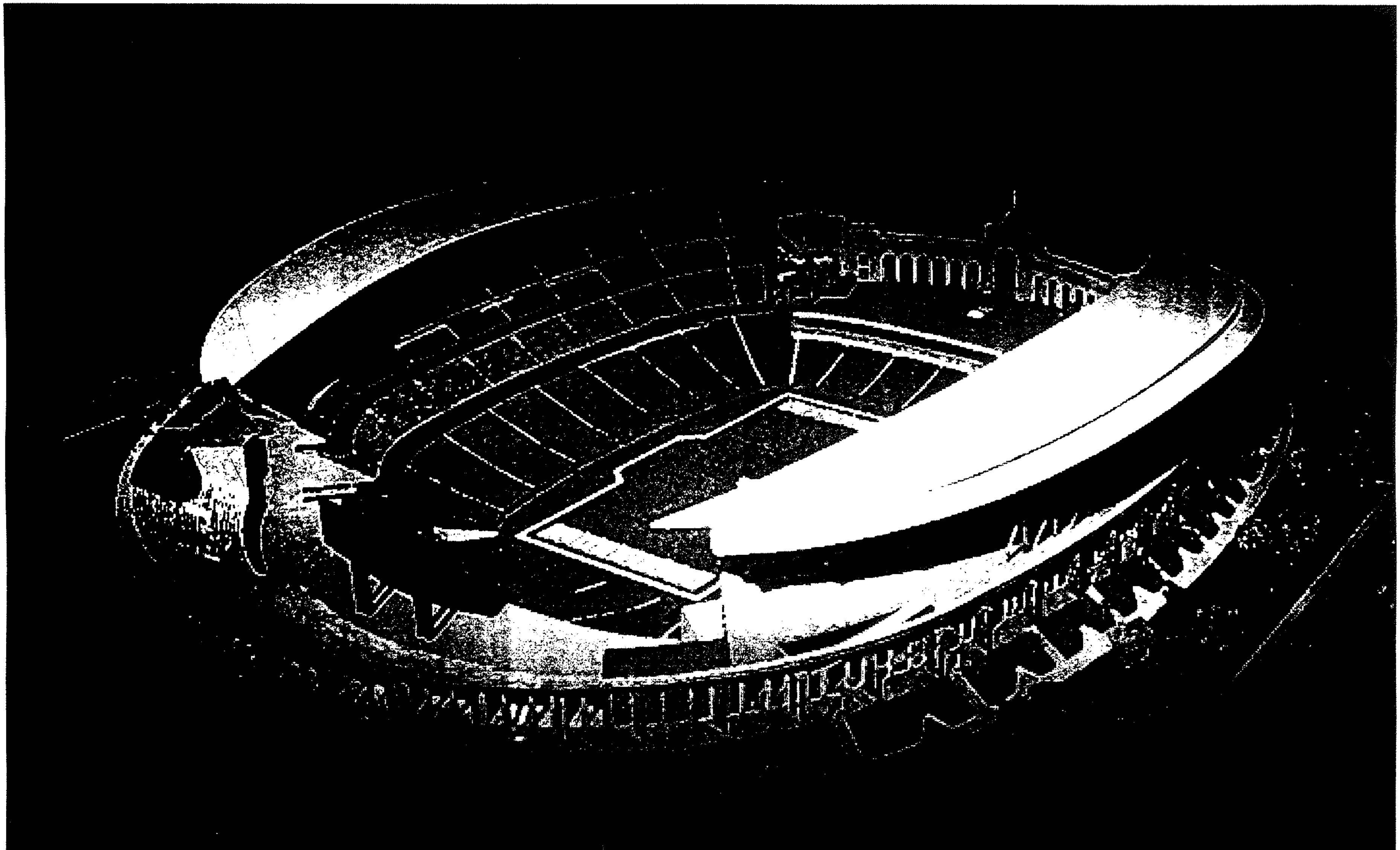
Figure III-6
Conceptual Model Rendering - Southwesterly Overhead View



Source: NBBJ Architects, July 2003. This rendering is conceptual and is subject to change. It is depicted to illustrate the scale and massing of the proposed improvements to the Coliseum. It does not inlcude the proposed ancillary structures as their locations have not been determined at this time.

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Figure III-7
Conceptual Model Rendering - Easterly Overhead View

- To provide state-of-the-art private spectator suites (luxury boxes), having separate patron access and circulation and located in a desirable viewing location to support the stadium financing and to keep other stadium pricing reasonable;
- To extend the useful life of the Coliseum by modernizing the existing infrastructure with energy conservation fixtures in accordance with Title 24 (C.C.R) requirements, improving emergency fire access, and upgrading accessibility standards in accordance with the Americans with Disabilities (ADA) requirements.
- To provide luxury suites and a club level with premier seats supported by high-amenity areas with great views to the playing field; and
- To provide improved and more accessible restrooms and concessions for all spectators.

Primary Directives of Proposed Project

Given the aforementioned fundamental principles and essential program requirements, the following principle directives were developed as fundamental aspects of the Proposed Project:

- To maintain the Peristyle end of the existing Coliseum as the dominant focal point of the stadium;
- To maintain the oval plan geometry of the existing exterior walls, while inserting a new seating bowl that includes a separate club level, three suite decks, an upper deck, and two public concourses;
- To retain and restore the existing exterior wall, including the reuse of the existing stairs and tunnels as much as possible while providing separate circulation and access for the club and suite seating;
- To provide a main concourse level adjacent to the north and south sideline spectator seating, with restrooms and concessions, allowing most extraneous out-buildings and equipment to be removed from the outside grounds, and also locating these amenities closer to the patrons.

Overview of the Proposed Project

The Proposed Project would reduce the Coliseum's existing maximum seating capacity from 92,500 seats for all events to a maximum of approximately 78,000 seats. Upon completion of the Proposed Project, seating in the Coliseum would be divided into three different classifications: general seating, club seating, and luxury suite seating. The principle differences between the three seating types involve the level of amenities available to patrons in each of those respective areas. Approximately 200 luxury suites would be accommodated in the suite levels. The seating rows themselves would consist of self-rising, floor or riser-mounted armchair seats with the first row situated approximately five and one-half feet above the field. The average seat width would be 19 inches in the general seating areas, 22 inches in the suites, and 21 inches in the club seating area. Seating reserved for companions of wheelchair patrons would be located adjacent to the handicapped seating. The existing Coliseum provides approximately 146 seating locations for patrons in wheelchairs, generally in the west end of the Coliseum between Tunnels 13 and 17. The Proposed Project would increase the total wheelchair positions to meet or exceed Americans with Disabilities Act (ADA) requirements. The wheelchair seating would be situated in several locations throughout the stadium to provide a variety of seating options for the disabled.

Proposed Uses for the Coliseum

As detailed in Section IV.A, Environmental Setting, and IV.B, Analytical Assumptions, the Coliseum currently hosts an average of 34 events a year, which includes USC football games, international soccer matches, off-road vehicle events, public speaking events, political rallies, and concert performances. Table III.C-1, on page III.C-4, identifies the types of events held at the Coliseum over the past four years, including the number of events held per year by event and maximum attendance levels by event. It is anticipated that the existing event schedule would continue under the Proposed Project, and will be expanded upon to include the NFL as a permanent tenant. Under the Proposed Project, 10 to 12 professional football games would be added to the current annual event profile, representing an approximate 35% increase to the existing operations. Upon completion of the Proposed Project, the NFL and USC Trojans football teams would be the two primary tenants at the Coliseum.

The College football season lasts approximately four months beginning the last week in August and ending in December. The USC Trojan football team hosts 6 to 8 home games each season. College games are played on Saturdays and/or Saturday evenings. The USC Trojan football team has been a primary tenant at the Coliseum since 1923. Based on recent data collected during the past four years (1999-2002), the average attendance for USC football games was 48,775 persons. The maximum attendance for a USC football game during this time period was 87,944 persons.

The NFL's football season occurs over a six-month period beginning in August and ending the last week of January. The NFL schedule generally includes four pre-season games in August, seventeen regular season games beginning the first week of September, and three post-season playoff games played in late December and early January. Including four pre-season games and sixteen regular season games, each team plays a minimum of twenty games per season, with roughly half (10) of the games being played on the home team's field.[1] Qualifying teams play up to three additional post-season playoff games leading up to the Super Bowl. The Super Bowl is played on the last Sunday of January. The NFL schedules a majority of the games on Sundays, with generally one event per week scheduled on Monday night, Thursday night and/or a Saturday. As a representative schedule, the 2003 NFL's regular season schedule includes 16 Monday night football games, 2 Thursday-night games and 2 Saturday games. The remaining

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[1] *Each team has one week off during the course of the17 week regular season.*

Table III.C-1
Coliseum Event Profile – Average and Maximum Attendance Levels (1999-2002)

Event Type	Events Per Year	Average Attendance (Per Event)	Maximum Attendance (per Event)	Annual Attendance (Per Event)[a]
Miscellaneous Sports (High School Football)	2	8,811	24,278	17,622
Motorsports (Monster Truck and Motorcross)	2	15,943	17,569	31,886
Religious (Our Lady of Guadalupe)	1	45,000	45,000	45,000
Miscellaneous (Revlon Run)	1	44,751	50,000	44,751
Concerts (Metallica)	1	67,517	67,517	67,517
Soccer	13	15,140	49,146	196,820
USC Football	6-7	48,775	87,944	341,425
XFL Football (2001 season only[b])	7	13,150	29,527	92,050

<u>Notes</u>:
[a] *The average annual attendance levels were based on the recorded total annual attendance levels for each event averaged over a four year period.*
[b] *The XFL was discontinued after its first season.*
Source: Los Angeles Coliseum Commission, 2002.

games occur on Sundays. Since there are only seventeen weeks during the season and 32 teams on the league, weekday games at the Coliseum would be rare and would not occur every season. At the most, it could be expected that the Coliseum would host one weekday game per season, occurring on either a Monday or Thursday night. A weeknight game would not occur every season.

Exterior Treatment

The existing exterior wall of the Coliseum would remain virtually intact, with few alterations. Existing extraneous out-buildings (i.e., ancillary structures that are on site, but detached from the stadium) would be removed from both the outside of the Coliseum structure and from the adjacent grounds on the site. Such buildings include mechanical and electrical equipment and sheds, restrooms, concession stands, storage buildings, and ticket booths, as well as buildings, escalators, elevators, and non-original stairways that have been added over time. One original (1932) ticket booth located outside the Coliseum in the northeast corner of the site would be retained. The Peristyle end of the Coliseum would remain intact, along with the adjacent Coliseum Commission offices. The existing Coliseum contains a series of 27 stairways and 28 tunnels leading from the exterior grade into the stadium. The stairways would be maintained to the extent permitted by the building codes and safe exiting practices.

The 26 of the 28 tunnels would remain and provide direct, on-grade access to the main concourse. Two of the tunnels will be blocked by the exit ramps serving the Upper Concourse. The tunnels on the north and south sidelines would be shortened to accommodate the new main concourse.

The existing openings in the exterior wall of the Coliseum would remain intact and cleared of any miscellaneous piping, wiring, and glazing. The concrete brackets and upper seating tiers that provide the cornice to the existing wall would also remain. The original exterior lighting fixtures would be reused or recreated where feasible. The new press facilities would be integrated into the upper suite level, eliminating the press box that currently extends above the exterior wall of the seating bowl. The existing earth berm against the exterior wall would remain largely intact, with only minor modifications to accommodate access and exiting requirements.

Interior Treatment

The interior of the Coliseum would continue to feature the Peristyle as the dominant element in the east end of the bowl. The Peristyle would remain intact. The color video board, black-and-white matrix boards, and sound clusters that are currently attached to the top of the Peristyle would be removed. At the west end zone, the upper portion of the existing bowl will be retained as well as the access stairs. By retaining these sections, the feel of the original bowl geometry will be retained.

The Proposed Project provides that a removable/retractable pavilion of seats may be located in the lower bowl at the east football end zone. When the seats are retracted, the pad for this seating would serve as the location for portable stages constructed for concerts and other performance events.

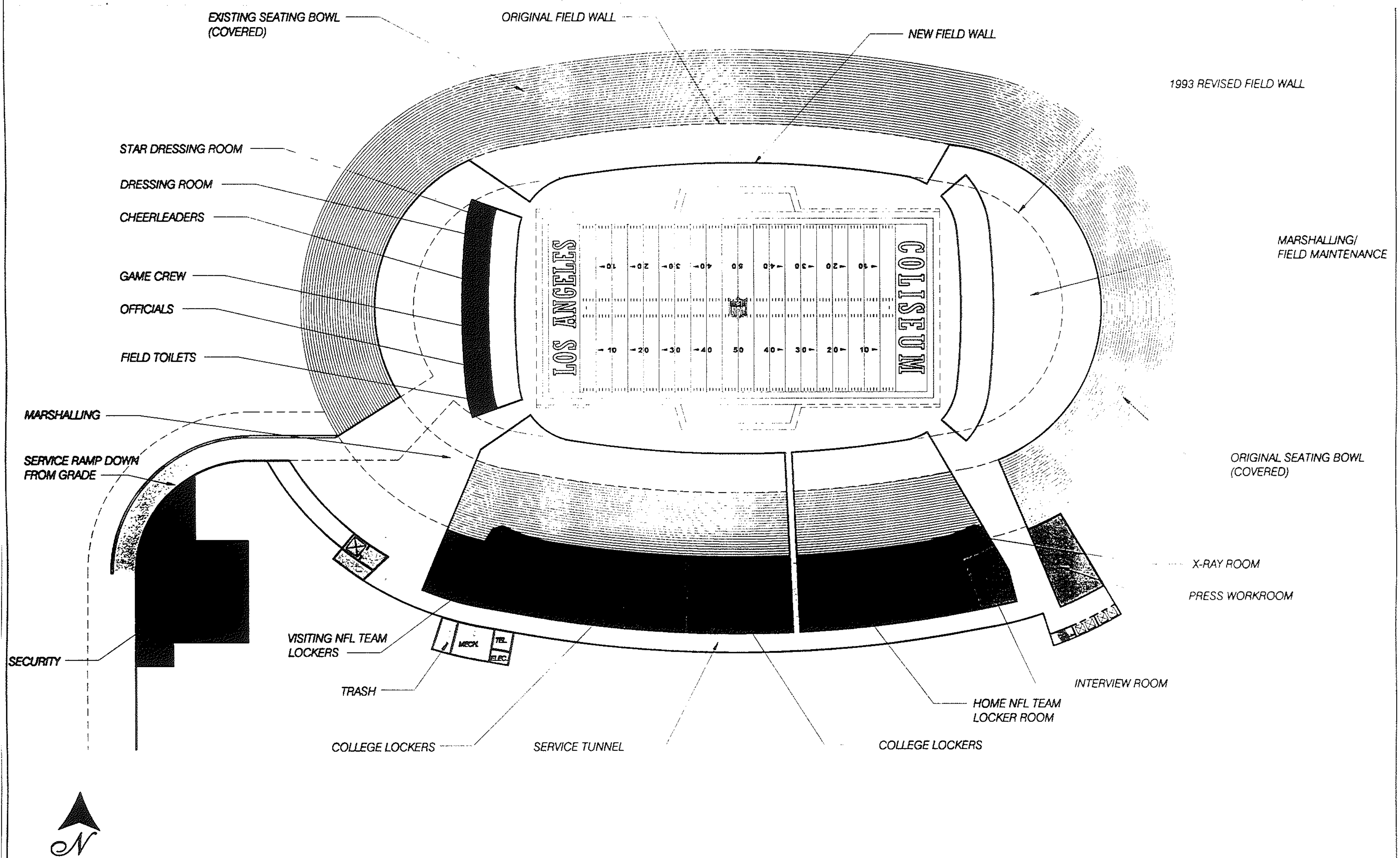
The lower bowl will be completely reconstructed to meet the NFL's design standards for a modern, state-of-the-art football stadium. The first row of the lower bowl would be approximately 5½ feet above the field level to provide acceptable sight lines over people standing on the sidelines.

Coliseum Service and Seating Levels

The Proposed Project would develop separate levels within the Coliseum. These levels are described in detail, from lowest to highest elevation, as follows:

- Field Level (See Figure III-8) - This level would consist of the playing field, new underground locker facilities for professional and college teams (40,000 square feet as opposed to 10,120 of existing space), press interview and workrooms, marshalling areas dressing rooms for cheerleaders, officials and talent, and other field support areas.

- Service Level (See Figure III-9) - This level houses the stadium loading dock, commissary, staff lockers and stadium operations offices.



Approximate Scale
1 inch = 128 feet

This rendering is conceptual and is subject to change.

Source: NBBJ Architects, A200 - Field Level, July 22, 2003.

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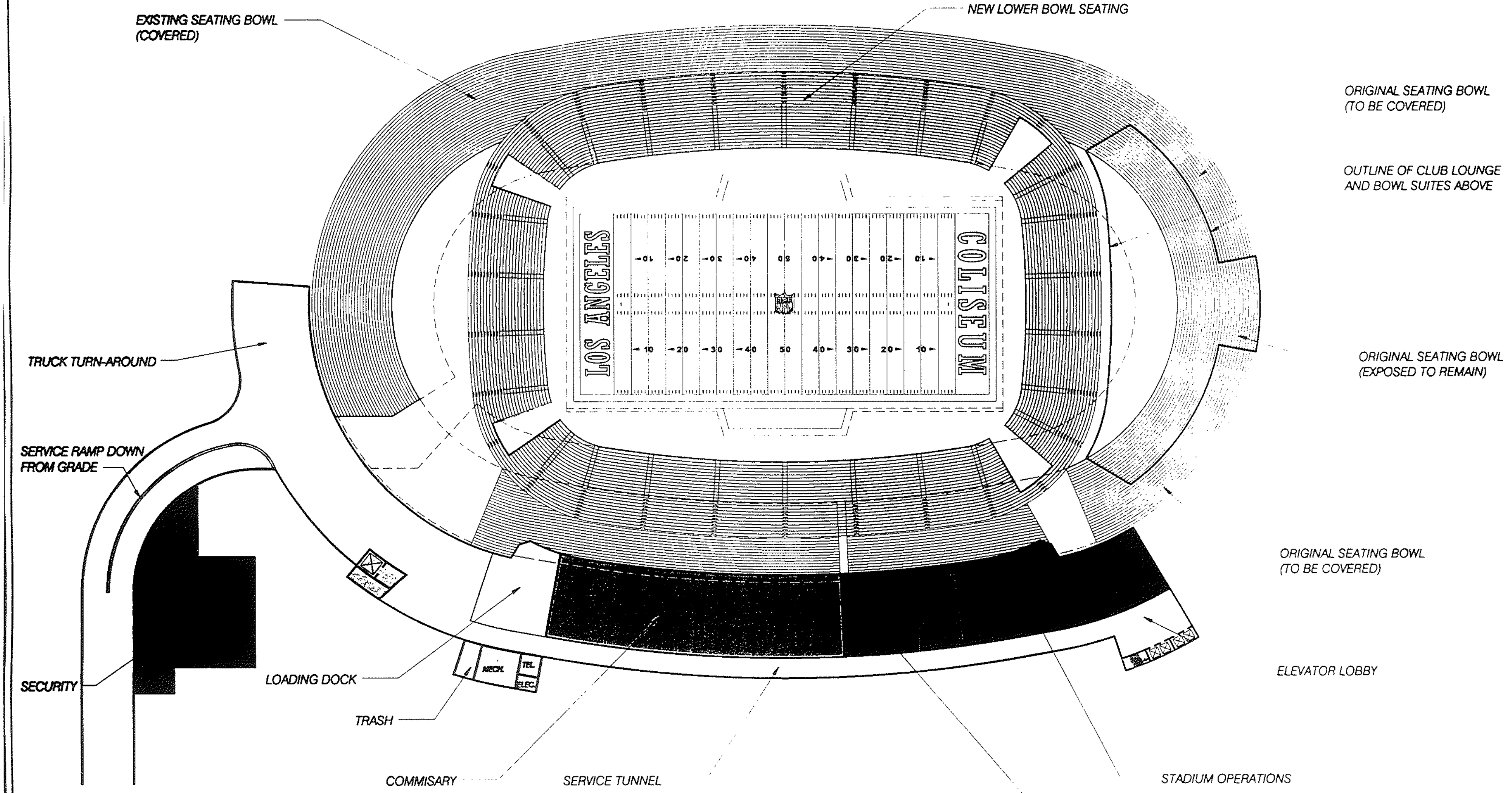
Figure III-8
Conceptual Plan - Field Level



Approximate Scale
1 inch = 128 feet

This rendering is conceptual and is subject to change.

Source: NBBJ Architects, A201 - Service Level, July 22, 2003.

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Figure III-9
Conceptual Plan - Service Level

- Lower Club/Plaza Suite Level (See Figure III-10) - The lower seating bowl would contain approximately 36 rows (44 in the west end zone) of general patron and Club seating. This seating arrangement allows 19-inch wide armchair seats while the club patron seats would be 21-inches wide. Thirty-three-inch deep treads would extend from the field wall upward to the bulkhead in front of the Lower Bowl and Club section wheelchair seating positions. Lower Bowl, endzone suites are proposed below the Peristyle Plaza. On the south side of the stadium there would be a multi-level Club to serve the Lower Bowl Club seats.

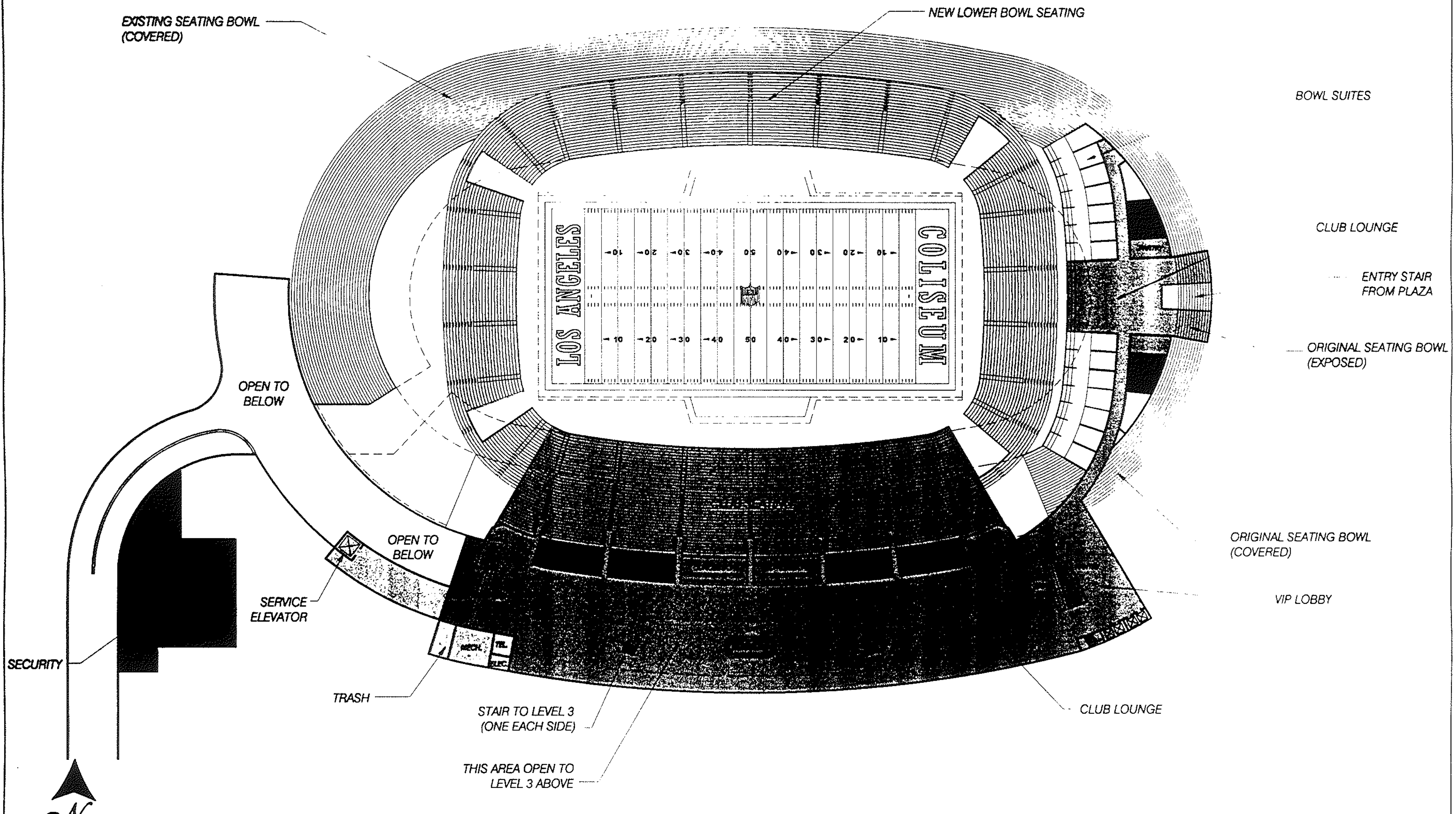
- Plaza Level/Main Concourse (See Figure III-11) - Access to the lower seating area would be from the Main Plaza Level along the sidelines and from the uncovered concourses in the end zones. The Main Concourse would provide restrooms and food court concessions necessary to serve the lower seating level's population. Concessions and restroom facilities would be located on the outer side of this level (away from the field), and behind the lower level suites. Suites are proposed along the north and south sides directly behind, and raised above the lower bowl seating area. On the south side of this level is the second level of the Lower Bowl Club. Outside the stadium and adjacent to the Club would be a garden area that would be available to Club patrons for outdoor dinning and socializing. At the east end of the Coliseum, on the north and south sidelines, there would be VIP entrances for the Club and Suite patrons.

- Mid-Suite Level (See Figure III-12) – Directly above the main concourse level will be a Middle Suite Level, with additional suites located directly above the suites on the Main Concourse Level. The Middle Suite Level will be accessible via escalators and elevators at the east end of the Club.

- Club Level (See Figure III-13) - The Club Level would include restrooms and vendor concessions and would primarily function as a lobby to access approximately 11 rows of club level seating. Club level seating would be provided on the north and south sides of the Coliseum bowl.

- Upper Suite/Press Level (See Figure III-14) - The Upper Suite/Press Level would include suites directly above the Club Level on the north and south sides of the Coliseum bowl. The Upper Suite level could also include the press box. The Upper Suite level would provide space for concessions, restrooms, catering, and other general services to the upper suite.

- Upper Concourse Level (See Figure III-15) - This entirely new level would serve the Upper Deck seating, which would consist of approximately 39 rows of general patron seating, with 19-inch wide armchair seats with 33-inch deep treads. Access from the upper deck seating area to the Upper Concourse level would be through vomitories located approximately one-quarter



Approximate Scale
1 inch = 128 feet

This rendering is conceptual and is subject to change.

Source: NBBJ Architects, A202 - Lower Club Level, July 22, 2003.

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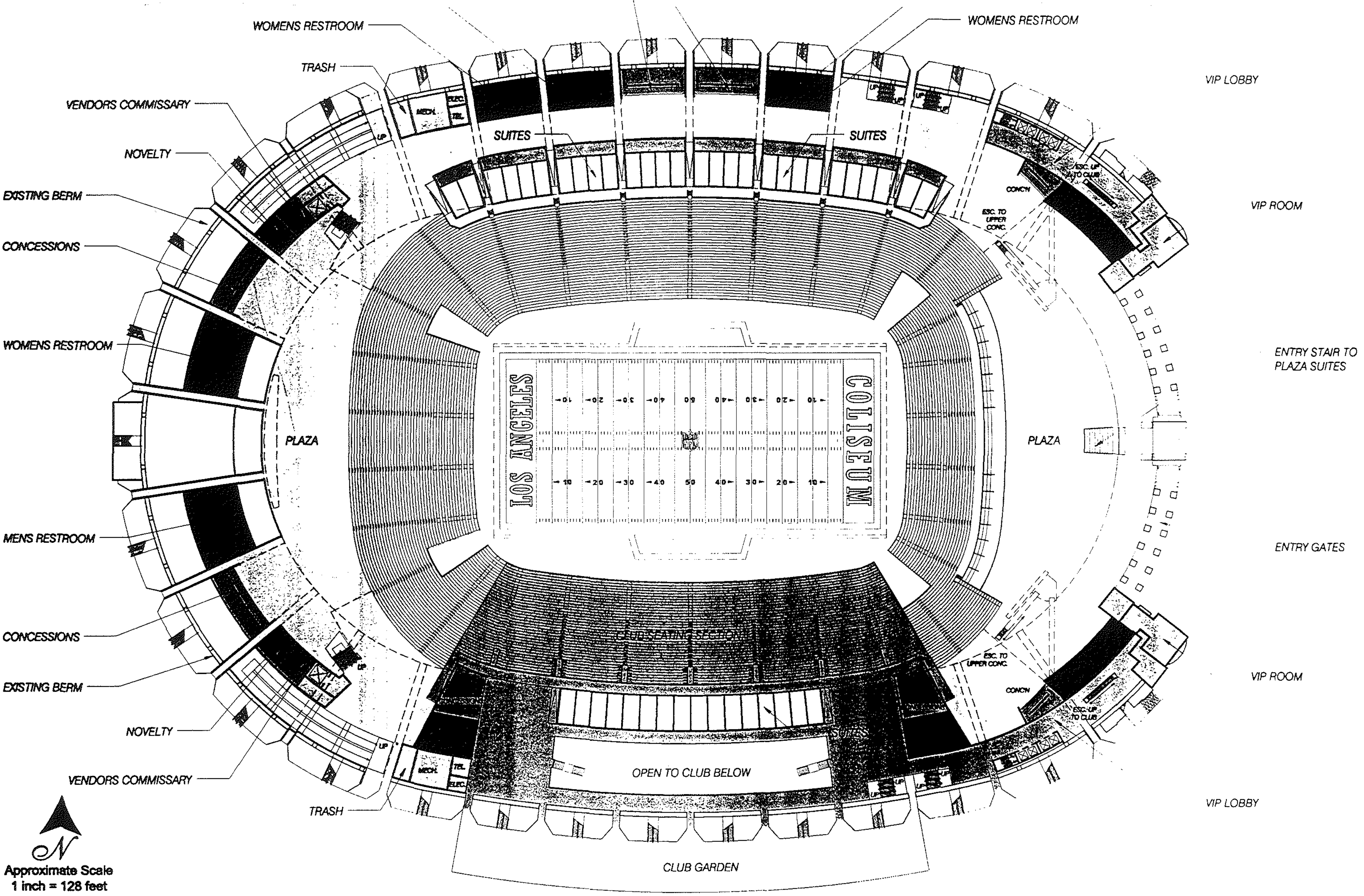
Figure III-10
Conceptual Plan - Lower Club/Plaza Suite Level



Approximate Scale
1 inch = 128 feet

This rendering is conceptual and is subject to change.

Source: NBBJ Architects, A203 - Plaza Level, July 22, 2003.

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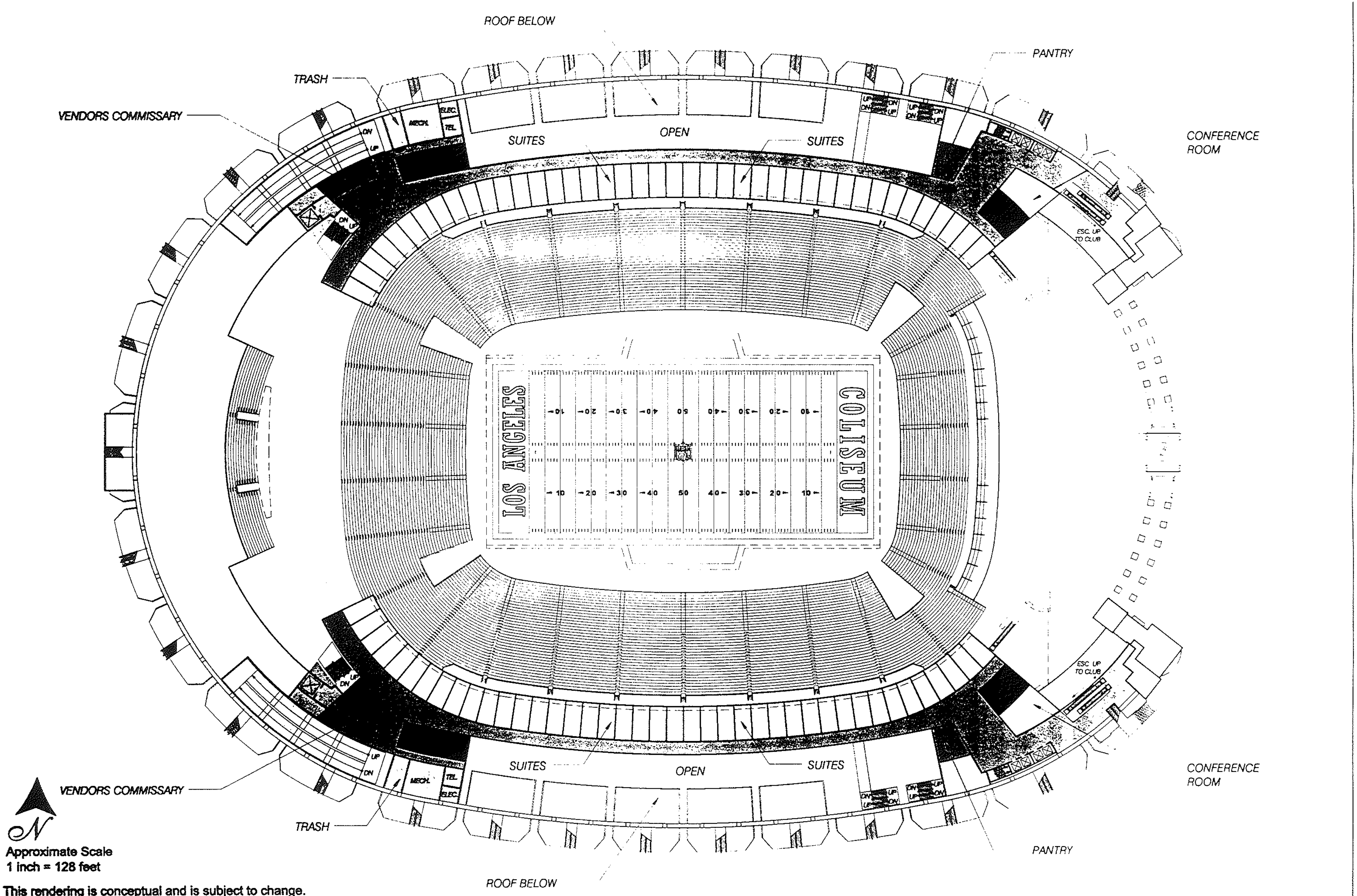
Figure III-11
Conceptual Plan - Plaza Level/Main Concourse



Approximate Scale
1 inch = 128 feet

This rendering is conceptual and is subject to change.

Source: NBBJ Architects, A204 - Mid Suite Level, July 22, 2003.

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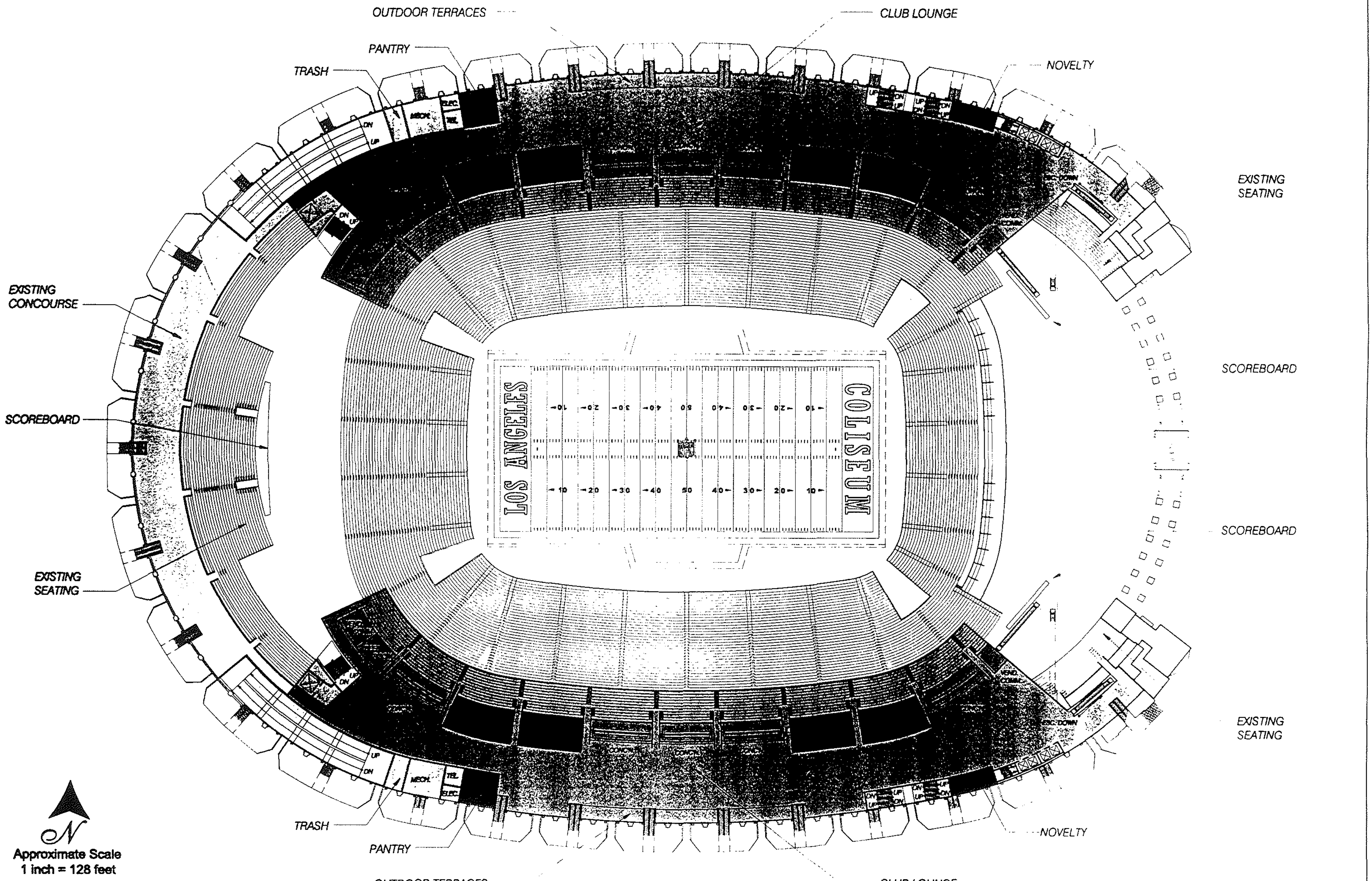
Figure III-12
Conceptual Plan - Mid-Suite Level



Approximate Scale
1 inch = 128 feet

This rendering is conceptual and is subject to change.

Source: NBBJ Architects, A205 - Club Level, July 22, 2003.

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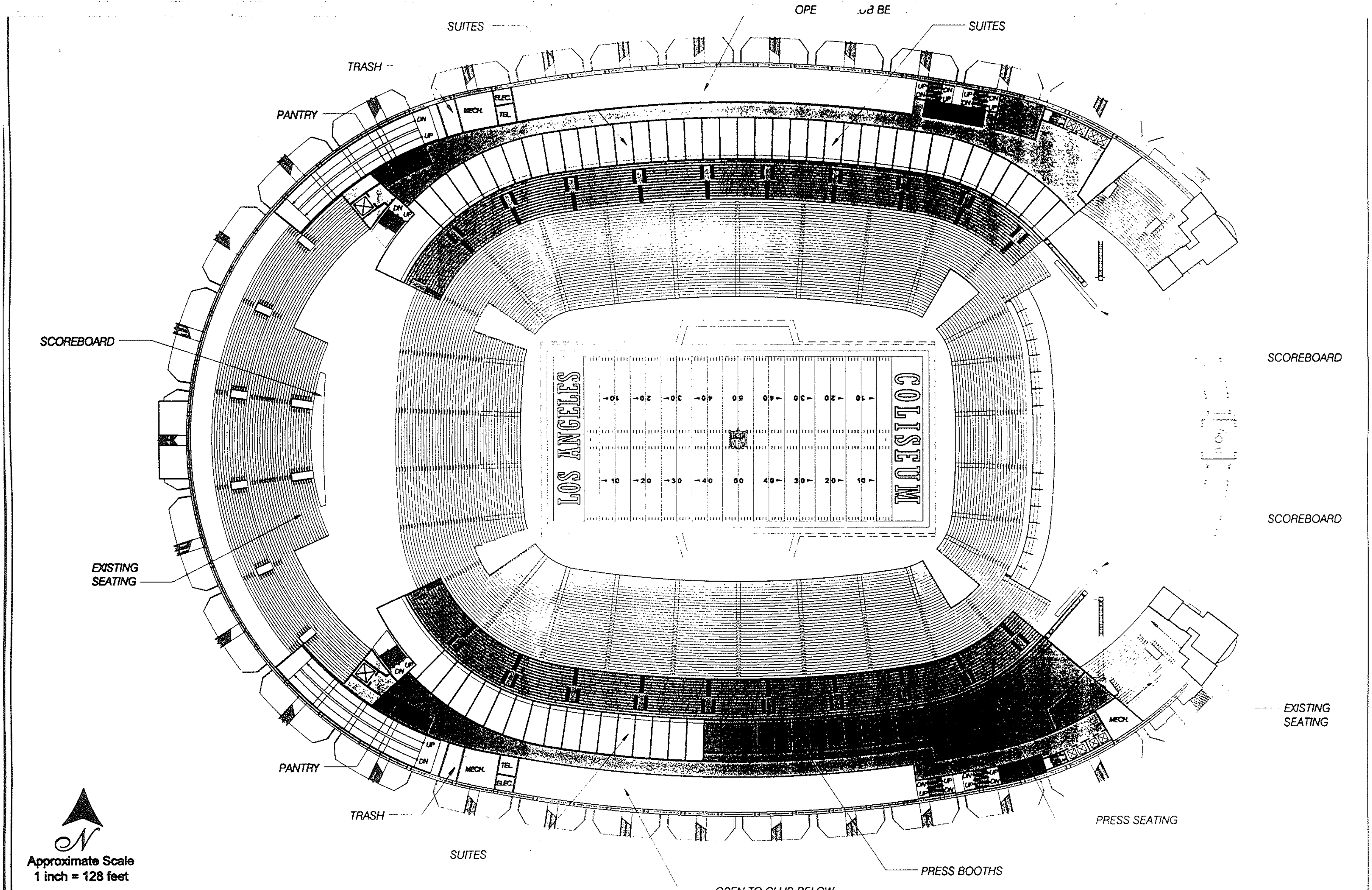
Figure III-13
Conceptual Plan - Club Level



Approximate Scale
1 inch = 128 feet

This rendering is conceptual and is subject to change.
Source: NBBJ Architects, A206 - Upper Suite/Press Level, July 22, 2003.

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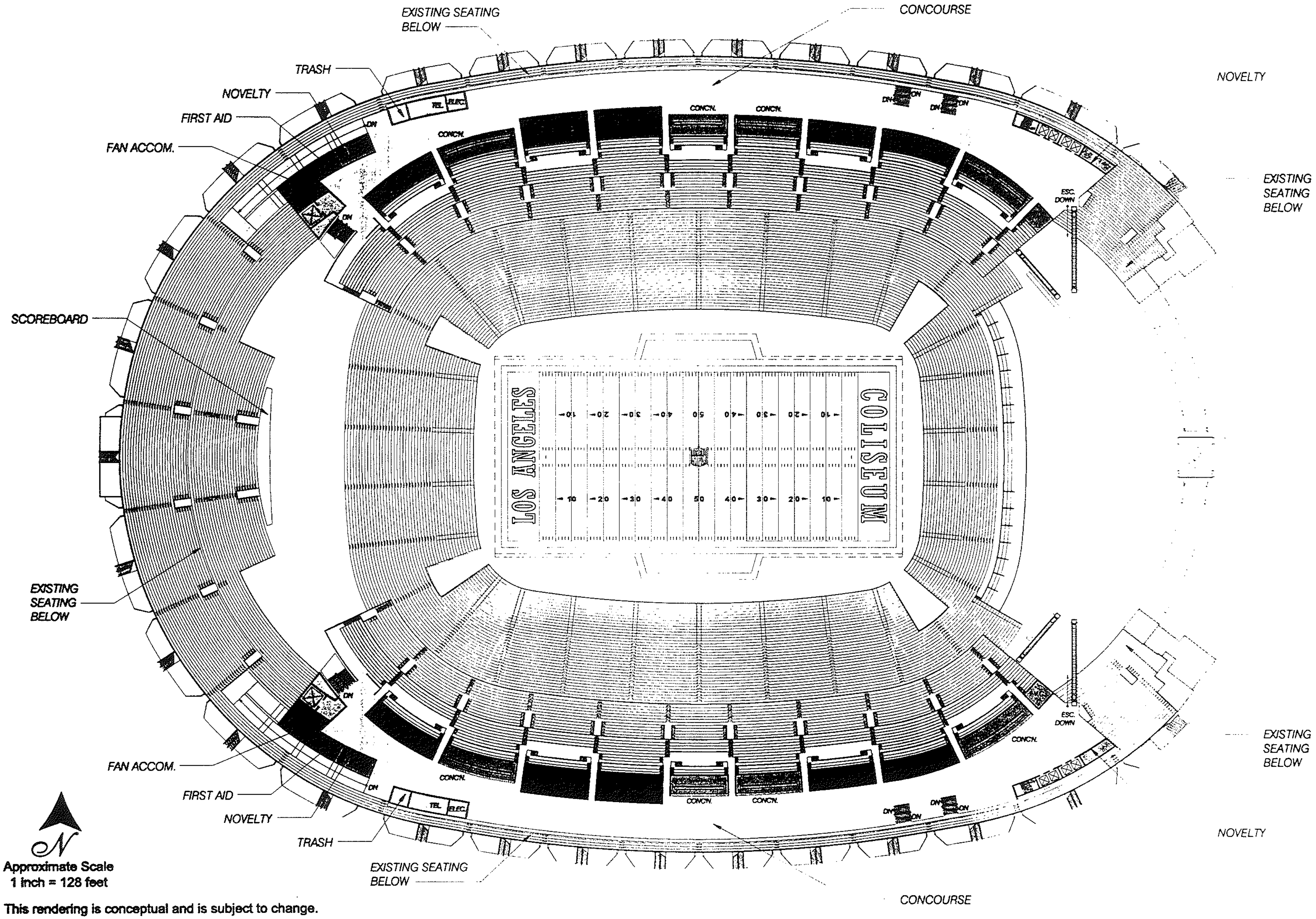
Figure III-14
Conceptual Plan - Upper Suite/Press Level



Approximate Scale
1 inch = 128 feet

This rendering is conceptual and is subject to change.
Source: NBBJ Architects, A207 - Upper Concourse, July 22, 2003.

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Figure III-15
Conceptual Plan - Upper Concourse

> of the Upper Deck's distance up from its front seating row. The Upper Concourse level would contain concessions, restrooms, and all other vending and support spaces necessary to serve the Upper Deck seating patrons. These facilities would be located on the field side of the Concourse, beneath the seating area. The floor of the Upper Concourse deck would be approximately six vertical feet below the existing height of the Coliseum's rim.

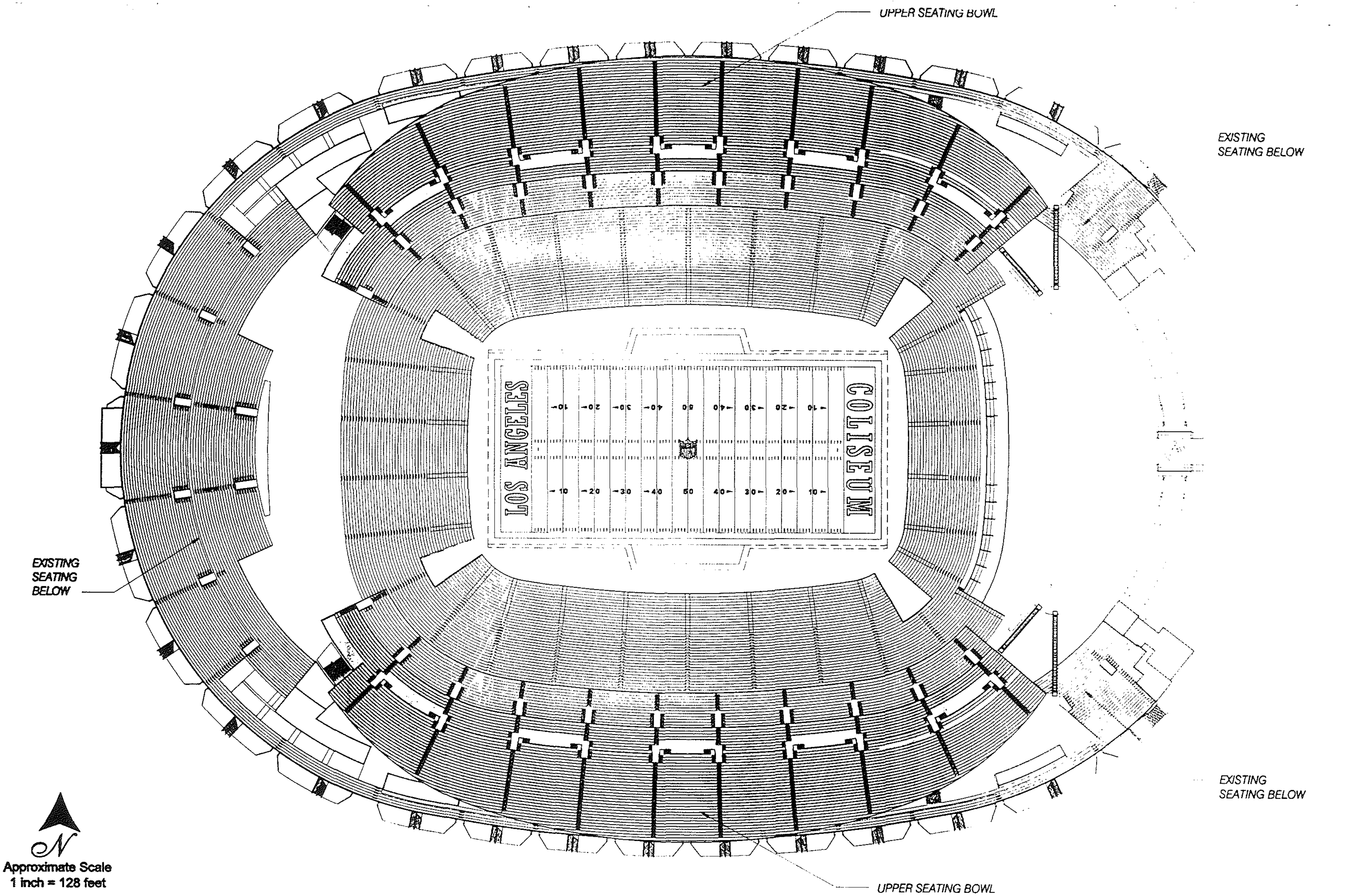
In addition to the new seating and service levels, two sections of the existing Upper Concourse Level would be retained on either side of the Peristyle to provide access to the existing bench seating which is to remain in this section of the Coliseum.

Conceptual illustrations of the overall seating bowl and the roof plan are depicted in Figures III-16 and III-17, respectively. A Temporary Expansion Seating Plan is provided in Figure III-18. Conceptual cross sectional elevations of the Proposed Project from the north, south, east, and west directional views are depicted in Figures III-19 to III-21.

Facilities Provided In the Renovated Coliseum

The Proposed Project would provide upgraded support functions such as concessions, restrooms, commissaries, and vendor service areas in an even distribution on each concourse level, as well as on the west end grade level, and sized according to seating counts in that area. In addition, closed circuit television monitors would be installed throughout the stadium, allowing attendees to monitor the progress of the event from all concourse levels, concession stands, and suites. Restroom facilities would be provided at an approximate ratio of 50 percent men to 50 percent women. In addition to the ticket booths to be located outside the Coliseum, advance sales booths would be located at the grade level, accessible from the stadium interior. The Project would also include a security command center for both private security forces and Los Angeles Police Department personnel at the press level. First aid facilities and security offices would be located throughout the stadium at each concourse level, as would handicapped assistance offices. Other general service facilities to be provided in the Coliseum would include fan assistance/information stations, public telephones, and drinking fountains.

Media facilities developed as part of the Proposed Project would be largely confined to the press box in the Upper Suite Level on the south side of the Coliseum and at the southeast end of the Field Level. The new press box would contain approximately 19,000 square feet, as opposed to 18,400 square feet contained in the existing press box. The press box area would be segregated for the broadcast media and the writing press. The broadcast media portion of the press box would feature operable windows; numerous television monitors; television broadcast booths and associated storage; radio broadcast booths; and booths for home and visiting coaches, home and visiting owners, instant replay officials, public address announcers, sound system control, scoreboard/videoboard control, statisticians, and other miscellaneous storage and multi-purpose uses. The writing press portion of the press box would include stations for approximately 250 writers, control desks, telephone and internet service connections, facsimile connections, closed circuit television, and restrooms. The press box would also



Approximate Scale
1 inch = 128 feet

This rendering is conceptual and is subject to change.

Source: NBBJ Architects, A208 - Overall Seating Bowl, July 22, 2003.

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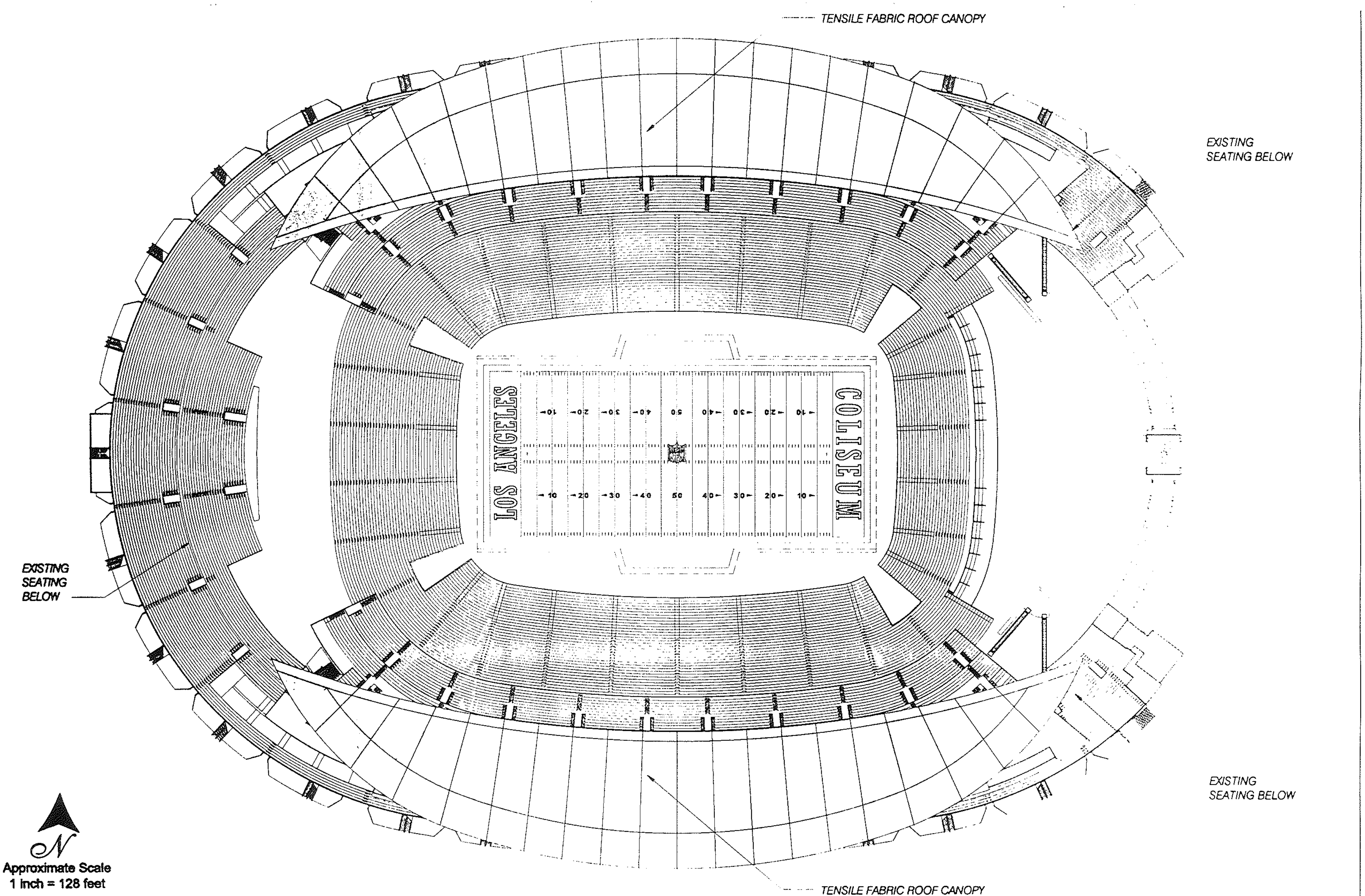
Figure III-16
Conceptual Plan - Overall Seating Bowl



This rendering is conceptual and is subject to change.

Source: NBBJ Architects, A209 - Roof Plan, July 22, 2003.

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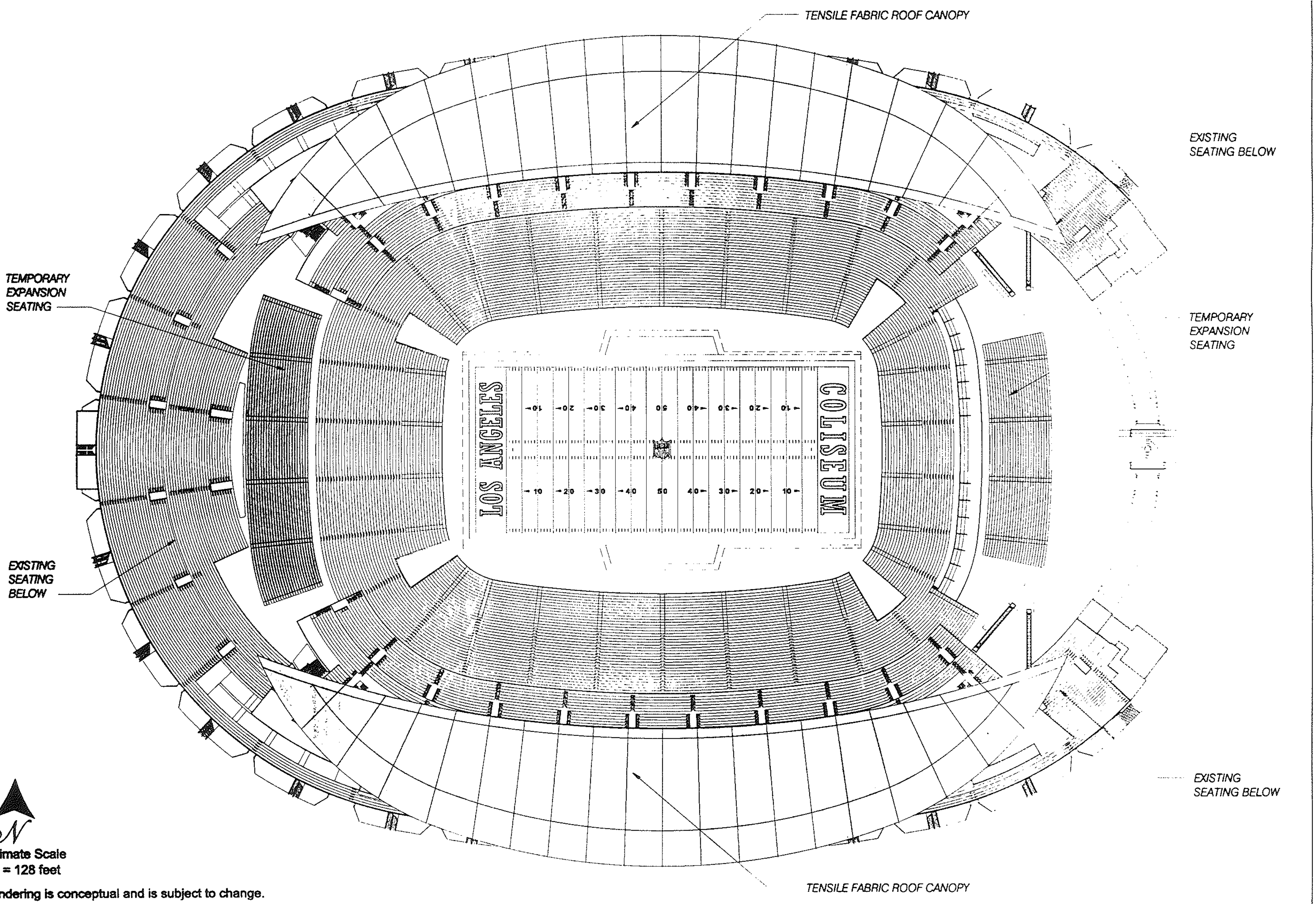
Figure III-17
Conceptual Plan - Roof Plan



Approximate Scale
1 inch = 128 feet

This rendering is conceptual and is subject to change.
Source: NBBJ Architects, A210 - Temporary Expansion Seating, July 22, 2003.

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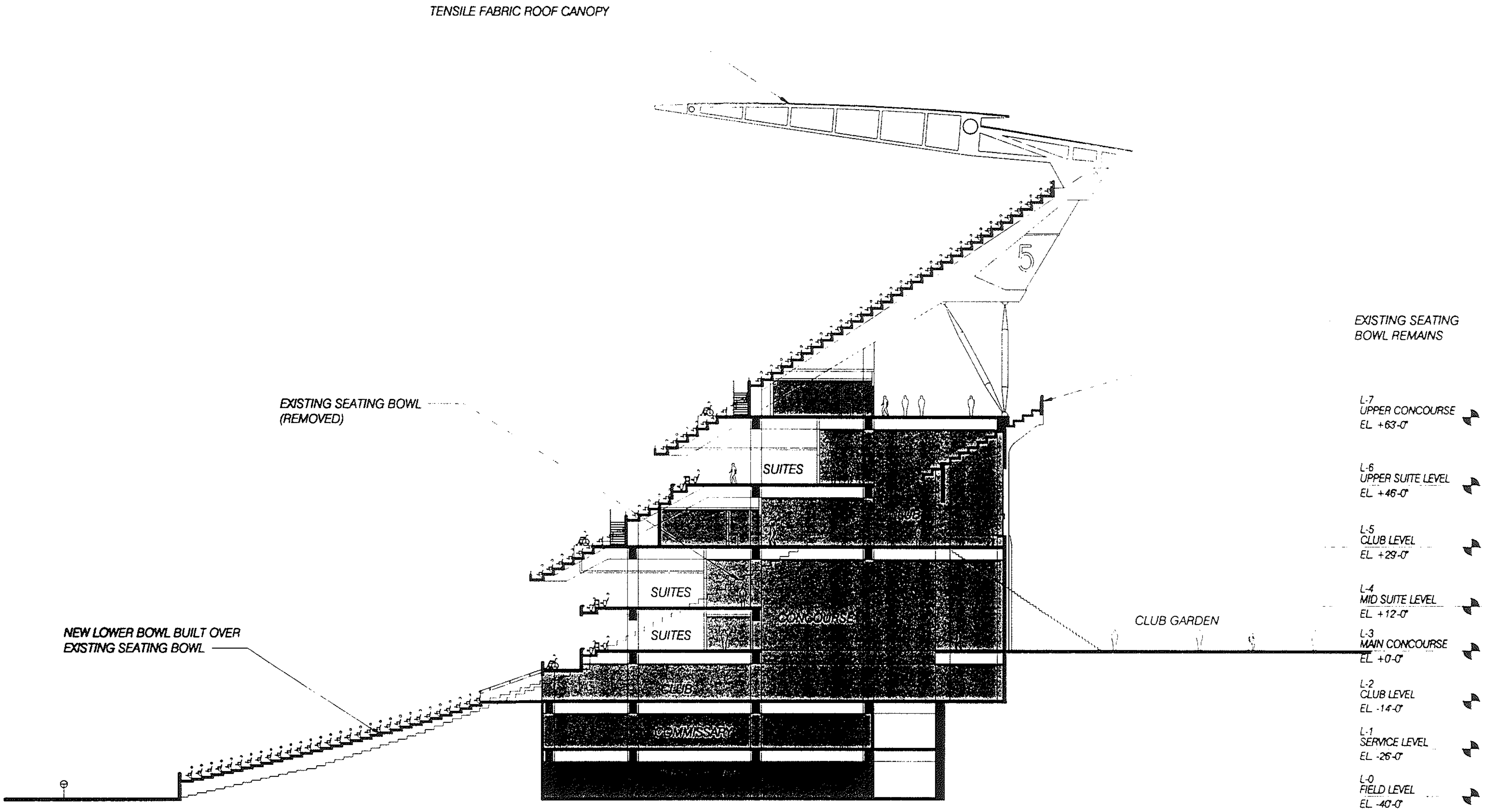
Figure III-18
Conceptual Plan - Temporary Expansion Seating



Approximate Scale
1 inch = 40 feet

This rendering is conceptual and is subject to change.
Source: NBBJ Architects, A401 - 50 Yard Line Section, July 22, 2003.

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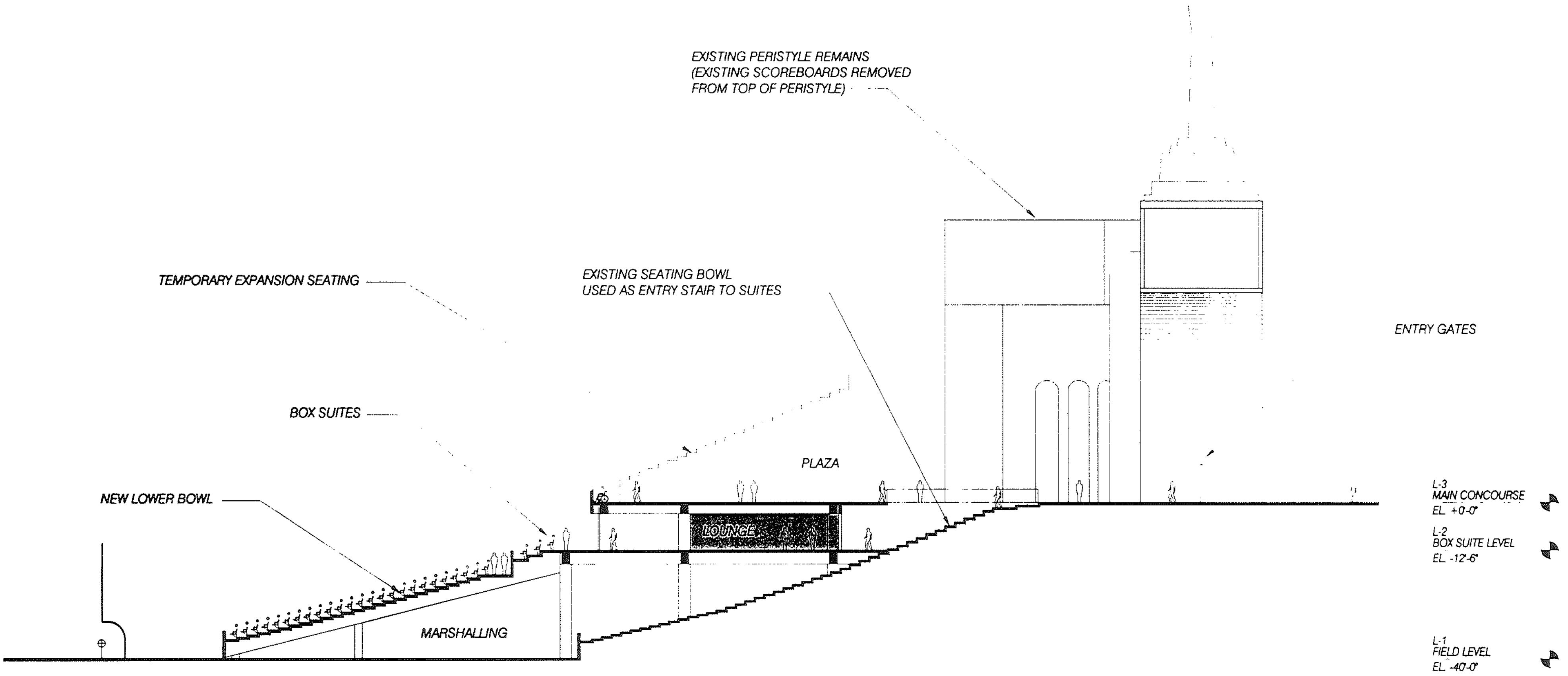
Figure III-19
Conceptual Plan - 50 Yard Line Section



Approximate Scale
1 inch = 40 feet

This rendering is conceptual and is subject to change.
Source: NBBJ Architects, A402 - East End Zone Section, July 22, 2003.

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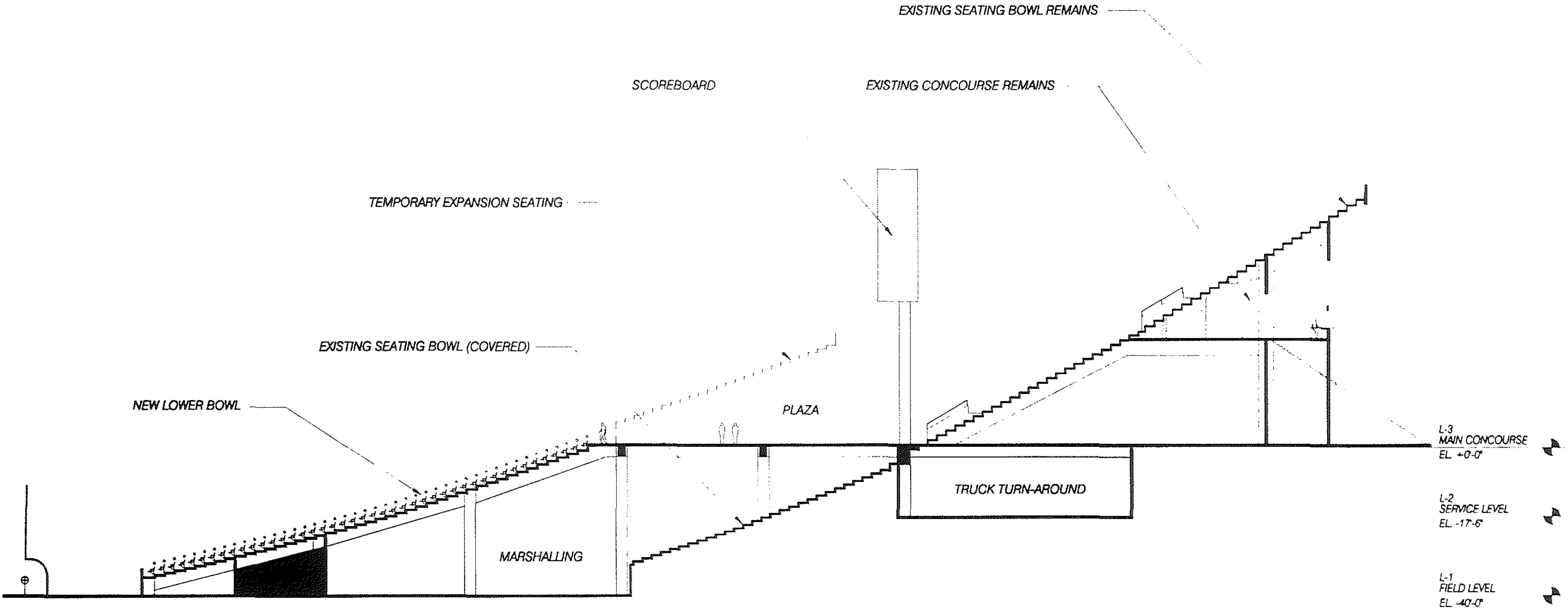
Figure III-20
Conceptual Plan - East End Zone Section



Approximate Scale
1 inch = 40 feet

This rendering is conceptual and is subject to change.
Source: NBBJ Architects, A403 - West End Zone Section, July 22, 2003.

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Figure III-21
Conceptual Plan - West End Zone Section

contain a press lounge and food service pantry. Other media facilities located at various positions within the Coliseum or immediately surrounding areas would include a graphics office, parking for four mobile television truck units with an adjacent lunchroom, and restrooms. Camera platforms will be placed in the seating as required.

Concession-related facilities would include offices and storage areas, a laundry room, vendor and catering commissaries on each served level, and concessions for general seating, club seating, and suite patrons, including lounges and catering kitchens. In addition, employee uniform lockers and distribution rooms, a maintenance shop, and equipment storage areas would be provided at specified locations within the Coliseum. Total square footage proposed for concession-related facilities would be approximately 35,000 square feet, as compared to 18,700 square feet of equivalent facilities in the existing stadium.

The existing field lighting located on posts outside the Coliseum walls will be removed and replaced. New lighting will be installed in the roof structures, to be angled toward the field. Similarly, the existing sound system would be replaced as part of the Proposed Project, with a new distributed sound system. The new sound system would be designed to provide intelligible coverage of all ticketed seats within the stadium, as well as to the press box and several other public areas.

Access and Circulation

Pedestrian access to the Project Site would continue to remain substantially as at present from the outlying parking areas off-site. The existing perimeter fence bordering the Peristyle area of the Coliseum would be removed, providing increased general public open space areas immediately surrounding the Coliseum façade.

Vehicular access to the field from the exterior of the stadium would continue to be provided via the existing service drive and tunnel from Menlo Avenue. One side of the service drive would be raised to meet the new Service Level. The new television truck parking area would be located along the east side of the security building at ground level. Pedestrian access to the subsurface locker rooms and operations area would be by way of the existing service drive, extending from the grade level to the field level and by stairs and elevators from the main concourse to the service level. Direct access to the field from the locker rooms and service building would be by way of field vomitories at the east and west ends of the stadium.

Service access by the way of freight elevators and handicapped elevators to all levels would be located in the northeast and southeast quadrants through openings in the existing berm adjacent to club exit stairs. A total of 8 escalators, 8 passenger elevators and 2 freight elevators would be installed, including elevators for freight use, handicapped accessibility, fire protection, security/first aid (shared), and press usage. Handicapped guest circulation would be facilitated by the inclusion of areas of rescue assistance at each grade-separated level, with a handicapped assistance office providing orientation, group coordination, and other aid for handicapped guests.

No major alterations to the existing parking arrangement(s) at the Coliseum are contemplated as part of the Proposed Project (see Section IV.C, Cumulative Related Projects, for a discussion of added parking improvement projects within Exposition Park) except at the southwest quadrant, east of the security building, which would be utilized for TV truck and player parking. In general, areas outside the existing Coliseum perimeter fence would remain unchanged, except for the proposed removal of all extraneous Coliseum-related out-buildings.

Proposed Improvements Outside of the Coliseum

In addition to renovating the Coliseum structure itself, the Proposed Project would include the demolition of all of the existing outbuildings surrounding the Coliseum structure (except for one original 1932 ticket boot) and would include the construction of two approximately 20,000 square-foot buildings to support ancillary retail or office uses. These structures are proposed as stand-alone ancillary facilities to support the future uses of the Proposed Project. While the architectural designs for these buildings have not been finalized, they will likely include 2-story structures with an architectural design that is compatible with other recent structures that have been built or are under construction in Exposition Park. These structures will be generally located in the southeast area of Exposition Park between the Coliseum and the Sports Arena.

Signage

The proposed Signage Plan has not yet been finalized, however, it is anticipated that sponsorship elements and naming rights will play a major role in the operating revenue for an NFL franchise.

The Coliseum Commission currently operates one off-site, free-standing freeway sign in proximity to the Harbor Freeway. This sign will continue to be operated as part of the Proposed Project. In addition to this sign, it is anticipated that the proposed Signage Plan will include another free-standing sign of similar scale and character between the Coliseum's westerly end and Menlo Avenue. This sign will be detached from the Coliseum structure.

It is anticipated that the Signage Plan may include a signage element on the tensile roof canopy that is proposed above the north and south sides of the Coliseum's upper seating deck (See Figure III-17, Conceptual Roof Plan). While this signage element would not be visible to surrounding locations on the ground in or around Exposition Park, it would be visible to passing aircraft.

Directional and informational signage will also be included in and around the Coliseum to facilitate public access information, as needed.

Project Development Schedule

Pending approval of the Proposed Project, it is anticipated that the Project would be constructed over an 18- to 20-month period of continuous construction activities. Based upon preliminary estimates, approximately 250,000 cubic yards of earth and/or building material are estimated to be excavated and removed from the site during the construction process. At this time, it is expected that removal of the portions of the seating bowl which are to be removed would begin at one "corner," and would proceed around the oval until complete.

Current plans call for the commencement of construction activities in 2005 with completion of the renovations to be achieved by 2006. During the construction period, it is expected that the USC Trojans football team would play their "home" games for one season at either Dodger Stadium, the Rose Bowl, or Anaheim Stadium. Provisions for the accommodation of the Trojans at alternate home facilities during the Project construction phase would likely be made following the completion of the Project approval process. These provisions would likely consist of private agreements between the team and the owners and operators of the respective stadiums.

IV. OVERVIEW OF ENVIRONMENTAL SETTING
A. ENVIRONMENTAL SETTING

PROJECT BOUNDARIES

The Project Site consists of the Los Angeles Memorial Coliseum, located at 3911 South Figueroa Street in the South Los Angeles District Plan area of the City of Los Angeles. The Project Site is located entirely within the boundaries of Exposition Park. The location of the Project Site is shown in Figure III-1, Regional Location Map and III-Figure 2, Project Vicinity Map. The State of California, Sixth District Agricultural Association is the current owner of the Project Site, which leases the land on which the Coliseum is located on to the Los Angeles Memorial Coliseum Commission (Coliseum Commission). Since the site of the Proposed Project is located within the context of a larger, cohesive public reservation (Exposition Park), the character of the existing land uses both within the Project Site boundaries and within the Exposition Park boundaries are evaluated below.

Exposition Park

Exposition Park is an approximately 160-acre reservation of public land established in 1908. Exposition Park is bounded by Exposition Boulevard on the north, Figueroa Street on the east, Martin Luther King Jr. Boulevard on the south, and Vermont Avenue on the west. Park streets accessing the internal portions of Exposition Park include State Drive, North Coliseum Drive, and South Coliseum Drive. Menlo Avenue, which parallels the western edge of the park (Vermont Avenue) between Exposition and Martin Luther King Jr. Boulevards, bisects Exposition Park from north to south.

While also a landscaped setting for community public recreation, Exposition Park is primarily a site for cultural, entertainment, and sporting facilities which draw visitors from much greater distances. Of the approximately 160 acres which comprise Exposition Park, 104 acres are developed with buildings and other structures, roadways and other accessways, and parking lots. Major public facilities within Exposition Park include the Coliseum, the California Museum of Science and Industry (CMSI), the Rose Garden, the County Museum of Natural History, the Los Angeles Memorial Sports Arena, the Exposition Park Intergenerational Community Center (EPICC) and Los Angeles Swim Stadium, the California African American Museum, the Aerospace Museum, the IMAX Theater, and the Los Angeles Unified School District's (LAUSD) Armory School.

In the mid-1980's, the CMSI began a program of expansion within Exposition Park. The primary components of this expansion included the construction of the Mark Taper Hall of Economics and Finance, the Aerospace Museum, the California African American Museum, the Space Garden, an IMAX Theater, and a Multi-Cultural Center. These facilities are concentrated in the northeast portion of Exposition Park and are separated from the Project Site by open lawn areas and internal access roads, including North Coliseum Drive. The Los Angeles Memorial Sports Arena, a 16,000-seat indoor facility constructed in 1959 and located in the southeast corner of Exposition Park, is owned and operated by the

Coliseum Commission under a ground lease from the State (CMSI) which is separate from the ground lease for the property on which the Coliseum is located. The Sports Arena has hosted numerous events, including concerts, rallies, and swap meets, and is currently the home of the USC Trojan basketball team.

The EPICC site occupies approximately six acres located in the southwestern portion of Exposition Park, southwest and adjacent to the Coliseum. The EPICC site is owned and operated by the City of Los Angeles Department of Recreation and Parks. EPICC was recently completed and opened during the preparation of this EIR. The EPICC complex includes three separate facilities and one open air amphitheater. The new recreation and aquatics center will consist of approximately 39,575 square feet of recreational and cultural program facilities, 2,500 square feet of storage space for a total of 48,075 gross square feet. A senior citizens center will occupy the existing Exposition Park Club house structure, which will be rehabilitated with a total new floor area of 5,575-square-feet. A 6,040-square-foot child care center and a 22,500-square-foot outdoor amphitheater will also be included in the improvements.

The remainder of Exposition Park is comprised of landscaped grounds, including an extensive rose garden adjacent to the north side of the Museum of Science and Industry, internal access roadways, and parking lots/areas. All land within Exposition Park is owned either by the State of California, the City of Los Angeles, or the Coliseum Commission.[1] State-owned properties comprise the majority of Exposition Park and are characterized as follows:

- All State-owned land within Exposition Park not leased to other operating agencies is administered by the California Museum of Science and Industry (CMSI).
- The properties containing the Los Angeles Memorial Coliseum (the Project Site) and the Los Angeles Memorial Sports Arena are leased by the Coliseum Commission from the State (CMSI).
- A portion of Exposition Park containing the eastern part of the County Museum of Natural History is leased by the State to the County of Los Angeles and is managed by the Museum.

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[1] *The Coliseum Commission owns the previously privately-owned parcels along the west side of Menlo Avenue which it has purchased for surface parking use. At some future time, it is likely that the Coliseum Commission will offer these parcels for sale to the State (CMSI), thereby consolidating ownership of Exposition Park.*

Table IV.A-1
Exposition Park Facilities

Facility	Landowner	Facility Owner/Operator	Construction Date	Distance From Site
Los Angeles Memorial Coliseum	State of California (CMSI)[1]	Los Angeles Memorial Coliseum Commission	1921-1923	--
Los Angeles Memorial Sports Arena	State of California (CMSI)	Los Angeles Memorial Coliseum Commission	1959	Approx. 150 feet southeast
Museum of Science and Industry	State of California (CMSI)	State of California (CMSI)	1912-1960	Approx. 300 feet north
Museum of Natural History	State of California (CMSI)/ City of Los Angeles (DRP)	County of Los Angeles (MNH)	1912	Approx. 400 feet north
EPICC	State of California (CMSI)	City of Los Angeles (DRP)	1932/2003	Adjacent on southwest
African American Museum	State of California (CMSI)/ City of Los Angeles (DRP)	State of California (CMSI)	1984	Approx. 550 feet northeast
Aerospace Museum	State of California (CMSI)	State of California (CMSI)	1982-1984	Approx. 900 feet northeast
IMAX Theater	State of California	State of California (CMSI)	1998[a]	Approx. 900 feet northeast

[a] *Originally constructed in 1984 the IMAX Theater was demolished and rebuilt as part of the California Science Center in 1998.*

Source: Christopher A. Joseph & Associates, 2003.

The City-owned properties within Exposition Park are characterized as follows:

- Portions of Exposition Park containing the Los Angeles Swim Stadium and the Rose Garden are owned by the City of Los Angeles and are administered by the City's Department of Recreation and Parks.
- The City-owns two discontinuous parcels along Exposition Park's eastern boundary (Figueroa Street) in the southwestern and north-central portions of Exposition Park.
- All City-owned land within Exposition Park not leased to other operating agencies is administered by the City of Los Angeles Department of Recreation and Parks.
- A portion of Exposition Park containing the western part of the County Museum of Natural History is leased by the City to the County of Los Angeles and is managed by the Museum.
- Portions of Exposition Park containing the IMAX Theater and the eastern part of the African American Museum are leased by the City to the State of California and are administered by the CMSI.

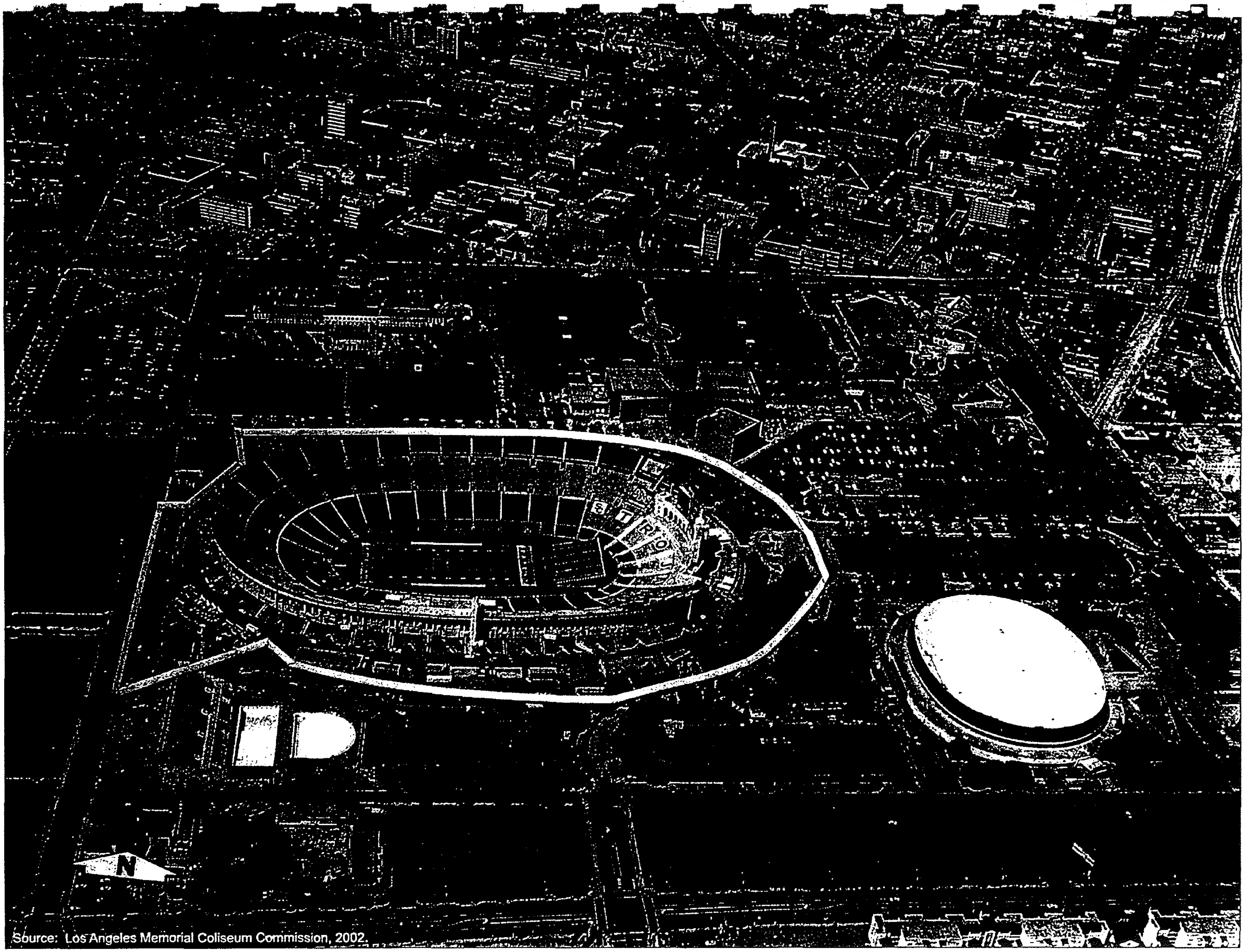
- The Science Museum School and Science Education Resource Center occupies a five-acre property in the northeast corner of Exposition Park and includes the historic Armory Building. The site is currently being redeveloped as a joint venture between the Los Angeles Unified School District (LAUSD) and the California Science Center.

Los Angeles Memorial Coliseum Site and Operations

The Project Site is an oval-shaped 27.40-acre portion of a much larger 160-acre parcel which encompasses the State-owned portions of Exposition Park. The site is located in the southwest corner of Exposition Park, and is generally bounded by North Coliseum Drive on the north, South Coliseum Drive on the east, the Los Angeles Swim Stadium and EPICC complex and surface parking lots on the south, and Menlo Avenue on the west. The Project Site is currently developed with the Los Angeles Memorial Coliseum and numerous ancillary structures, including, but not limited to, permanent concession stands, restrooms, ticket booths, maintenance and equipment storage facilities, and a gift shop. The Project Site boundary is within an approximately 10-foot high combination chain-link and steel-bar perimeter fence which surrounds the entire stadium, with the exception of the southwestern and eastern edges of the property where the boundary extends outward to include related Coliseum access areas. Figure IV.A-1 depicts an existing site plan indicating the boundaries of the Project Site. The site is generally flat, with the exception of the depressed playing field within the Coliseum structure.

The majority of the site is occupied by the Coliseum structure itself. The Coliseum is owned by the Los Angeles Memorial Coliseum Commission, which, as stated previously, leases the land from the State. The Coliseum is situated in the central portion of the site with an east-west orientation. The focal point of this open-air facility is a 4.5-acre grass playing field designed for football, soccer, and/or field hockey. Since its completion in 1923, numerous renovations and expansions have taken place which have both increased and alternately reduced the original spectator capacity of the stadium from 76,000 in 1923 to 105,000 in 1931 to the current level of 92,500. In addition, subsequent to the 1994 Northridge earthquake, the Coliseum underwent a major seismic upgrade and retrofit process. For a more detailed discussion of the history of the site, see Section V.C, Cultural and Historical Resources.

The width of the Coliseum structure measures 1,038 feet from east to west and 738 feet from north to south, with a constant height of 106 feet from the field level to the rim of the stadium. The exterior walls of the Coliseum stand 74 feet above the surface level of the site. The Coliseum is constructed primarily of cast concrete and concrete block material resting on an earthen berm and consists of a solid bank of seating circling the playing field. General access to the interior of the stadium is provided from two levels: the yard (ground) level and the concourse level, located approximately 34 vertical feet above the yard level. The concourse level is accessible from the yard level via three escalators and numerous stairways around the exterior of the Coliseum. The uniform bowl of the stadium is broken at its eastern end by the "Peristyle," a series of 15 arches which extends at the yard level between the edges of the two banks of spectator seating. Bench-type seating is provided between the arches and the



Source: Los Angeles Memorial Coliseum Commission, 2002.

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Figure IV.A-1
Aerial Photograph of the Project Site

playing field in this end of the Coliseum, as well as in the two sections adjacent to each side of the Peristyle; all other seating in the stadium is individual theatre-style.

A three-leveled, 354-seat press facility, built in 1948, was located on the south rim of the Coliseum and is serviced via both a private elevator to the yard level on the southern exterior of the stadium and an aisle and stairway from the interior seating areas on the south side of the playing field. The press box has since been renovated as a result of structural improvements made after the 1994 Northridge earthquake. Vehicular access to the playing field is provided through a private underground ramp and tunnel from Menlo Avenue near the southwest end of the Coliseum. Dressing and locker room facilities for Coliseum tenants are accessed from this ramp and are located underground. The Olympic torch, perched above the central and largest arch in the Peristyle, was erected in 1931 and is the highest point along the rim of the Coliseum, reaching a height of 150 feet above the ground surface of the site. A matrix scoreboard, videoboard, and matrix clock-board are located in the Peristyle end of the Coliseum, with an auxiliary scoreboard located above the entrance to the tunnel ramp at the opposite end of the field. Field lighting is currently provided from a total of eight pole towers along both the north and south rims of the Coliseum (for a more detailed discussion of Coliseum lighting, see Section V.A.2, Light and Glare).

The yard (ground) level of the Coliseum consists of a surface-level asphalt concourse surrounding the stadium. Situated at various intervals along this concourse are a total of 11 permanent concessions buildings (not including portable stands), four restroom facilities, a 200-square-foot Los Angeles Police Department (LAPD) sub-station (located at the west end of the stadium), and a 1,700-square-foot concession storage building (also located at the west end of the stadium). The concourse level of the Coliseum consists of a continuous concrete walkway extending around the entire stadium with the exception of the Peristyle end. This walkway is enclosed on three sides and contains restroom facilities and concession counters. A series of 28 tunnels around the stadium connects the yard level concourse surrounding the Coliseum with the interior seating bowl. The Coliseum Commission offices are located in two three-story facilities expanded in 1948, totaling 3,000 square feet, located at each end of the Peristyle. The Peristyle arches contain numerous commemorative plaques acknowledging persons and/or events associated with the history of the Coliseum.

As stated previously, the Coliseum's yard level concourse is bounded by an approximately 10-foot combination chain-link and steel-bar fence surrounding the entire stadium. Approximately 12 gated entries to the yard level are available, including a press/media entrance along the south side of the stadium and a vehicular driveway gate from Menlo Avenue at the west end of the stadium. The approximately 74 open-air turnstiles through which all Coliseum event patrons pass are located at several of these gates along the perimeter fence. Ancillary structures located outside this fence but included on the Project Site include a 750-square-foot gift shop located adjacent to the southeast edge of the Coliseum, four permanent ticket booth structures at various locations (for event-day sales only), and a 6,000-square-foot equipment storage warehouse located adjacent to the field ramp entry at the southwest edge of the site and constructed in 1984. In addition, a television van parking area is located adjacent to the press gate outside the perimeter fence. Finally, a memorial statue consisting of two sculpted figures is located in the

Peristyle entrance approach to the east end of the Coliseum outside the fence. Table IV.A-2 presents the square footage of all of the existing structures on the Project Site.

Vegetation within the Project Site consists primarily of various forms of landscaped elements along the exposed portions of the Coliseum berm. Several native trees are planted along the base of the berm, including eucalyptus, deodar, yucca, agave, and palm trees and plants. Additionally, several specimens of the numerous native tree species planted throughout Exposition Park are included within the outer portions of the site, outside the Coliseum perimeter fence. No State or Federally protected plant species are currently known to exist on the immediate Project Site.

Throughout its history, the Coliseum has, in its role as a publicly owned and managed multi-purpose stadium, hosted numerous sporting, community, and entertainment events. Major tenants of the Coliseum have included the University of Southern California (USC) Trojans football team (1923-Present), the University of California at Los Angeles (UCLA) Bruins football team (1943-1981), the Los Angeles Rams professional football team (1950-1980), Los Angeles Chargers professional football team (1960), Los Angeles Express professional football team (1984-1986), the Los Angeles Dodgers professional baseball team (1958-1961), and the Los Angeles Raiders professional football team (1982-1994). In addition, the Coliseum has hosted numerous concerts, political rallies, soccer matches, track and field meets, and countless other sporting and community-oriented events, including the National Football League's (NFL) Super Bowl I (1967) and Super Bowl VII (1973), and, by virtue of the Los Angeles Dodgers' occupancy of the Coliseum at the time, three games of the 1959 World Series. The Coliseum has also been the central sporting and assembly facility for both the 1932 and 1984 Summer Olympic Games. For a more detailed description of the history of the Coliseum, see Section V.C, Cultural and Historical Resources.

OVERVIEW OF ENVIRONMENTAL SETTING

Aesthetics/Visual Impacts

The 27.4-acre site is generally bounded by 39th Street on the north, Hoover Street on the east, Menlo Avenue on the west, and Martin Luther King Jr. Boulevard on the south. The Los Angeles Swim Stadium[2] is located to the southwest of the Coliseum, while a surface parking lot and the Sports Arena are to the southeast. The existing improvements on the site consist of the Los Angeles Memorial Coliseum and numerous ancillary structures, such as concession stands, restrooms, ticket booths, and other facilities.

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[2] *The Los Angeles Swim Stadium is located within the Exposition Park Intergenerational Community Center (EPICC), which also houses a child care center, a clubhouse, and a senior center.*

Table IV.A-2
Existing Development on Project Site

Structure/Use	Approximate Size	Location
Los Angeles Memorial Coliseum[a]	92,500-seat stadium.	Central majority of site
Coliseum Commission Offices	3,000 square feet	North and south ends of Peristyle at yard level
LAPD Sub-Station	200 square feet	West end of Coliseum at yard and concourse levels
Press Box	18,400 square feet	South rim of Coliseum at mid-field
Restrooms	14 men's; 12 women's	Along entire concourse level
Concession Counters/Storage	11,000 square feet	Along entire concourse level; at west end of Coliseum
Collegiate Home Locker Room	5,000 square feet	Underneath southwest end of Coliseum
Collegiate Visiting Locker Room	5,120 square feet	Underneath southwest end of Coliseum
Other Dressing Room Areas (training, officials' locker, player interview, x-ray, etc.)	1,000 square feet	Underneath southwest end of Coliseum
Ticket Booths	Four main buildings, 40 windows; five small buildings, eight additional windows	Scattered outside perimeter fence at yard level
Gift Shop	1,500 square feet	Outside perimeter fence at southeast end of Coliseum
Concession Buildings	18,700 square feet	Along yard level surrounding Coliseum
Restroom Buildings	Four buildings containing men's and women's facilities	Along yard level surrounding Coliseum
Concession Storage Shed/Office	1,700 square feet	West end of Coliseum at yard level
Equipment Shed	6,000 square feet	Outside perimeter fence at southwest end of Coliseum

[a] *All uses listed under this heading are considered part of the structure of the Coliseum itself. Other facilities in this table are separate buildings on the Project Site.*

Table IV.A-3
Los Angeles Memorial Coliseum – Existing Event Profile

Event Type	Typical Day Of The Week	Typical Time Of The Year	Typical Start Time(s)	Typical Finish Time(s)	Average Attendance[a]	Typical Number Of Events Per Year
College Football	Saturday (day/evening)	September-December	12:30 – 7:00 p.m.	3:30-10 pm	48,775	6-8
Soccer	Weekday/Weekend	Varies	7:30 pm/1:00 p.m.	10:00 pm/4:00 p.m.	15,140	13
Concerts	Weekday and Weekend Evenings, Weekend (afternoon)	March-October	7:30 pm/1:00 p.m.	11:30 pm/7:30 p.m.	67,517	0-4
Off-Road Vehicle Races	Saturday (night)	June-July	7:30 pm	11:00 pm	15,943	2
Other/Special Events	Varies	Varies	Varies	Varies	44,715	0-2

[a] *Based on a four-year average (1999-2002).*

[b] *The XFL was a tenant at the Coliseum during its first and only season. The XFL is no longer in existence.*

Source: Los Angeles Memorial Coliseum Commission, 2002.

The exterior of the stadium presents an architectural style reminiscent of classical stadium architecture. Arched entranceways and window-like openings that suggest an arcade effect lend the flavor of the original Roman Colosseum without attempting to duplicate the Doric, Ionic, and Corinthian qualities of the Roman facade.

Landscaping on the site includes decorative trees and shrubs along the base of the berm including eucalyptus, deodar, yucca, agave, palm trees, and plants, along with several specimen tree species planted throughout Exposition Park. Most of the areas within Exposition Park that are adjacent to the site, including the outer portions of the site beyond the perimeter fence, are landscaped with grass.

In general, the aesthetic value of the project area relates primarily to its urban character rather than to any dominant natural feature. Low-level views from the Project Site (outside the Coliseum) consist largely of the surrounding areas of Exposition Park, as well as the commercial and retail uses surrounding Exposition Park to the south and west. Viewsheds of the site are, in general, intensely urban, which tends to make their boundaries irregular. The site is visually prominent from non-adjacent vantage points on the west and south, although not from the north and east due to both the relatively low profile of the existing Coliseum and the trees and other landscaping scattered about the site and the adjacent portions of Exposition Park.

Aesthetics/Light and Glare

Ambient lighting in the vicinity of the Coliseum consists of relatively low to high levels of lighting. The streets surrounding Exposition Park and the Coliseum, Figueroa Street, Martin Luther King Jr. Boulevard, Vermont Avenue, and Exposition Boulevard include streetlights for their entire length. The uses in Exposition Park all maintain mid-level lighting at night, and surface parking lots in Exposition Park are relatively brightly lit. Surrounding commercial uses along Figueroa Street and Vermont Avenue maintain high-level lighting, while residential areas along Martin Luther King Jr. Boulevard maintain a relatively low level of nighttime lighting. Overall, existing ambient lighting levels surrounding the Project Site range from low to high.

The existing permanent lighting at the Coliseum consists of small and moderate scale area lighting at the entrances and on the surrounding plaza as well as floodlights on the field for various events. Field lighting is currently provided from a series of eight floodlight towers located along and extending above the rims of the stadium. There are 360 existing floodlights on the Coliseum. The average height of floodlights above the north rim of the Coliseum is 16 feet, resulting in a cut-off angle to the opposite (south) rim of approximately one degree below horizontal. The average height of the floodlights above the south rim wall (and press box) is 29 feet, yielding a cut-off angle to the opposite rim of approximately two degrees below horizontal.

Air Quality

The project area is located within the South Coast Air Basin (SCAB), a 6,600-square mile basin encompassing all of Orange County, most of Los Angeles and Riverside Counties, and the western portion of San Bernardino County. Ambient pollution concentrations recorded in Los Angeles County are among the highest in the four counties comprising the SCAB. Winter air quality problems are due to early and late evening emissions of carbon monoxide and nitrogen dioxide. Summer air quality problems result from the formation of photochemical smog, as hydrocarbons and nitrogen dioxide react under strong sunlight.

Air quality concerns in the South Coast Basin typically focus on changes in concentration levels of the following pollutants: carbon monoxide, nitrogen dioxide, sulfur dioxide, particulates (PM_{10}), and reactive organic gases. A key characteristic of the Coliseum is that it generates a substantial number of vehicle trips and congestion for short periods prior and following events. 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.

Cultural and Historic Resources

Completed in 1923, the Coliseum had wood seats on three tiers of risers, the first being within the excavated bowl and the other two above grade on wood structural supports. Almost immediately after completion, an additional level of wood seats was added. In 1931 the Coliseum was greatly altered by adding another tier of seats with all the seating above the bowl not supported by concrete construction. There were now 25 rows of additional seating totaling 79 rows. The last four rows were cantilevered above the support structure and a series of concrete brackets pilasters and panels supported them giving the Coliseum its unique form that is familiar today.

The Coliseum is designated as a National Historic Landmark, a State Historical Landmark, and is listed on the National Register of Historic Places in Washington, D.C. The Coliseum is significant as the site of numerous historical sporting events, and for its "association with important personages." The Coliseum has been the site for many events including two Olympic Games, held in 1932 and 1984, two Super Bowls, Major League Baseball games including the 1959 World Series, numerous track meets, collegiate and professional football, political rallies, rock concerts and political gatherings. All of three of the above designations were undertaken in 1984 for the fiftieth anniversary of the Historic American Building Survey (HABS) and for the Olympic Games to be held in 1984, for the second time at the Coliseum.

Exposition Park, which includes the Coliseum and numerous surrounding structures, has been designated as a Cultural and Historical Site by the County of Los Angeles.

Geology/Seismic Hazards

The Los Angeles Basin is an extensive northwest-trending structural downwarped trough filled to capacity with Cretaceous through Pleistocene age marine and non-marine sedimentary bedrock formations and capped with late Pleistocene and Holocene age alluvial deposits. Regional subsidence in the basin reaches over 30,000 feet of depth and, in the immediate site area, the sediments are approximately 10,000 feet thick. Basement rock beneath the basin floor consists of Mesozoic age intrusive granitic rock types. Structural subsidence of the basin has been continuous throughout most of the Tertiary period, though relatively short periods of uplift are evident. Regional uplift continues to occur to the present time, with the most recent inland seas regressing oceanward approximately 120,000 years ago.

The floor of the Los Angeles Basin is generally flat and represents a vast alluvial outwash plain. Prominent mountain ranges and a series of hills bound the basin to the north, south and east, with the coastline of the Pacific Ocean forming the western boundary. As the basin subsided, the adjacent uplands were elevated by both faulting and folding processes that, in some cases, continue today. As the uplands were elevated, erosion slowly degraded them and streams transported the debris to the basin floor where they have remained as alluvial deposits.

Though the area around the Coliseum has been completely urbanized, the main drainage systems remain near their natural prehistoric course locations. The Los Angeles River is the closest main drainage to the site and is located approximately 3.5 miles to the east. The river flows southward to the Pacific Ocean in the vicinity of the Los Angeles Harbor and drains all of the San Fernando Valley and a major portion of the Los Angeles Basin inclusive of the area immediately surrounding the Project Site. Surface drainage in the vicinity of the site is controlled by street drainage and storm drains that flow to the improved Los Angeles River channel.

The Coliseum was constructed on a relatively flat surface at an elevation of approximately 175 feet above sea level. The natural surface gradient slopes down to the southwest at roughly 25 feet per mile. The field level is presently at an average elevation of 135 feet above sea level. The alluvium on which the Coliseum was constructed is of Pleistocene and Holocene age and has been accumulating for at least one million years.

The Project Site is not located in a state-defined Alquist-Priolo Earthquake Fault Zone or Special Study Area, and no active or potentially active faults are known to exist beneath the Project Site.[3]

Land Use

The South Los Angeles District Plan identifies Exposition Park as both a Regional Recreational Site and a Cultural and Historical Site. The entire site is zoned R4-2 (Multiple Dwelling Residential), as is the majority of Exposition Park. Exposition Park, including the Project Site, is also located within the Exposition Sub Area of the City of Los Angeles' Community Redevelopment Agency's (CRA) Hoover Redevelopment Project. The Hoover Redevelopment Plan map designates the Project Site as Public Land. The Coliseum is also designated as both a State Historic Landmark by the California State Office of Historic Preservation and a National Historic Landmark by the U.S. Department of the Interior. The Coliseum was placed on the National Register of Historic Places, administered by the National Park Service, in 1984.

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[3] *California Department of Conservation, Division of Mines and Geology, Digital Images of Official Maps of Alquist-Priolo Earthquake Fault Zones of California, Southern Region, 2000.*

The land use pattern within the general vicinity of the Project Site and Exposition Park is largely characterized by low-rise (one to three stories) strip commercial uses along such major streets as Vermont Avenue, Figueroa Street, Jefferson Boulevard, and Martin Luther King Jr. Boulevard with intervening blocks primarily developed with multi-family dwelling units. Several single-family residential neighborhoods are also located at a greater distance from Exposition Park to the northwest, west, and southwest. Figueroa Street, which forms the eastern boundary of Exposition Park, represents the division between the South Los Angeles and the Southeast Los Angeles District Plan areas. Land uses within the Southeast District Plan area east of Figueroa Street in the vicinity of the Project Site are generally comprised of low- to mid-rise (four to six stories) retail commercial in the areas between Figueroa Street and the Harbor Freeway (Interstate 110) east of the site. Areas east of the Harbor Freeway are largely developed with light industrial uses. Multi-family residential areas predominate continuing to the east and southeast. For a more detailed discussion of the land use in the vicinity of the Project Site see Section V.E, Land Use.

The University of Southern California (USC) is located adjacent to Exposition Park on the north, across Exposition Boulevard, along which the tracks of the Southern Pacific Railroad are aligned. The USC campus, generally bounded by Vermont Avenue on the west, Jefferson Boulevard on the north, Figueroa Street on the east, and Exposition Boulevard on the south, when coupled with Exposition Park, forms a continuous reservation of public and quasi-public land extending north from the Project Site for approximately 1.2 miles. The Los Angeles Central Business District (downtown) is located approximately 1.5 miles to the northeast of the site. In addition, the Armory grounds situated within the northeast corner of Exposition Park is currently being remodeled for use as a LAUSD Elementary School.

Noise

The primary noise sources in the vicinity of the Coliseum are associated with traffic on the elevated Harbor Freeway (Interstate 110) as well as traffic on surface streets such as Vermont Avenue, Exposition Boulevard, Figueroa Street, and Martin Luther King Jr. Boulevard. The Coliseum is located within Exposition Park, which includes passive recreational spaces as well as County and State Museums. The majority of these areas are located north of the Coliseum. Within this park/institutional setting, the ambient noise environment is dominated by the Coliseum activities during special events. There are a number of land uses in the Coliseum vicinity that can be considered sensitive to noise. These uses include passive open space, multi-family housing, museums, USC dormitories, and the Los Angeles Child Guidance Center.

Noise generated at the Coliseum is largely contained within the bowl structure. There are circumstances and conditions, however, when the public address system or amplified concert music is discernible within Exposition Park and beyond.

Public Services/Fire Protection

Fire protection services for the project area are provided by the Los Angeles City Fire Department (LAFD). The closest Truck Company is currently located 0.6 mile from the Project Site. Three fire stations serving the site currently have established emergency response plans for the Coliseum. These stations include Fire Station No. 15 located at 915 South Jefferson Boulevard, Fire Station No. 46 located at 4370 South Hoover Street, and Fire Station No. 14 located at 3401 South Central Avenue.

During concerts and other special events, there are as many as six on-duty Fire Department Safety Watch Officers located at the stadium. There is no Fire Command Post located on the current Coliseum grounds. Thus, the Safety Watch Officers may be both located in the press box and/or walking the grounds, staying in contact with fellow staff on-duty via radio communication. In addition, emergency medical technician (EMT) services are currently retained by the Coliseum and stationed on the site during large Coliseum events, such as football games and concerts. These services generally include the provision of at least one ambulance.

Public Services/Police Protection

Police protection is provided to the Project Site by the City of Los Angeles Police Department (LAPD). The site is located within LAPD Reporting District (RD) 378, which consists entirely of Exposition Park. The Southwest Area police station is located at 1546 W. Martin Luther King Jr. Boulevard, approximately 1.2 miles west of the site. The current average response time to emergency calls in the Southwest Area is 11.1 minutes, compared to the 2002 average citywide response time of 10.2 minutes. The Southwest Area currently staffs 327 sworn officers and 26 civilian support staff deployed over three watches. The Project Site is routinely patrolled at all times by officers assigned to the Southwest Area.

All spectator events at the Coliseum generate the need for additional police service in the area. During events, an additional complement of police personnel is provided and coordinated by the LAPD's Operations-South Bureau Special Events staff. Police protection during Coliseum events is provided through the use of patrol and footbeat units, motorcycle units, air units, horse patrols, mobile command posts, and a holding tank. During Coliseum events, the LAPD maintains a substation located at the west end of the stadium.

Portions of Exposition Park adjacent to the Project Site, except the Sports Arena, are under the jurisdiction of the Exposition Park Police force. In recent years, the LAPD has coordinated events with the help of the State Police in Exposition Park approximately twice a year. The State Police has utilized one or two patrol cars to monitor the area. During special events in Exposition Park, outside of the Coliseum itself, the Exposition Park Police has typically designated a detail of up to 12 police personnel to assist the LAPD in police protection with both footbeat units and patrol cars. The Exposition Park Police force is responsible for the patrol and protection of Exposition Park with particular emphasis on Exposition Park's museums and other public facilities. It is expected that this force will act as a support unit to existing on-duty LAPD personnel when necessary during Coliseum events.

Public Utilities/Energy Conservation

Electricity

Electrical utility service is currently provided to both the Project Site and the surrounding locale by the City of Los Angeles Department of Water and Power (DWP). Existing electrical service facilities on the Project Site consist of two Customer Stations, which are supplied from the DWP's 4.8 kilovolt (kV) distribution system, and three Industrial Stations, which are supplied from the DWP's 34.5 kV distribution system. These five facilities are situated at various locations around the Coliseum.

Electricity is currently consumed on the Project Site for a variety of uses, the most significant of these being field lighting, scoreboard operation, and videoboard operation. Other less intensive event-associated uses of electricity on-site include public address/sound system operation, television and radio transmission equipment, internal stadium lighting (locker rooms, press box, etc.), stadium and field maintenance equipment, and food preparation. The primary electricity-consumptive on-site use not associated with Coliseum events is the daily lighting of the Coliseum Commission offices, continual security and maintenance lighting, and the operation of office equipment. The majority of annual on-site electricity consumption occurs during ticketed Coliseum events.

Natural Gas

The Southern California Gas Company (SCG) provides natural gas to the City of Los Angeles through existing gas mains located under the streets and public right-of-ways. Natural gas service is provided in accordance with the Gas Company's policies and extension rules on file with the California Public Utilities Commission (PUC) at the time contractual agreements are made.

Natural gas service is currently provided to the site by the Southern California Gas Company from an existing four-inch main under Menlo Avenue and an existing three-inch main under Hoover Street. Individual service lines run from each of these gas mains to the Coliseum structure. Other lines serve the off-site portions of Exposition Park, including the Sports Arena, from main lines under Figueroa Street and Martin Luther King Jr. Boulevard. Natural gas is currently consumed at the Coliseum for water heating, space heating in the Coliseum Commission offices, locker rooms, and press box, operation of the Olympic torch, and boiler operation. It should be noted that the majority of natural gas consumption on-site occurs during ticketed Coliseum events.

Public Utilities/Water Conservation

Water service is provided to both the Project Site and the surrounding locale by the City of Los Angeles Department of Water and Power (DWP). In terms of the City's overall water supply, in addition to local groundwater sources, the DWP operates and receives water via the Los Angeles-Owens River aqueduct and is a member of the Metropolitan Water District of Southern California (MWD). According to DWP projections, these three sources will supply the City's water needs beyond the year 2020. According to recent projections, the City's water demand for 2020 is estimated at 900 cubic feet per second (cfs).

Existing water lines serving the Project Site include a 16-inch main under Figueroa Street and a four-inch main under Menlo Avenue. Additional nearby lines include a 12-inch main under Martin Luther King Jr. Boulevard, a 61-inch main under the Figueroa Street easement, and an eight-inch main under Menlo Avenue.

The Coliseum structure is serviced from the DWP water mains via two main feeder (lateral) lines which merge inside the stadium. Water is currently being consumed on the Project Site for a variety of event-related uses, primarily field irrigation, landscaping, public restrooms, locker rooms, concession uses, concourse washdowns, and public drinking fountains. In addition to these uses, the daily operation of the Coliseum Commission staff offices and ticket offices consumes a smaller amount of water. Water consumption on-site is reduced during periods when no stadium events are being held, with landscaping and field irrigation being the primary uses.

Public Utilities/Sanitary Sewers

The City of Los Angeles Department of Public Works, Bureau of Sanitation Division provides sewer conveyance infrastructure and wastewater treatment services, respectively, to the project area. The Hyperion Treatment Plant (HTP), located directly west of the Los Angeles International Airport in Playa Del Rey, provides treatment capacity for all wastewater flows generated within the Central Business District Redevelopment Project Area.

Existing sewer lines serving the Project Site include a network of six-, eight-, and ten-inch lines adjacent to the Coliseum on the north, eight- and ten-inch lines adjacent to the Coliseum on the south, and an 18-inch line in Hoover Street and Coliseum Drive South adjacent to the Coliseum on the southeast. Additional sewage lines in the project vicinity include a 12-inch line in Menlo Avenue, an eight-inch line beneath Exposition Park, a 44-inch line in Exposition Boulevard, and a 12-inch line in Figueroa Street.

Sewage is currently being generated on the Project Site from a variety of uses, the most significant of these being public restrooms, showers in the locker rooms, and concession stand/food preparation uses. In addition to these event-specific uses, the daily operation of the Coliseum Commission staff offices and ticket offices generates a comparatively small amount of sewage. Similarly, landscaping around the exterior of the Coliseum structure requires frequent watering, which generates additional wastewater flowage. It should be noted that the majority of annual on-site sewage generation occurs during Coliseum events. Sewage generation on-site is reduced during periods when no stadium events are being held, with landscaping and field irrigation then being the primary sources.

Public Utilities/Solid Waste and Disposal

Within the City of Los Angeles, solid waste management, including collection and disposal services and landfill operation, is administered by various public agencies and private companies. Single-family residential and limited multiple-family residential refuse is collected by the City of Los Angeles Bureau of Sanitation. Waste generated by most multiple family residential sources and all commercial and industrial sources is collected by private contractors. Waste disposal sites are operated by both the City and County of Los Angeles, as well as by private companies. In addition, transfer stations are utilized to store debris temporarily until larger hauling trucks are available to transport the materials directly to the landfills.

A private solid waste collector is currently retained by the Coliseum Commission to collect solid waste from the site on an "on-call" basis for all spectator events. In addition to the solid waste generated by Coliseum events, a small amount of solid waste is generated on a year-round basis by the operation of the Coliseum Commission administrative offices. This solid waste is taken to dumpsters located adjacent to the Los Angeles Memorial Sports Arena, which adjoins the site on the southeast, from which it is picked up by a private collector on a regular basis.

IV. OVERVIEW OF ENVIRONMENTAL SETTING
B. ANALYTICAL ASSUMPTIONS

ANALYTICAL ASSUMPTIONS

This section describes the analytical assumptions utilized in the preparation of this EIR, including those assumptions employed in the discussion of the "Environmental Setting," "Environmental Impacts," and "Cumulative Impacts" subsections of each respective environmental issue.

Environmental Setting Assumptions

Historically speaking, the NFL has had a professional team playing at the Coliseum for 48 of its 80 years in operation. The Coliseum was the home field of the Los Angeles Rams for 34 years (from Cleveland, 1946-79), and the Los Angeles Raiders for 14 years (from Oakland, 1982-1994). The Coliseum was also the expansion home of the San Diego Chargers (1960, AFL) and hosted the Los Angeles Xtreme for the XFL's first and only season. As such, the operational impacts of an NFL team relocating to the Coliseum would not be entirely new to the Coliseum or surrounding area. Notwithstanding the above, CEQA directs lead agencies to limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the Notice of Preparation is published (CEQA Guidelines, Section 15126.2). The NFL has not played at the Coliseum in the past nine years (since 1994). As such the relocation of an NFL franchise to the Coliseum would represent a new use and would increase the intensity of the stadium's activities. Accordingly, an assessment of the recent operational characteristics of the Coliseum is necessary in order to compare the existing environmental conditions to any changes created and produced by the Proposed Project, and to identify any significant environmental effects of the Proposed Project. Due to the complexity of the operational characteristics of a regional sports and entertainment venue, the environmental analysis does not represent a conventional analysis based strictly on land use type. The impacts of the Proposed Project are therefore based on an evaluation of the "average annual operating impacts" and the "event-specific impacts" as discussed in the methodologies presented below.

Methodology for Evaluating Annual Operational Impacts

For purposes of this EIR, the recent operational operating characteristics can be defined by the conditions that have occurred over the last four years at the Los Angeles Memorial Coliseum. Such conditions were established by evaluating attendance records for 1999, 2000, 2001 and 2002, as well as the number and type of events each year. Because the number of events scheduled at the Coliseum fluctuates on an annual basis, this four-year data set is representative of the typical Coliseum operations. Appropriately, this data forms a representative baseline in which to analyze certain environmental impacts that are dependent upon the average annual operating characteristics of the Coliseum. This data also represents the frequency in occurrences that can be expected from the event specific impacts discussed below. The annual operational characteristics were evaluated in determining the effects of air pollution (Section V.B, Air Quality), demands upon police and fire services (Section V.G, Public Services), and resource demands and consumption rates for public utilities (Section V.H, Public Utilities).

As depicted in Table IV.B-1, the Coliseum has hosted an average of 34 events per year over the past four calendar years (1999 through 2002). The type of events included professional and college football games, soccer matches, off-road vehicle races, concerts, and community-oriented events. The highest attendance level reached during this time period was recorded at 87,944. The total annual attendance levels for the Coliseum averaged approximately 837,071 persons over the last four years.[1]

Methodology for Evaluating Event-Specific Impacts

In addition to recent annual attendance data, specific field data for the traffic, parking and access, and noise analyses were collected at college football events held at the Coliseum during the last quarter of 2002. This data presents a measurable baseline of existing operations at the Coliseum with attendance levels near full capacity under existing conditions (i.e., maximum capacity of 92,500 seats). Full capacity at the Coliseum was not reached on any occasion during the aforementioned four-year study period, and has only been reached on infrequent occasions throughout the history of the stadium.[2] Event-specific characteristics were evaluated in determining the effects of noise (Section VF, Noise), traffic congestion (Section V.I.1, Traffic) and parking (Section V.I.2, Parking).

As defined in Section III.C, Project Characteristics, maximum seating capacity of the Coliseum would be reduced from the current level of 92,500 persons for all events to approximately 78,000 persons. In the event of occasional concerts and/or other non-sporting special events the seating plan would be rearranged to allow for additional seating and stage areas on the field. The seating plan for such events would likely include additional temporary seating on the field level. However, it is not expected that this arrangement would exceed the maximum seating capacity of the Proposed Project because the placement of the stage area on the field would displace a large number of seats within the stadium. Therefore, the maximum seating capacity of 78,000 would apply to all but the occasionally rare events such as the Super Bowl or the Olympic Games.[3]

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[1] *These 34 average annual events do not include non-ticketed events. Source: Los Angeles Memorial Coliseum Commission, July 2003.*

[2] *The January 1991 NFL playoff game between the Los Angeles Raiders and the Cincinnati Bengals was termed a "sellout" in terms of actual ticket sales. However, the attendance was 91,058 persons.*

[3] *Exceptional events such as a Super Bowl or the Olympic Games represent rare exceptions to the normal event profile of the Coliseum and are not representative of the average operating characteristics of the Coliseum. As such, they are appropriately not considered within the scope of this EIR.*

Table IV.B-1

Coliseum Event Profile – Average and Maximum Attendance Levels (1999-2002)

Event Type	Events Per Year	Average Attendance	Maximum Attendance	Average Annual Attendance[a]
Miscellaneous Sports (High School Football)	2	8,811	24,278	17,622
Motorsports (Monster Truck and Motorcross)	2	15,943	17,569	31,886
Religious (Our Lady of Guadalupe)	1	45,000	45,000	45,000
Miscellaneous (Revlon Run)	1	44,751	50,000	44,751
Concerts (Metallica, one year only)	1	67,517	67,517	67,517
Soccer	13	15,140	49,146	196,820
USC Football	6-7	48,775	87,944	341,425
XFL Football (2001 season only[b])	7	13,150	29,527	92,050

Notes:
[a] *The average annual attendance levels were based on the recorded total annual attendance levels for each event averaged over a four-year period.*
[b] *The XFL was discontinued after its first season.*
Source: Los Angeles Coliseum Commission, 2002.

Environmental Impact Assumptions

In order to present a conservative estimate of the environmental impacts of the Proposed Project, and to allow for flexibility in the planning stages of the project, this EIR is based on a stadium proposal that is representative of a possible design solution. In all actuality, a stadium with a seating capacity of 78,000 persons exceeds the maximum seating capacity of many modern NFL stadiums that have been constructed in recent years. Based on a survey of recently constructed or designed stadiums for nine NFL teams, the average seating capacity for a modern NFL stadium is approximately 68,000 seats.[4] Of these nine representative stadiums, the highest seating capacity is 76,125 seats. Thus, a stadium proposal with a seating capacity of approximately 78,000 seats is representative of a worst-case scenario with respect to the anticipated maximum density of the Proposed Project.

Notwithstanding the increase in use associated with 10 to 12 additional NFL games per year, the number of current events and event profile under the Proposed Project for all other events is expected to remain fairly consistent with the existing conditions, though it can reasonably be expected that the average attendance levels may rise as a result of the Proposed Project. While it can reasonably be expected that the modern

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[4] *Supplemental Report: Sports Marketing Issues Impacting Potential NFL Stadium Site Selection, Prepared for the Community Redevelopment Agency of the City of Los Angeles, The Sports Business Group, January 2003. Appendix H. Stadium seating and Luxury Suite Capacity.*

facilities contemplated by the Proposed Project could initially draw additional spectators to future Coliseum events, attendance levels would be expected to soon recede to levels that are based on demand and the general popularity of the type of event, irrespective of the nature of the facility. This is based on the assumption that other factors that determine attendance, such as the type of event, performance of the teams (i.e. winning/losing record), weather, ticket prices, etc., remain constant.

In addition to the existing average event profile, the Proposed Project would generate 10 to 12 additional professional football events per year. This would result in an approximate 35% increase in the average number of annual events held at the Coliseum. For purposes of this analysis, attendance levels at all future NFL events are conservatively anticipated to be at or near full capacity. While the Proposed Project would result in a reduction in the maximum seating capacity for any one event, the total attendance levels and average number of annual events would increase the intensity of the Coliseum's current use.

Mitigation Measure Assumptions

Any mention of the Project Applicant within the mitigation measure sections of this EIR refers to the Los Angeles Memorial Coliseum Commission. The Coliseum Commission is the Lead Agency responsible for implementation of the Proposed Project and the mitigation measures and operating conditions in which its approval is based upon.

Cumulative Impact Assumptions

Density-related cumulative impacts (impacts from related projects in conjunction with the Proposed Project) would also represent a "worst-case" scenario (higher than would be expected) because impact projections for related-projects have been calculated without subtracting existing uses on related-project sites. Moreover, each of the related projects would likely be subject to unspecified mitigation measures that may reduce cumulative impacts.

IV. OVERVIEW OF ENVIRONMENTAL SETTING
C. CUMULATIVE RELATED PROJECTS

In determining the level of significance of the environmental effects of a project, CEQA requires not only an analysis of the Proposed Project alone, but an analysis of the cumulative impacts that are created as a result of the project evaluated in the EIR along with other related projects.

All known or reasonably foreseeable projects that could produce a cumulative impact on the local environment when considered in conjunction with the Proposed Project are included in this section. For an analysis of the cumulative impacts associated with these related projects and the Proposed Project, see the cumulative impact discussions under each individual impact category in Section V. of this report, Environmental Impact Analysis.

The projects listed in this section have either been approved, are pending approval, or are either proposed or under study and on file with the City of Los Angeles's Department of City Planning, Department of Building and Safety, Department of Transportation, Community Redevelopment Agency, and/or the Los Angeles County Metropolitan Transportation Authority (MTA), as of May 22, 2003 (the date of the NOP). Additional related projects included on this list have been proposed or are currently being studied by the University of Southern California (USC) and the California Science Center. The related project study area is generally comprised of a 2-mile radius around the Project Site. With few exceptions, projects located outside this designated area have been determined to be too far removed from the Project Site to substantially add to the cumulative effects attributable to the Proposed Project and the related projects within the designated area. In few cases, projects located outside of the 2-mile radius have been included due to the size or nature of each project.

A total of 42 related projects have been identified within the approximate boundaries of the designated area. Each of the related projects are identified by number and listed in Table IV.C-1, below, with descriptive characteristics with regard to the specific location, size and type of each respective project. Related project locations are shown in Figure IV.C-1.

Of particular importance are the related projects within Exposition Park that are being constructed or planned as part of the Exposition Park Master Plan. These projects include related project numbers 30, 31, 32, 33, and 37. It should be noted that related project number 32 includes a four-level subterranean parking garage that includes 2,210 parking spaces. Construction of this parking facility has already commenced and it is anticipated to be completed and operational prior to the construction of the Proposed Project.

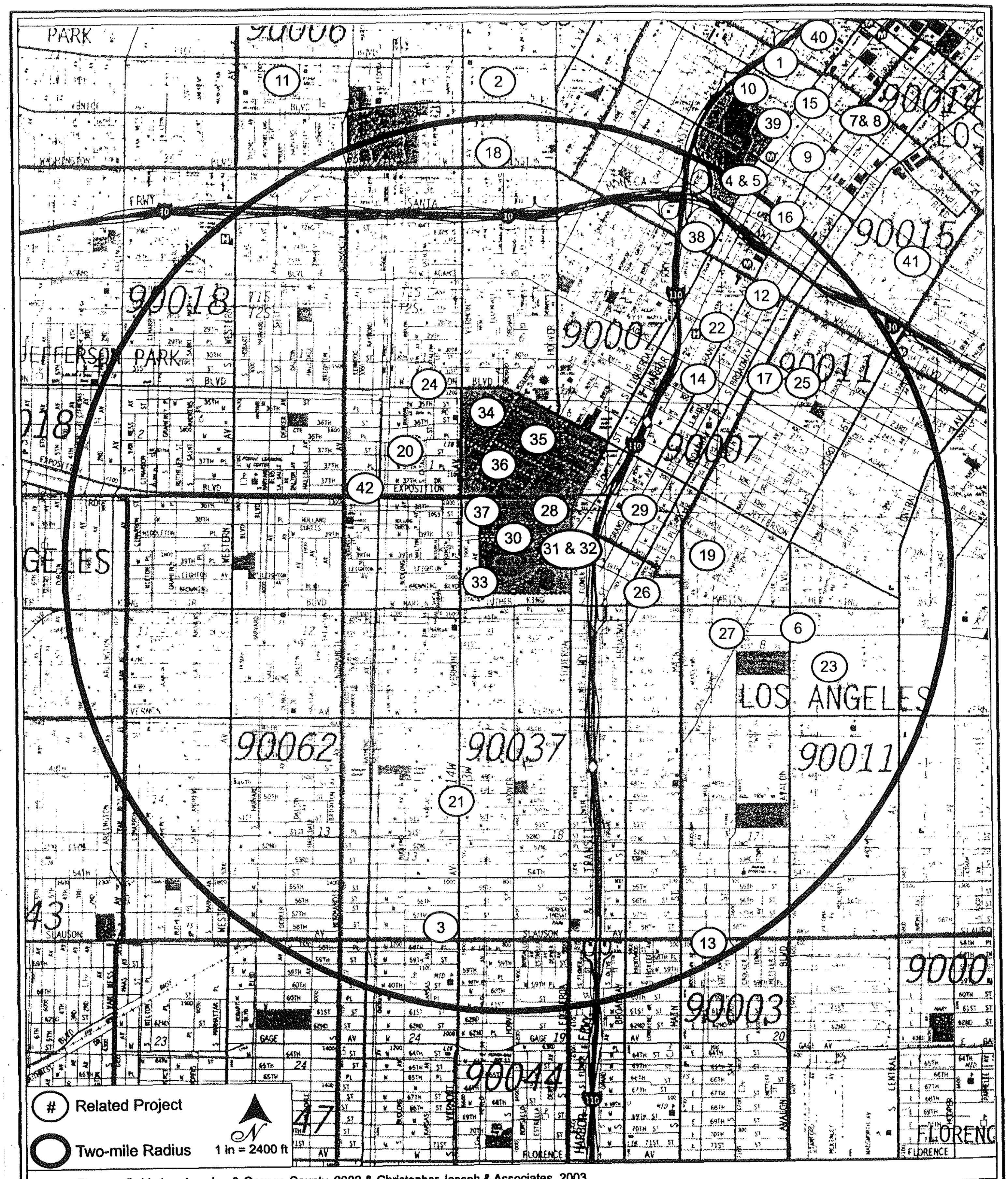
Table IV.C-1
Related Projects List

Map No.	Project Name	Project Location	Type of Development/Use	Size
1	McDonald's Restaurant	730 Olympic Boulevard & Flower	Fast food restaurant w/ drive-thru	2,301 sf
2	Junior market	1450 Venice Boulevard	Junior market	8,720 sf
3	Shopping Center	5837 Vermont Avenue & 58th	Shopping center	57,640 sf
4	Apartment	1300 Figueroa Street & Pico	179-unit apartment	179,000 sf
5	Restaurant	1300 Figueroa Street & Pico	Restaurant	8,000 sf
6	Bilal Islamic Center	4016 Central Avenue	Religious institution	41,140 sf
7	Accessory Mart	Main Street & Olympic Boulevard	Retail store	32,530 sf
8	Accessory Mart	Main Street & Olympic Boulevard	Storage space	7,910 sf
9	Balasco Theatre	1050 Hill Street	Variance to use existing theater to entertain	33,420 sf
10	Staples Entertainment District	Figueroa Street & 11th Street	Hotel, cinema, theater, restaurant, retail, office space and apartments	3,500,000 sf
11	Food Market convenience store at gas station	1570 South Western Avenue	A convenience market w/ 12 fueling stations	5,990 sf
12	LA Mart	1933 South Broadway	2 stories building, adjacent to LA Mart for special wholesale trade events during weekends	215,000 sf
13	LA County Office Park	Slauson Avenue & Los Angeles Street	Office park, w/child care center & 1,690 parking spaces	447,500 sf
14	Orthopaedic Magnet High School	Grand Avenue & Adams Boulevard	Construct medical magnet high school from grades 9-12 for 1,054 students	N/A
15	Quality Restaurant & nightclub	605 Olympic Boulevard	Quality restaurant and nightclub in existing office bldg w/18 on-site & 100 off-site parking space	7,142 sf
16	Medical Center/Clinic	1530 Olive Street	6-story clinic w/off site parking space	31,660 sf
17	Jefferson New Continuation High School #1	1921 South Maple Avenue	New Continuation High School for 87 students	N/A

Map No.	Project Name	Project Location	Type of Development/Use	Size
18	Central LA Area New High School #2	1500 W. Washington Boulevard	New High School for 2,142 students	635,976 sf
19	Jefferson New Primary Center #6	3601 South Maple Avenue	New Primary Center for 344 students	78,408 sf
20	Weemes Playground	1260 West 36th Place	Playground Expansion	27,878 sf
21	Manual Arts New Primary Center #2	1017 W. 47th Street	New Primary Center for 804 students	72,745 sf
22	Orthopaedic Hospital High School	300 West 23rd Street	New Magnet High School for 762 students	180,774 sf
23	Jefferson New Elementary School #2	899 East 42nd Place	New Elementary School for 931 students	194,713 sf
24	Manual Arts New Elementary School #3	3020 S. Catalina Street	New Elementary School for 804 students	112,385 sf
25	South Central LA Area New High School #1	1921South Maple Avenue	New High School for 2,112 students	806,731 sf
26	Accelerated Charter School	116 East Martin Luther King Boulevard	Expansion and Reuse for 797 students	192,100 sf
27	Jefferson New Elementary School #1	401 East 40th Place	New Elementary School for 919 students	156,816 sf
28	Manual Arts New Elementary School #1	700 State Drive	New Elementary School for 712 students	217,800 sf
29	Central LA Area New Middle School #4	3500 South Hill Street	New Middle School for 1,512 students	378,536 sf
30	California Science Center Phase II & III Expansion	Exposition Park, West & East side of California Science Center	Museum expansion & addition	165,000 sf
31	Science Museum School and Science Education Resource Center	Northeast corner of Exposition Park	Renovation and expansion	172,000 sf
32	California Science Center/African American Museum Parking Structure	Exposition Park, south of the California Science Center	Subterranean parking facility	2,400 spaces
33	Exposition Park Intergenerational Community Center	Exposition Park , South of the Coliseum	Expansion and renovation	6,040 sf
34	Molecular Biology	USC Campus	Addition to Science Complex	135,000 sf
35	Tudor Hall	USC Campus	New addition	105,000 sf
36	Events Center	USC Campus	New addition under study	10,000 seats
37	Natural History Museum	North side of Exposition Park	Renovation and expansion	491,000 sf

Map No.	Project Name	Project Location	Type of Development/Use	Size
38	Retail - No Name	West of Figueroa between 17th & 18th Street	Retail space	17,200 sf
39	Transamerica (phase II)	11th Street & Hope Street	Office Space and 100 Apartments	2,106,000 sf
40	CIM Group	9th Street & Flower	50,000 sf supermarket, 2,021 unit residential, retail/restaurant	1,302,175 sf
41	Light Industrial	San Pedro & Pico	Light Industry employing 700	700,000
42	East Central Interceptor Sewer	Under Exposition Boulevard	Sewer infrastructure tunnel.	18.4 km

Source: Christopher A. Joseph & Associates, 2003.



Source: Thomas Guide Los Angeles & Orange County, 2002 & Christopher Joseph & Associates, 2003.

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Figure IV.C-1
Related Projects Location Map

V. ENVIRONMENTAL IMPACT ANALYSIS
A. AESTHETICS
1. VISUAL IMPACTS

ENVIRONMENTAL SETTING

Existing Visual Character

The Project Site is located at 3911 South Figueroa Street, in the southwest corner of Exposition Park, in the South Central Los Angeles District Plan area of the City of Los Angeles. The site is situated in the central portion of the Los Angeles Basin, approximately 3.5 miles southwest of downtown Los Angeles. The 27.4-acre site is generally bounded by 39th Street on the north, Hoover Street on the east, Menlo Avenue on the west, and Martin Luther King Jr. Boulevard on the south. The Los Angeles Swim Stadium[1] is located to the southwest of the Coliseum, while a surface parking lot and the Sports Arena are to the southeast. The existing improvements on the site consist of the Los Angeles Memorial Coliseum and numerous ancillary structures, such as concession stands, restrooms, ticket booths, and other facilities. The Coliseum itself, a reinforced concrete structure oriented in an east-west axis, is 1,038 feet long and 738 feet wide. The rim of the Coliseum is situated 114 feet above the field level, which, in turn, is situated 40 feet below the surrounding grade of the yard level (Main Concourse Level). The Coliseum's exterior wall rises 74 feet above the surrounding grade of the yard level. Figure IV.A-1 presents an aerial photograph of the Project Site and surrounding portions of Exposition Park and slightly beyond (see Section IV.A of this report, Overview of Environmental Setting).

As stated previously, existing development on the Project Site includes the Los Angeles Memorial Coliseum, a 92,500-person capacity outdoor, multi-purpose stadium utilized for a wide variety of public assembly and sporting events, and various ancillary structures scattered around the exterior wall of the stadium. General pedestrian access to the site from the surrounding portions of Exposition Park, including off-site parking areas, is currently accomplished via several gates through the 10-foot-high fence around the general perimeter of the site. Access to the internal seating area of the Coliseum is currently provided from both the yard (ground) level concourse, located within the perimeter fence but outside of and encircling the stadium itself, through a series of 28 tunnels, and from the concourse level, located within the Coliseum approximately 34 vertical feet above the yard level and accessed via stairways and escalators from the yard level. The uniform design of the seating bowl within the stadium is broken at its eastern end by the "Peristyle," a series of 15 arches extending at the yard level between the edges of the two banks of spectator seating. The seating in this portion of the stadium (east end) is bench type; all

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[1] *The Los Angeles Swim Stadium is located within the Exposition Park Intergenerational Community Center (EPICC), which also houses a child care center, a clubhouse, and a senior center.*

other seating in the Coliseum is individual theater-style. The uniformity of the stadium's rims is also broken at mid-field on the south side by a three-level (two stories and a roof platform) press box, which was added to the Coliseum in 1948. The press box is serviced by a private elevator from the yard level on the outside of the exterior wall. Vehicular access to the field level is provided via Tunnel 30, a ramp from Menlo Avenue extending beneath the Coliseum's superstructure at its southwest corner. Dressing and locker room facilities are accessed from this ramp and are located underground. Field lighting is currently provided from a series of floodlight towers located along and extending above the rims of the stadium.

The Coliseum is surrounded by a chain-link and steel bar fence approximately 10 feet in height. A total of 11 permanent concession stands, four restroom buildings, a concession storage building, a maintenance/equipment shed, and a security/police substation are located around the exterior of the Coliseum on the site within the fenced area and/or form a part of the fence perimeter itself. No aesthetic attempt was made at the time of construction to make the ancillary buildings compatible in design with the main stadium structure, as most are shed-like rectangular structures of modern design, constructed of concrete block, and framed with glass, wood, or metal sidings.

Landscaping on the site includes decorative trees and shrubs along the base of the berm including eucalyptus, deodar, yucca, agave, palm trees, and plants, along with several specimen tree species planted throughout Exposition Park. Most of the Park areas adjacent to the site, including the outer portions of the site beyond the perimeter fence, are landscaped with grass. Landscaping along the northern and eastern sides of the stadium provides a sense of continuity with the groupings of the larger Exposition Park complex. Landscaping on the south and west sides is more sparse and essentially isolated, due largely to the parking areas that dominate the open spaces on these frontages.

Coliseum Interior. The primary interior features of the stadium can be described as follows:

- The Coliseum's interior is an elliptical bowl that rises from a green (grass) playing field in an unbroken sweep to the stadium rim. The green color of the playing field varies during the year with the type of grass planted, either hybrid bermuda or bluegrass. When empty, the interior presents three tiers of seats, each in a colored band. The first (lowest) seating tier is russet-colored, the second tier is pink, while the third is russet again, except for the east Peristyle end which is equipped with grey benches. The seating bowl is interrupted by the Peristyle at the east end of the stadium and the press box situated along the south rim.

- The Peristyle is an important visual element within the stadium, contrasting, in its verticality and busy architectural features, with the bowl-like effect and simplicity of the stadium as a whole. The Peristyle consists of a large central arch, the Propylaeum, which is topped by a 150-foot-high (above ground level) concrete flame holder with a brass bowl, constructed and used for the Olympic torch in 1932. The central arch is flanked by seven smaller arches on each side. Two 40-foot-high, block-shaped towers, one housing a clock and the other a thermometer, stand at either end of the Peristyle, facing the interior of the stadium and separating it from the stadium bowl. A concrete wall extends outward from the outside edge of each tower, further separating the seating from the Peristyle area. The Peristyle architecture is compromised by modern amenities added to the structure in subsequent years, including structural supports, a matrix scoreboard and a video board as well as two speakers attached to the Peristyle in the shape of large band boxes, their aesthetic qualities being subordinated to their functions. Below the Peristyle area, a tier of bench seating completes the continuity of the stadium's seating bowl. The surface of the Peristyle is a travertine veneer, that was added to the structure in the late 1960s. The ceiling of the Propylaeum supports a mural depicting a sun in an Aztec motif. Bronze plaques decorate the pillars of the Peristyle, and remind the viewer both of the individuals who had meaningful influence upon the stadium as well as of events that have taken place there.

- The south rim of the stadium contains the three-level press box, designed in a moderne, functional architectural style in steel and glass and added to the rim in 1948. The press box juts out over the stadium, conflicting aesthetically with the parabolic shape of the stadium. The press facility shares its superstructural effects with the light poles that hover above the stadium's south rim in that their design does not appear to coordinate with the aesthetics of the stadium. A series of 28 tunnels and numerous stairways penetrate the stadium at the yard level, leading to either the seats or to the concourse level which provides concessions and restrooms within the interior of the structure. When viewed from the interior of the stadium, the two rings of entrance tunnels tend to break up the smooth curve of the bowl, though they are an expected statement and could be viewed as architecturally enhancing. No particular aesthetic statements are made within the interiors of the entrance tunnels, stairways, or concourse level.

Coliseum Exterior. The exterior of the stadium presents an architectural style reminiscent of classical stadium architecture. Arched entranceways and window-like openings that suggest an arcade effect lend the flavor of the original Roman Colosseum without attempting to duplicate the Doric, Ionic, and Corinthian qualities of the Roman facade. Exterior features of the Coliseum can be described as follows:

- The exterior of the stadium is a large concrete structure consisting of a continuous pilaster and panel wall system that extends over the top of an earthen berm. The top four rows of the stadium are cantilevered beyond the wall and supported by concrete brackets, that were added during the 1931 expansion (for a detailed description of changes to the Coliseum over time, see Section V.C, Cultural and Historical Resources).

- The Peristyle entrance on the stadium's east approach is less massive when compared to the height and mass presented by the rest of the exterior. Design and decor are different here as well, with the entrance consisting of 15 vaulted arches in a wall approximately 30 feet in height above the yard (ground) level. The Peristyle rises to a height of approximately 50 feet above the yard level at its center, where the Olympic torch stands. The Peristyle's white facade contrasts markedly with the concrete-gray coloring of the rest of the exterior. The Peristyle is decorated with a neon sign reading "Los Angeles Memorial Coliseum," with the five interlinked Olympic rings situated beneath. Two large pieces of rock, one from the Colosseum in Rome and the other from Altis Olympia in Greece, rest on bases to either side of the main arch. The rear of both the matrix scoreboard and the videoboard are prominently visible above the Peristyle. Two one-story office buildings, a ticket and accounting office on the north and the Coliseum Commission offices on the south, flank the Peristyle. These offices are designed in the style of 1930s Moderne architecture, consisting of smooth simplified exteriors, combining rounded and flat surfaces with a minimum of decoration. To either side of the Peristyle are the tower buildings, massive four-story structures with tall arched and vaulted doorways piercing the recessed front walls. A sculpture depicting the torsos of two athletes, added for the 1984 Olympics, is placed at the approach to the Peristyle at the edge of the site.

- Other prominent exterior features include on the Coliseum's south facade: a Moderne-style press box elevator tower leading from the yard level to the press box on the south rim; Tunnel 30, a large entrance ramp and tunnel on the southwest side of the Coliseum to allow for vehicular access from Menlo Avenue to the playing field and track; a three-story reinforced concrete structure which extends out from the west wall of the stadium and is used as a storage building and a police substation.

General Vicinity. The site is located within the approximately 145-acre Exposition Park complex, which consists of several museums and exposition halls located north and northeast of the Project Site, as well as landscaped park areas, walkways, and tree-lined thoroughfares. The Park is bounded by Exposition Boulevard on the north, Figueroa Street on the east, Martin Luther King Jr. Boulevard on the south, and Vermont Avenue on the west. Major public facilities within the Park include the California Science Center, the Los Angeles County Museum of Natural History, the African-American Museum, the LAUSD Armory School site, the Aerospace Museum, and the IMAX Theater. The southern half of Exposition Park is developed with sports- and assembly-related facilities. In addition to the Coliseum, two other permanent structures are located within this portion of the Park: the Los Angeles Memorial Sports Arena in the southeast corner and the Los Angeles Swim Stadium in the southwest corner. Portions of the southern and southwestern areas of the Park are dedicated to surface parking lots. Exposition Park also extends westerly from Menlo Avenue to Vermont Avenue. This area is currently developed with a series of surface parking lots and additional open-space park facilities.

Other prominent land uses in the area outside of Exposition Park include the University of Southern California (USC) campus to the north, Manual Arts High School near the southwest corner of Vermont Avenue and Martin Luther King Jr. Boulevard, and residential areas south of Martin Luther King Jr. Boulevard and west of Vermont Avenue. The location of the USC campus adjacent to Exposition Park has effectively created a large public and quasi-public land reservation that dominates the vicinity and which is surrounded by the non-related residential and commercial land uses comprising the basic fabric of the community. Structures on the USC campus include some high-rise (above six stories) buildings. The mix of land uses in the area contrasts distinctively with the uses contained in both Exposition Park and the USC campus. Exposition Park, while developed with a variety of public facilities, retains a bucolic, park-like quality that is removed from the modern architectural landscapes found to the north across Exposition Boulevard on the USC campus. However, while each of these publicly-oriented land use conglomerations differ substantially in visual character from each other, they each also differ greatly from the general character of the surrounding portions of the City of Los Angeles, generally comprised of the aging commercial, residential, and industrial neighborhoods. These neighborhoods, while somewhat segregated by land use, are largely homogeneous in appearance, without many visually distinctive features. Adjacent to Exposition Park on its eastern, southern, and western borders are mixed commercial and residential land uses. Most of the properties in these areas are developed with low-rise buildings and residences, with the exception of the mid-rise (four to six stories) Social Services Building on Vermont Avenue, approximately 0.25 mile west of the site. Areas to the east of Figueroa Street (the eastern boundary of Exposition Park) are developed with low-rise commercial retail structures. The land strip containing the elevated Harbor Freeway (Interstate 110) is located immediately to the east of these properties. Areas to the east of the Harbor Freeway in the vicinity of the Proposed Project are densely developed with a mix of multi-family residential, commercial, and light industrial uses.

In the general vicinity of the site, Vermont Avenue, Figueroa Street, and Martin Luther King Jr. Boulevard can be characterized as commercial corridors. Vermont Avenue provides access from the Coliseum area to the Mid-Wilshire District of Los Angeles on the north and to the South Bay cities of Gardena and Torrance to the south. Similarly, Figueroa Street provides direct surface-street access to Downtown Los Angeles to the north and the Los Angeles Harbor area to the south. Martin Luther King Jr. Boulevard is both a commercial and residential corridor to the west, providing access to the Baldwin Hills area, as well as to the Crenshaw District of Los Angeles. Development along each of these streets extending outward from the vicinity of the Proposed Project is primarily characterized by a highly urban mix of densely developed residential neighborhoods and strip commercial areas largely defined by low- and mid-rise structures. Industrial land uses are prominent to the east of the Harbor Freeway, although the general pattern of low visual relief characterizing the area is broken intermittently by high-rise industrial facilities. Exposition Boulevard, adjacent to the Park on the north and separating it from the USC campus, is generally characterized by commercial and light industrial uses to the west of Vermont Avenue and is situated parallel to a set of Southern Pacific railroad tracks. The Shrine Auditorium, a large mid-rise public assembly facility, is located to the northeast of the site, adjacent to the north edge of the USC campus. Overall, the high density of development in the greater project locale is characteristic of a major urban area, although not of an urban business center.

Viewsheds

Views From the Site. In general, the aesthetic value of the area surrounding the Project Site relates primarily to its urban character rather than to any dominant natural feature. Low-level views from the

Project Site looking outward consist largely of the surrounding areas of Exposition Park, as well as the commercial and retail uses surrounding the Park to the south and west. Views from the site to the north and east are limited by the presence of the Museum of Natural History and the California Science Center, and the Sports Arena, respectively, as well as by vegetation and stands of trees within the open space portions of the Park. Similarly, views to the southwest from the south and southwest portions of the site are shielded by the Swim Stadium, located adjacent to the site on the southwest.

During periods of good air quality, the urban skyline of Downtown Los Angeles (approximately 3.5 miles east) is clearly visible from the rim of the Coliseum and the press box. The downtown skyline forms a backdrop against which the lower-relief urban development in the intervening areas may be seen. Intermittent views of the more distant San Gabriel Mountains beyond the downtown skyline may also be obtained from the Coliseum's rim during periods of exceptional air quality. Views to the north from the stadium rim consist of urban landscapes punctuated by the distant high-rise offices along the Wilshire Boulevard corridor (approximately five miles distant) and the more distant Santa Monica Mountains (Hollywood Hills). Similar views to the northwest can include, depending upon ambient air quality conditions, the Santa Monica Mountains extending west to the Pacific Ocean near Santa Monica (approximately 15 miles distant), although the ocean itself is not visible. Views to the west and southwest from the stadium rim consist of commercial and residential land uses extending west to the partially developed Baldwin Hills (approximately 3.5 miles distant). Views to the south are the least limited of any direction by topography, and can extend to the Palos Verdes Peninsula (approximately 12 miles distant) on clear days. The intervening areas are seen as a continuous blanket of low- and mid-rise urban land uses, punctuated by scattered high-rise structures, particularly in the vicinity of the Los Angeles International Airport (approximately six miles distant). In general, landscaping and vegetation is not a prominent part of the visual character of the region surrounding Exposition Park when seen from any position along the rim of the Coliseum. Rather, views in all four directions are characterized by heavily urban land uses.

It should be noted that existing vantage points from within the Project Site are limited to the yard (ground) level outside the Coliseum structure and the rim of the stadium itself, including the press box. No intermediate level exists from which the surrounding area may be viewed.

Views Of the Site. Viewsheds of the site are, in general, intensely urban, which tends to make their boundaries irregular. The site is visually prominent from non-adjacent vantage points on the west and south, although not from the north and east due to both the relatively low profile of the existing Coliseum and the trees and other landscaping scattered about the site and the adjacent portions of Exposition Park. In discussions of views of the site from regional vantage points, the classification of distance becomes very important. The foreground, middleground, and background views are all very distinct and different in nature from any particular viewpoint.

In general, views of the existing Coliseum are primarily foreground and middleground; few background views of the Coliseum are available from the general vicinity due primarily to its low profile and intervening landscaping and buildings. Only Hoover Street to the south affords a background view of the Coliseum; otherwise, the viewshed is primarily confined to the area generally bordered by Exposition Boulevard on the north, Figueroa Street on the east, Martin Luther King Jr. Boulevard on the south, and Vermont Avenue on the west. The site is also visible from a southbound section of the Harbor Freeway. The stadium can be perceived as a unified whole at very few viewpoints, as the public views of the site are principally foreground and these views are seldom unobstructed. For most viewers approaching the stadium, from any direction, the Coliseum appears as a large structure immediately in front of them, the form of which is suggested by the circular sweep of its mass. The closer the viewer gets to the structure, the more this phenomenon imposes itself. Consequently, the color and texture of the building materials, the climbing vines, and the numerous dark alcoves and recesses in the facade create an ambience and an aesthetic declaration independent of the architectural statement made by the structure as a whole. In general, views vary greatly depending on the perspective of the observer. As the viewer moves closer to the site, the Coliseum becomes a more visually dominant feature. At greater distances from the site, particularly on the east, the Coliseum recedes from visual prominence, primarily due to the presence of intervening landscaping, foliage, and other facilities within Exposition Park. Views from directional perspectives surrounding the site offer varying degrees of visibility to the Coliseum itself and are described below. A photo location map, Figure V.A.1-1, illustrates where each photo view was taken, and in which direction.

- Views from North to South: The view toward the site from the north is predominately a foreground perspective from locations within Exposition Park. From the location of View 1, in Figure V.A.1-2, generally proximal to the southern entrance to the Museum of Natural History, views consist of the north facade of the stadium, with the pierced walls, alcoves, and recesses in the facade plainly visible. Some foliage, including trees and grass, is visible in the foreground and partially blocks the continuity of the view toward the main structure. The view of the stadium from the north can be partially obstructed by outbuildings, such as ticket booths, concession stands, and restrooms on the site. No ground level views of the Coliseum are available from Exposition Boulevard or the USC campus due to the intervening presence of the Museum of Natural History and the California Science Center. Figure V.A.1-2, View 2 provides a closer view of the Coliseums exterior, as seen from the northeast side of the structure, facing west. Figure V.A.1-2, View 3 presents a view of the Project Site from the steps of the California Science Center, located northeast of the Project Site, looking southwest. The edge of the Coliseum's rim as it curves to the south is visible, as well as outbuildings, access tunnels, and surrounding foliage.

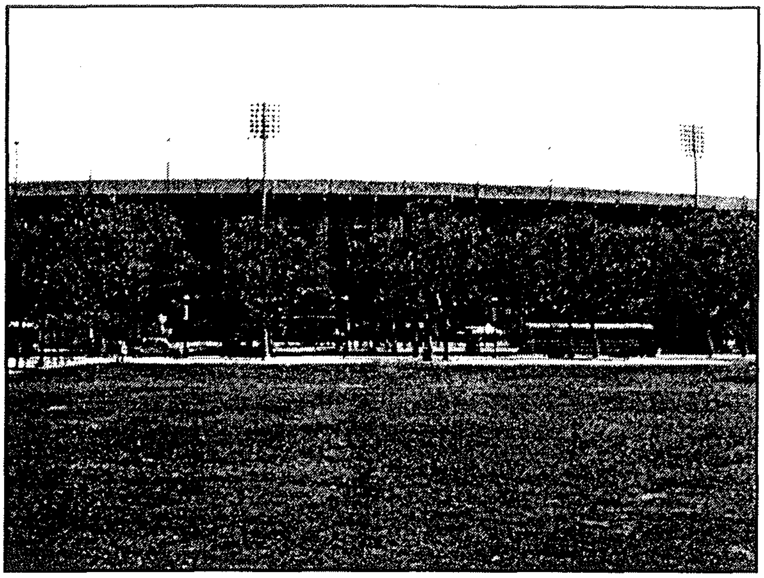
- Views from South to North: Public views of the site from the south are afforded by Martin Luther King Jr. Boulevard and the Hoover Street/South Coliseum Drive corridor. Viewpoints along South Coliseum Drive within Exposition Park, between the Sports Arena on the east and the EPICC/Swim Stadium on the west provide a picture of the Coliseum in the foreground which encapsulates the idea of the whole structure, though the perspective is somewhat cramped due to the proximity of the roadway to the Project Site. This view is also intermittent because of the presence of outbuildings around the perimeter of the stadium on the site. The view of the Project Site from along Martin Luther King Jr. Boulevard near the Hoover Street intersection is foreground in perspective and intermittent, obstructed on the east by the Sports Arena and on the west by the EPICC/Swim Stadium complex. Various outbuildings also tend to obscure the view. At times, the whole south facade of the Coliseum is visible from Martin Luther King Jr. Boulevard, while at other points, the press box and light masts along the south rim are the only distinguishing features visible. The greatest variety of views of the Coliseum from the south are available from Hoover Street, as the street extends the viewshed three miles south to Florence Avenue. Approaching the Project Site on Hoover Street, the viewer is presented with a direct view of the Coliseum's south facade in the background, middleground, and foreground, depending upon distance south of the site. As Hoover Street is aligned in a straight north-south line, which is forced to curve around the Coliseum's east end (South Coliseum Drive), it affords a constant view of the edifice from the southerly approach. A section of the structure is prominent in the middleground from Vernon Avenue north, until the site merges into the foreground near 40th Place. Figure V.A.1-3, View 4 provides a view of the Coliseum as seen from 40th Place and Hoover Street. The structure is visible, but almost entirely obscured by foliage on either side. From Florence Avenue, the stadium is barely visible in the background and no distinguishing features can be seen. From this distance, the stadium would be identifiable only to a viewer who was familiar with the area. The stadium emerges in its distinguishing shape near Gage Avenue, and becomes relatively identifiable at Slauson Avenue. Thereafter, proceeding north, the Project Site becomes more and more a prominent feature in the background until the background merges with the middleground. Figure V.A.1-3, View 5 provides a view of the Coliseum from the northeast corner of Martin Luther King Jr. Boulevard and Hoover Street. The western edge of the Coliseum is visible as it curves around, but much of the structure is obscured from view by trees and outbuildings.

- Views from East to West: Figure V.A.1-4, View 6 presents the site as viewed from Figueroa Street, at the eastern edge of Exposition Park. The area behind the location of this photograph, on the east side of Figueroa Street, is currently developed with strip commercial retail businesses, and backed by the Harbor Freeway. In the foreground of the photo is the construction of a new parking structure at the California Science Center. Beyond the construction and the foliage, a portion of Christmas Tree Lane, the Coliseum's Peristyle and Olympic torch are visible. Without construction, Christmas Tree Lane obscures much of the otherwise direct view from this location to the Coliseum structure. Intermittent views of the Peristyle and Olympic torch may be obtained from this location, with the scoreboard and videoboard attachments to the Peristyle also partially visible through the trees. From closer to the stadium, inside Exposition Park, several of the concession stands, restroom facilities, and ticket booths lining the yard level along the north edge

Source: L.A. Coliseum Commission and Christopher A. Joseph & Associates, July 2003.

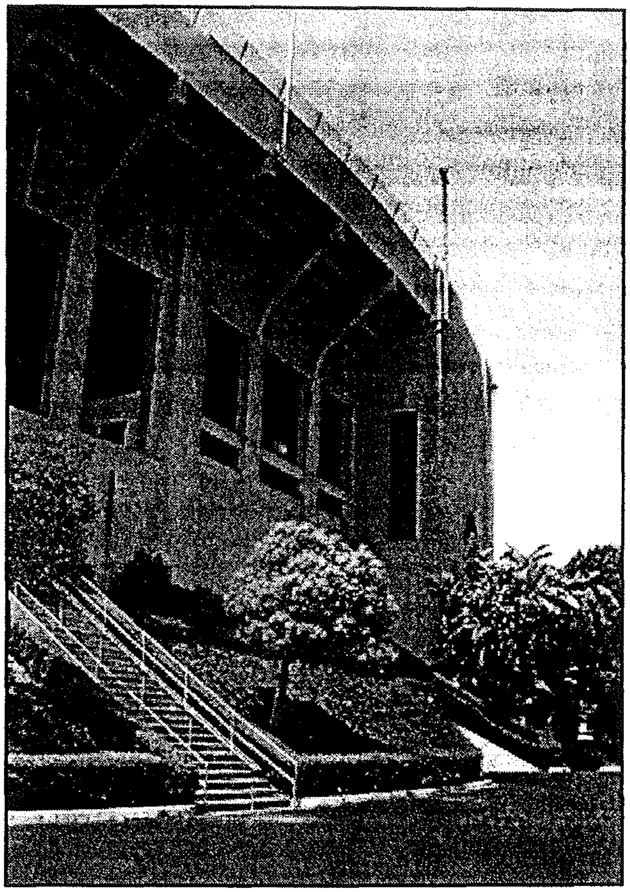
Approximate Scale 1" = 500'

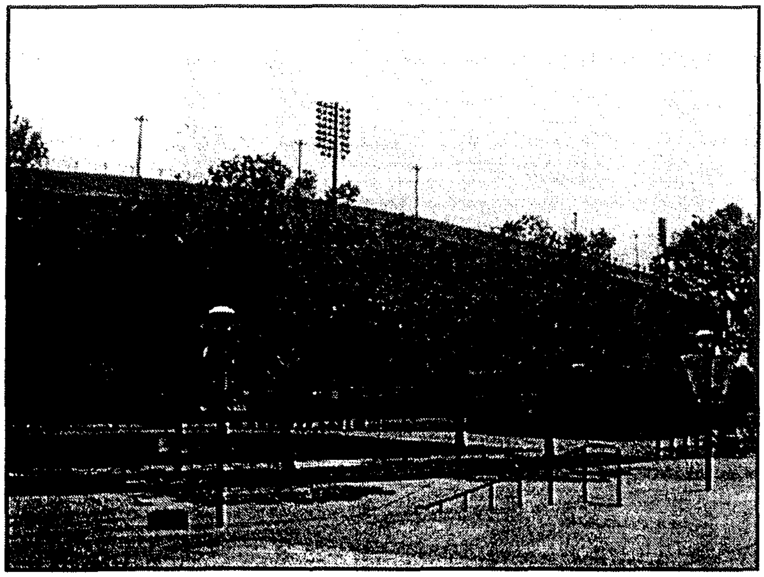
Figure V.A.1-1
Photograph Location Map



1. South facing view of the project site from the north side of the Coliseum.

2. Close up view of Coliseum exterior, from the northeast side of the stadium looking west.





3. Southwesterly view of the Coliseum from the steps of the California Science Center.

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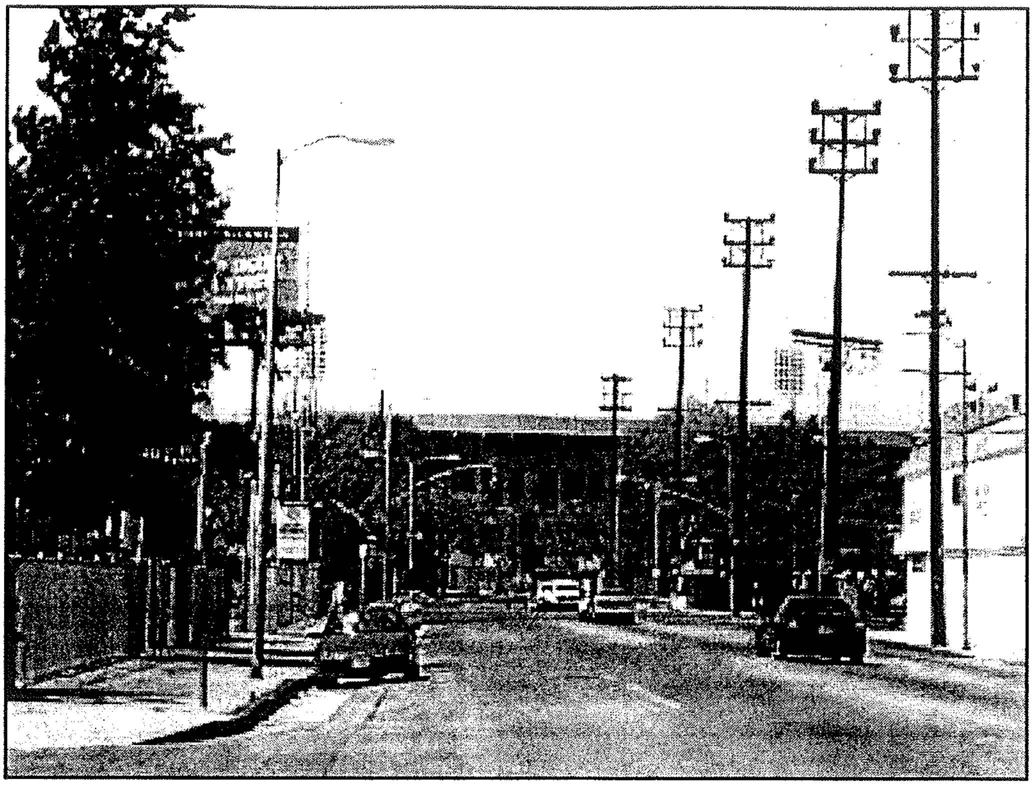
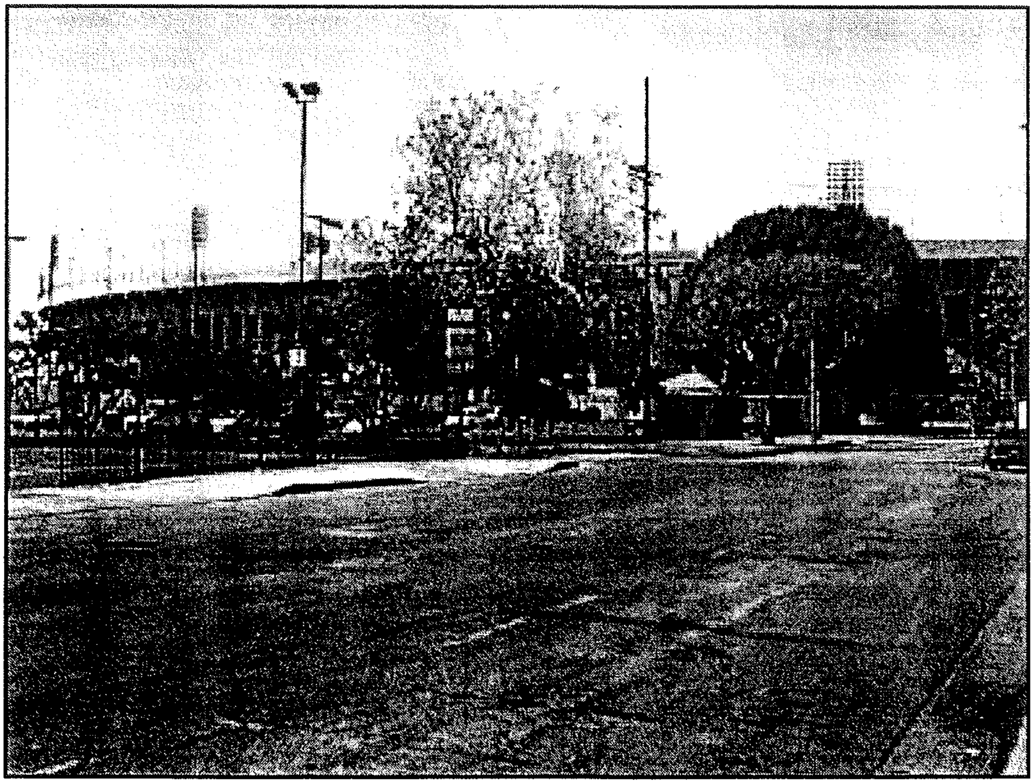
Figure V.A.1-2
Views of the Project Site, Views 1, 2, and 3



4. Northerly view of the Coliseum from Hoover Street and 40th Place, south of the Coliseum.



5. Northwesterly view of the Coliseum from northeast corner of Hoover Street and Martin Luther King Jr., Boulevard.

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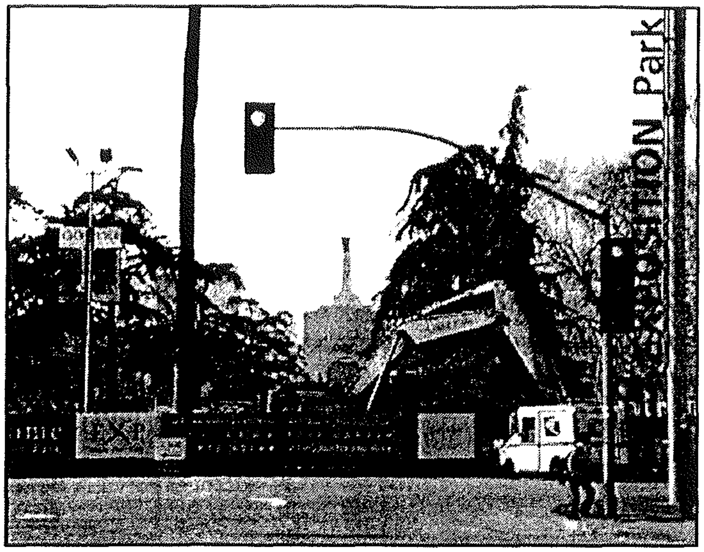
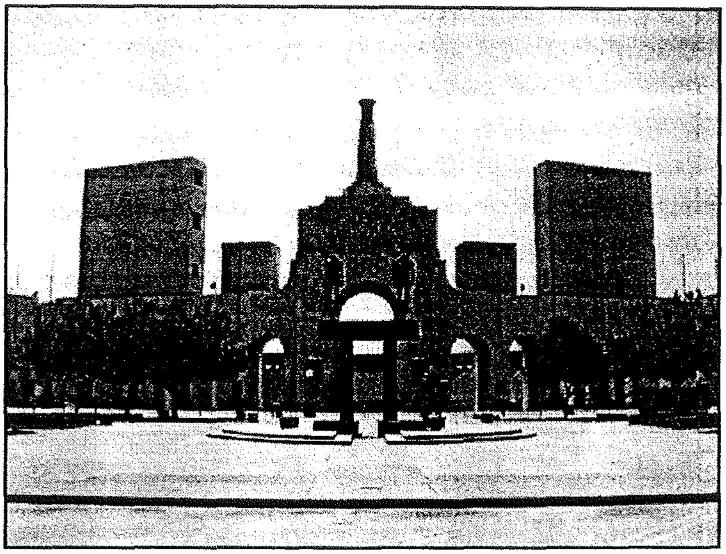
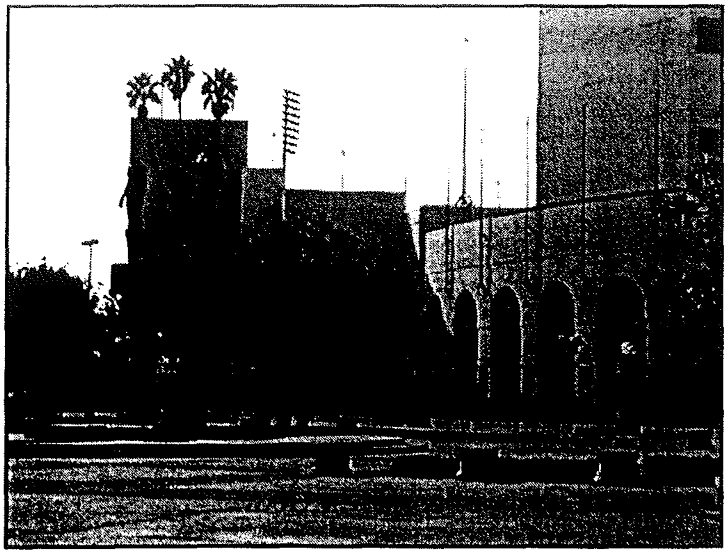
Figure V.A.1-3
Views of the Project Site, Views 4 and 5



6. West facing view of the east side of the project site. The view was blocked by construction activities at the time this EIR was written, but normally includes a view of Christmas Tree Lane and a portion of the Peristyle entrance of the Coliseum.

7. A west facing view of the Peristyle entrance on the east side of the Coliseum. The view is from inside Exposition Park.





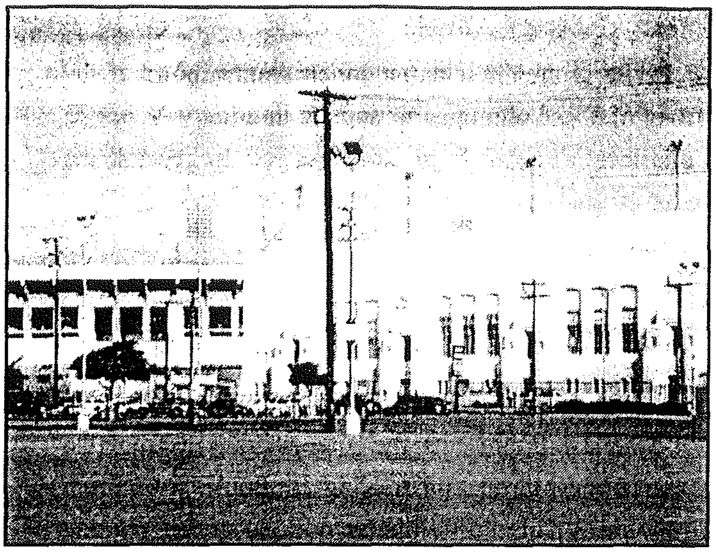
8. A southwesterly view of the project site, from inside Exposition Park. The view is from the northeast side of the Coliseum.

Figure V.A.1-4
Views of the Project Site, Views 6, 7, and 8

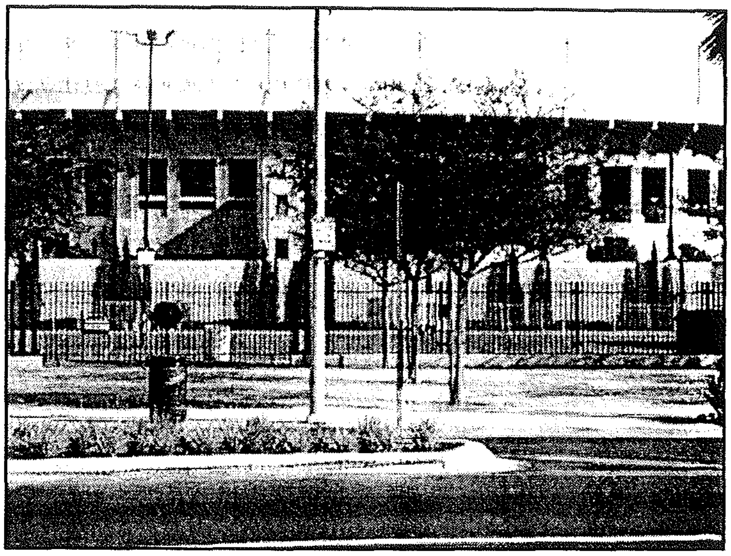
of the site are visible. Views through the Peristyle arches into the inner seating bowl of the Coliseum can also be obtained from the front of the Coliseum, as shown in Figure V.A.1-4, Views 7 and 8, but trees effectively shield this level of detail from street views. In general, the character of the view from this perspective is of landscaped, tree-planted public park grounds, with only intermittent vistas of the Coliseum and/or other structures on the site obtainable from this vicinity. Middleground and background vistas from this vicinity are largely non-existent, shielded by both vegetation and the mass of the Coliseum structure. No residential areas currently have uninterrupted visual access to the site from the east.

- Views from West to East: Figure IV.A.1-5, View 9 presents the site as viewed from the southwest at the intersection of Vermont Avenue and Martin Luther King Jr. Boulevard. From this perspective, the southwest end of the Coliseum is partially visible beyond the surface parking lots and park facilities along the west side of Menlo Avenue. The southern exterior of the Coliseum is shielded from view by the imposing mass of the Swim Stadium in the foreground. No views of the interior of the stadium, or of any portion of the Peristyle, are available from this vicinity. Several of the restroom facilities and concession stands, as well as the police substation/storage building and concession storage/offices building which are located on the site are visible at the west end yard level from the west. Development behind the location of this photograph, generally proximal to the southwest corner of the intersection, consists of strip commercial retail businesses, gas stations, and, on the northwest corner of the intersection, a mini-mall. Middleground and background vistas from this location largely consist of the view to the east along the Martin Luther King Jr. Boulevard corridor to the Harbor Freeway. These views are characterized by a mix of commercial and multi-family residential uses, as well as of facilities in Exposition Park. No other residential areas currently have uninterrupted visual access to the site from the southwest.

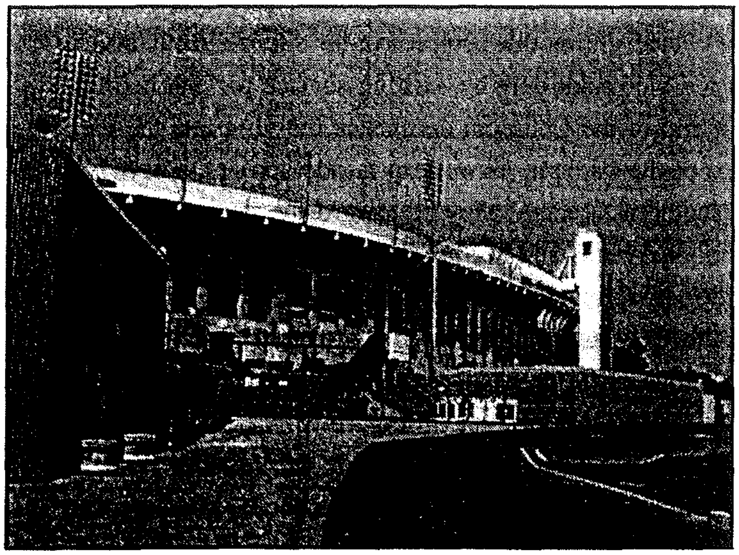
  Figure V.A.1-5, View 10 presents the site as viewed from the west along Vermont Avenue, generally opposite its intersection with 39th Place. From this perspective the site is directly visible in the foreground, being separated from the viewpoint only by existing surface parking between Vermont and Menlo Avenues. The west end of the Coliseum dominates the vista into the Park from this area. Because of the oval shape of the stadium, its western facade appears to have less breadth and mass than the northern and southern facades. Moving toward the stadium from the location of View 10, the view from Vermont Avenue and Menlo Avenue is mostly unobstructed from north of the Swim Stadium to 39th Street, although some foliage and Coliseum outbuildings occasionally obscure the lower parts of the Coliseum. In terms of the overall visibility of the Coliseum, the Menlo Avenue perspective adjacent to the stadium suffers somewhat from being too close to the structure. Development behind the location of Figure V.A.1-5, View 10 is generally comprised of strip commercial businesses along the west side of Vermont Avenue, behind which is a mixed single-family and multi-family residential neighborhood. Middleground and background vistas from this vicinity are largely non-existent, shielded by both vegetation and



9. A northeast facing view of the Coliseum, with the Los Angeles Swim Stadium in the foreground, from the corner of Martin Luther King Jr. Boulevard and Vermont Avenue.



10. The west end of the Coliseum as seen from Vermont Avenue.



11. A view of the south side of the Coliseum, taken from Menlo Avenue, just north of the Los Angeles Swim Stadium, facing east.

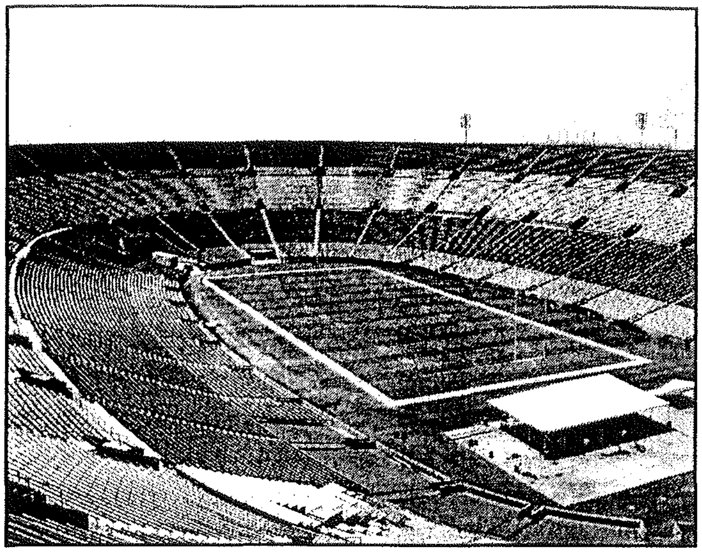
Figure V.A.1-5
Views of the Project Site, Views 9, 10, and 11

the mass of the Coliseum structure in the foreground. Some views of the museum complexes in the northern portion of the Park are visible, though they are partially obscured by foliage within the Park. Aside from the first few residences west of Vermont Avenue along Leighton Avenue and 39th Place, from which the site is partially visible along the view corridors afforded by each street, no other residential areas currently have uninterrupted visual access to the site from the west. The view of the site as viewed from the northwest, at the intersection of Vermont Avenue and 39th Street is similar to the one presented in Figure V.A.1-5, View 10.

The Coliseum occupies the center and right foreground, with both the west end and northern facade of the stadium clearly visible, as are the various outbuildings in these locations. The remainder of the view consists of vegetation and landscaping in Exposition Park between the museum complexes, of which portions are visible through the trees, and the Coliseum. No portion of the Peristyle is visible from this vicinity, nor are views available of the interior of the stadium. Development behind the corner of Vermont Avenue and 39th Street consists of strip commercial businesses along the west side of Vermont Avenue, behind which is located a mixed single-family and multi-family residential neighborhood. Middleground and background vistas from this vicinity consist generally of views down the tree- and grass-lined corridor between the Coliseum and the museum complexes within the Park toward Figueroa Street to the east. These properties currently have direct views of the Coliseum to the southeast, as well as of the Museum of Natural History to the east. Aside from the first few residences west of Vermont Avenue along 39th Street, from which the site is partially visible along the street's view corridor, no other residential areas currently have uninterrupted visual access to the site from the northwest. Figure V.A.1-5, View 11 provides a close-up view of the south side of the Coliseum, looking west from Menlo Avenue, just north of the Los Angeles Swim Stadium.

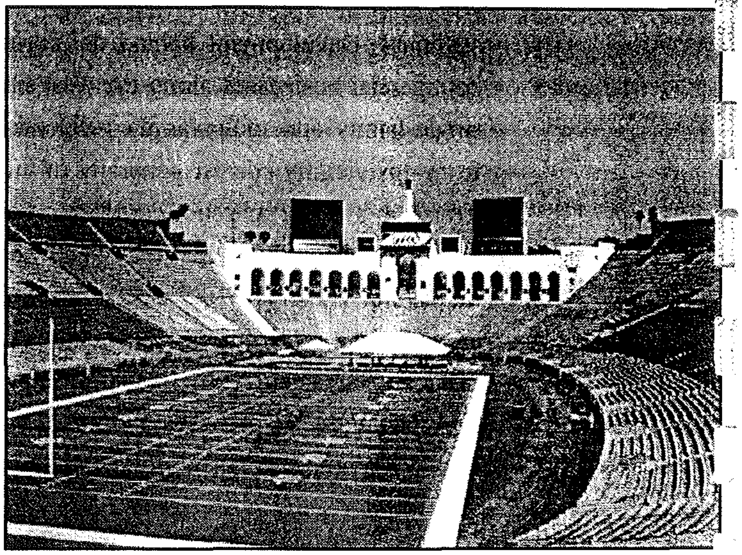
Internal Views. As the Coliseum is a multi-purpose public assembly facility by function, the internal layout of the stadium also lends itself to viewshed characterization. Views of the interior of the stadium are generally confined to locations within the seating bowl of the Coliseum, the press box, and the two office facilities on each side of the Peristyle. Photographs from three perspectives within the interior of the existing Coliseum are presented in Figure V.A.1-6. These perspectives are described as follows:

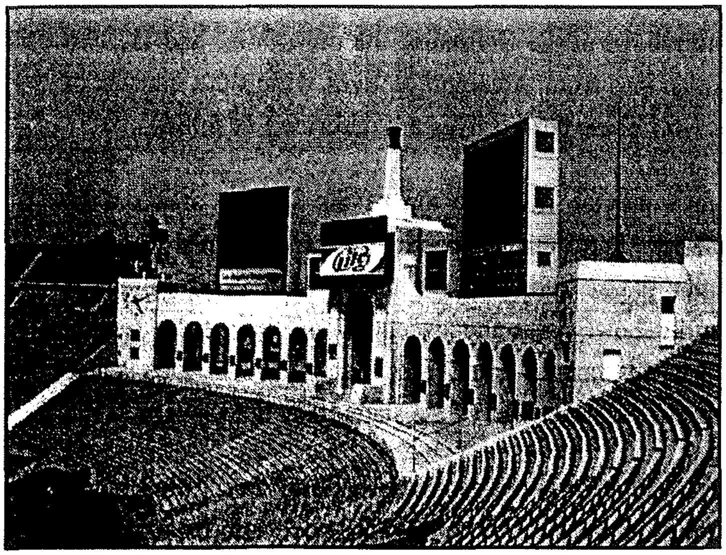
- View 12 presents a view of the Coliseum's interior from the top of the seating area on the southeast side of the stadium, facing northwest. From this perspective, the Coliseum's northerly and westerly rim is visible, as are the lighting fixtures along the rim. This view along the length of the field encompasses virtually the entire bowl, with the exception of the bench seating immediately below the Peristyle platform near this vantage point. The Tunnel 30 entrance is also clearly visible from this vantage point (at the southwest corner of the stadium at field level).
- View 13 presents a view of the Coliseum's interior from the southwest side of the seating bowl. From this location, the view northeast includes the interior side of the Peristyle, with its attached



12. A northwesterly view of the interior of the Coliseum, from the southeast end.

13. A view of the Peristyle, Olympic torch, and matrix and scoreboard at the east end of the Coliseum, as seen from the southwest end of the stadium.





14. A close view of the Peristyle entrance, the Olympic torch, and the matrix and scoreboard, facing northeast from the southeast side of the stadium.

CHRISTOPHER A. JOSEPH & ASSOCIATES
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Figure V.A.1-6
Views of the Project Site, Views 12, 13, and 14

matrix and scoreboard, the interior side of the Coliseum Commission offices, and the opposite portion of the seating bowl, including the bench style seating just below the Peristlye.

- View 14 presents a view of the interior of the Coliseum's Peristyle from the southeast end of the seating bowl. From this location, the Peristyle, Olympic torch, and eastside seating are the dominant visual features. The theater-style seating that constitutes most of the stadium is visible in the immediate foreground, and the bench seating below the Peristlye is visible beyond. Evidence of some foliage on the outside of the stadium is visible, as palm trees can be seen beyond the stadium walls, at the northeast corner of the Coliseum.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

The California State CEQA Guidelines requires the assessment of aesthetic impacts to consider whether a project would result in (a) a substantial adverse effect on a scenic vista, (b) substantial damage to scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway, or (c) substantial degradation of the existing visual character or quality of the site and its surroundings. However, since no empirical criteria exist with which to assess visual impact, the assessment of visual impact is, by nature, a subjective undertaking.

As directed by the City of Los Angeles' Draft L.A. CEQA Thresholds Guide, the determination of significance shall be made on a case-by-case basis, considering the following factors:

- The amount or relative proportion of existing features or elements that substantially contribute to the valued visual character or image of a neighborhood, community, or localized area, which would be removed, altered, or demolished;
- The amount of natural open space to be graded or developed;
- The degree to which proposed structures in natural open space areas would be effectively integrated into the aesthetics of the site, through appropriate design, etc.;
- The degree of contrast between proposed features and existing features that represent the area's valued aesthetic image;
- The degree to which a proposed zone change would result in buildings that would detract from the existing style or image of the area due to density, height, bulk, setbacks, signage, or other physical elements;

- The degree to which the Proposed Project would contribute to the area's aesthetic value;
- The Proposed Project's consistency with applicable design guidelines and/or regulations.

Project Impacts

Architectural Features

The Proposed Project would reconfigure the Coliseum's seating area into three separate levels. In addition, temporary expansion seating areas would be provided adjacent to the east and west end zones of the renovated plaza areas for use during certain events when larger attendance levels are anticipated. The Proposed Project would include a new lower bowl seating level situated closer to the playing field, a luxury suite and lounge level beneath the plaza, and an expanded plaza area fronting the Peristyle (See Figure III-13). The seating rows themselves would consist of floor and riser-mounted armchair seats with the first row situated approximately 5½ feet above the field. The new sideline seating would have the same approximate proximity to the field while the end zone seating would be up to 100 feet closer to the field. Upon the completion of all renovation activities presented as part of the Proposed Project, the Coliseum field would be sized to accommodate American football games or soccer matches.

Exterior Treatment. The existing exterior wall of the Coliseum would remain virtually intact, with few alterations, and existing extraneous out-buildings (ancillary structures on-site, but separate from the stadium) would be removed from both the outside of the Coliseum structure and from the adjacent grounds on the site. These ancillary buildings include mechanical and electrical equipment and sheds, restrooms, concession stands, storage buildings, and ticket booths, as well as buildings, escalators, elevators, and non-original stairways which have been added over time. One original (1932) ticket booth located outside the Coliseum in the northeast corner of the site would be retained and two new buildings would be constructed. These buildings include an approximate 20,000 square foot sports and Coliseum athletic history museum and an approximate 20,000 square foot ancillary retail use. Both buildings would be ancillary to the Coliseum, but operational on a day-to-day basis throughout the year. The structures are proposed to be located near the southeast corner of the Coliseum, between the Coliseum and the Sports Arena and/or on the south side of the Coliseum. The Peristyle end of the Coliseum would remain intact as it currently exists, along with the adjacent Coliseum Commission and ticket offices.

The existing openings in the exterior wall of the Coliseum would remain intact and cleared of any miscellaneous piping and wiring. The concrete brackets and upper seating tiers that provide the cornice to the existing wall would also remain. The original exterior lighting fixtures would be reused or recreated where feasible. The existing press box would be completely removed. The new press facilities would be integrated into the Upper Suite Level. The existing earth berm against the exterior wall would remain intact, except for ground-level modifications required to accommodate the new entrances, as described above.

Interior Treatment. The interior of the renovated Coliseum would continue to feature the Peristyle as the dominant architectural element in the east end of the bowl. The existing matrix and scoreboards and sound cluster would be removed from the Peristyle. The new seating construction would be consistent with the existing bowl effect, beginning and ending at the Peristyle. The new lower bowl profile would match the existing seating profile at the north and south sidelines. The new club seating decks on the north and south sides of the field are separated from the Lower Bowl by two levels of suites. An additional level of suites and the press box separate the Club Level from the Upper Deck. Several of the existing upper seating rows which currently extend out over the top of the existing exterior wall of the Coliseum would be retained, even though views to the field from these abandoned seating areas on the north and south sideline would be entirely blocked by the new stadium construction. The Upper Concourse Level would occupy the intervening space between the old rim and the new upper deck.

Landscaping. While the proposed landscaping plan is still in the conceptual design phase, it is anticipated that much of the existing landscaping on the Project Site would remain following development of the Proposed Project. Portions of the existing landscaped areas to remain would be supplemented by additional landscaping. The proposed landscape plan around the exterior walls of the renovated Coliseum would involve improvements to the following areas: 1) the berm against the exterior wall; 2) the "yard" level plaza; and 3) the area outside of the Peristyle up to the curb of Coliseum Drive. Following is a discussion of each of these elements:

- The plantings on the berm are thought to have originally consisted of Deodar Cedar, Spanish Broom, Acacia, Arizona Cypress, and Eucalyptus trees, with Cotoneaster hedges around the archways of the Peristyle. Numerous non-original plantings have been added on the berm, including a variety of palm trees, with no apparent regularity. It is envisioned that non-original plantings would be removed from the berm and that they would be replanted and reshaped to achieve the regular pattern of the original design.

- The yard level plaza area would consist of a paved area approximately 50 feet wide adjacent to the berm. The continuous paved area would be of either concrete or asphaltic cement. A double row of palm trees set in tree grates is planned down the center of the paved area. These palm trees would align with the exterior wall's pilasters and would provide a colonnade affect, continuing around the stadium yard. It is anticipated that this colonnade of trees would stop short of the Peristyle. These trees would aid in the characterization of the plaza by: 1) reorganizing the yard with a formal order; 2) providing a vertical counterpoint to the horizontal nature of the existing Coliseum exterior wall; and 3) establishing a distant view of the Coliseum with the tree tops of the palms.

Impact on the Visual Character of the Site and Locale

Coliseum Interior. The planned interior modifications to the Coliseum structure would, as discussed previously, leave the Peristyle intact, thus assuring that it would continue to remain as the dominant architectural element on the renovated Coliseum. Part of the current effect of the Peristyle is a result of its relationship to the simplicity of the oval it counters. The proposed alterations to the seating bowl of the stadium would modify this simplicity with the consequence that the Peristyle could present less of a contrast in visual simplicity to the remainder of the stadium than under existing conditions. However, the Peristyle would continue to offer a striking contrast in architectural style with the modern improvements, a contrast that could be heightened in effect following the development of the Proposed Project.

The primary alteration to the existing visual character within the stadium would be the separation of the currently continuous seating bowl into different levels on the north and south sidelines. The construction of the Club Seating Level (on the north and south sides only), three suite levels, and Upper Seating Deck would alter the stadium's inner design. Even so, the basic geometry of the bowl would be retained through the retention of the upper bowl ring (above the concourse level) and a large section of seating in the west end zone and by the actual fabric of the Peristlye being retained in the east end. The character of the existing stadium's symmetry would be retained, if not its actual construct. However, the existence of the suite levels and cantilevered upper deck could noticeably alter the existing visual character of the seating sections. The existing rim of the stadium, to be retained outside of the new upper deck, would not be visible from most seating areas within the renovated stadium. The existing upper seating bowl would only remain visible in the west end and on the east end on the north and south sides flanking the Peristyle.

Other features contributing to the general appearance of the Proposed Project would include the scoreboard and matrix, and sound clusters, all of which would be removed from the top of the Peristyle. In addition, the travertine veneer, which was added to the Peristyle in the 1960s, would be retained. The new press box facility would be integrated into the Upper Suite Level and would no longer appear as an obvious structural addition towering over the Coliseum's rim. As a result, it would be expected to provide an improved visual effect as compared to the existing press box. The new field lighting fixtures would be affixed to the underside of the roof canopy. The new lighting system would improve upon the existing pole mounted lights by including improved directional lighting and glare control. The lighting fixtures would have a narrow beam distribution and would be mounted high enough to eliminate shallow aiming angles that can cause light to "spill" out of the stadium. Locating the lights within the roof structure would shield spill over lighting from the neighboring areas and reduce, if not eliminate most glare problems.

Finally, two rings of vomitory entrances would encircle the field on the north and south sides. These tunnel entrances, one on the club seating level and the other on the upper seating deck, would have a similar effect to the existing tunnel openings, interrupting the curve of each seating deck. As with the existing openings, they are necessary features that could be viewed as architecturally enhancing. The addition of new elements segregating the Coliseum's seating into separate levels, however, would constitute a more prominent interruption of the stadium's symmetrical seating bowl.

Coliseum Exterior. The planned exterior modifications would leave the existing exterior wall and the Peristyle intact, with few alterations. The removal of the concession storage/police substation building at the existing stadium's west end would have the effect of exposing that portion of the original Coliseum facade now obscured by the building. The concrete brackets and upper seating tiers that form the existing cornices would remain visible. Existing escalators, elevators and most non-original stairways would be removed. New escalators would be placed within the concourse, rather than exposed on the exterior of the façade as the existing escalators are. This escalator positioning would reduce existing visual obscurance of the exterior stadium wall and create a more harmonious, less cluttered effect on the exterior, as would the proposed removal of ancillary outbuildings on the site. These exterior modifications would result in net beneficial aesthetic impacts, as they would improve sight-lines of the Coliseum's exterior walls from the surrounding areas with in Exposition Park.

As with existing conditions, the Coliseum itself would continue to be the most visually prominent feature on the site, continuing its existing visual relationship to the adjacent facilities within Exposition Park. Current ground-level views from the surrounding off-site portions of Exposition Park would remain substantially similar to existing views obtainable from these areas, with the notable exception that the exterior yard level of the Coliseum would appear more open due to the removal of many of the ancillary structures currently situated there. The new upper seating deck of the Coliseum, rising to a height of approximately 130 feet above the exterior yard level (approximately 65 feet above the existing rim), and would be visible from ground-level areas surrounding the base of the exterior stadium wall. At the center of the Coliseum, the outer edge of the new upper seating bowl is approximately in alignment with the exterior wall of the Coliseum. At this point the canopy roof overhangs the exterior wall by approximately 22 feet. Moving east and west from the center of the building, the new construction curves inward, away from the Coliseum exterior wall. This would create the perception to approaching spectators of an altered Coliseum design with modern features contrasting with the Coliseum's historic facade. This feature is anticipated to be the most substantial alteration to existing exterior views from ground-level areas to result from implementation of the Proposed Project, providing an obvious distinction of the modern renovation within the historic structure. It is anticipated that the new architectural improvements will highlight the retention of the original historic façade.

Development of the Proposed Project would not be expected to increase or decrease the visibility of the site relative to the surrounding area. The construction of the new upper deck and tensile fabric roof canopy would slightly alter the perception of the Coliseum structure itself from distances around the site, but would not detract from the visual character of the stadium facade. Some views of the Coliseum interior could be obtained through the Peristyle arches from areas in reasonably close proximity to the stadium's east end, although little detail would be distinguishable from these locations. Aside from the new upper deck and roof construct, the primary visual alteration to the site visible from surrounding areas would be the removal of the concession stands, restrooms, and other associated facilities currently haphazardly lining the yard level of the site. These alterations would not constitute an adverse visual impact, as the removal of these structures would provide viewers with more uninterrupted views of the Coliseum facade.

Alterations to Viewsheds

Views Of the Site. Street level locations from which the Proposed Project would be visually distinctive would be limited to the streets immediately surrounding the site on the west, north, and south. Even so, few specific aspects of the Proposed Project would be visible, and none dominantly visible, from locations surrounding the exterior of the Coliseum. Views from other residential and commercial streets in the outlying vicinity would not be adversely affected since the Proposed Project would be seen only intermittently and would not substantially alter the existing character of the Coliseum. Similarly, the new construction would not obstruct any existing views either onto the site or over the site to areas beyond from any properties in the general vicinity. Views of the Coliseum from directional perspectives surrounding the site would be impacted as follows:

- Views from North to South: The removal of the ancillary buildings around the base of the Coliseum's exterior would allow greater visual access to ground-level elements of the exterior wall (refer to Figure V.A.1-2 Views 1 and 3 for existing views of the Coliseum with ancillary buildings and surrounding gate visible). The added sports and Coliseum athletic history museum and ancillary retail structure would not be visible from the north side of the Project Site. From the north part of Exposition Park, the renovated stadium would be visible. Both the existing stadium rim, which stands approximately 65 feet above ground level, as well as the new upper deck and tensile roof canopy, which would rise approximately 130 feet above ground level, would be visible from the north side of the stadium. The removal of outbuildings and the gate surrounding the Coliseum would enhance views from the north toward the Project Site. The addition of upper deck seating and the roof structure would add modern architectural aspects to the historic structure. As the Proposed Project would retain the historic façade of the Coliseum, visual impacts from these vantage points would be less than significant.

- Views from South to North: This view would be modified slightly, with the rise of the new upper seating deck over the Coliseum's rim being most prominent from Hoover Street, south of the Coliseum. This is the only location surrounding the Coliseum where the angle of sight allows it to be viewed at distances greater than approximately 600 feet (see Figure V.A.1-3, Views 4 and 5 for existing views). With increasing distance from the site to the south along Hoover Street, the visual impact of this upper deck extension becomes less imposing. The removal of the press box and exterior elevator to the press box would eliminate an interruption of a continuous view of the southern facade of the stadium. The ancillary structures currently visible would be removed, and the two new ancillary structures would be visible. The tensile fabric roof canopy structure would be visible from the south, as it would sit above the rim and upper deck of the stadium. From a southerly vantage point, views would consist of the ground level of the existing stadium, up to the existing rim, along with the added upper deck and roof structure. These visual impacts are not considered significant, as the historical structure would remain intact and more visible than under current conditions. The renovated structure would not affect viewsheds beyond or above the stadium due to an increase in stadium height, as no views beyond or above the existing Coliseum are currently visible.

- Views from East to West: While views of the Project Site from Figueroa Street are obscured by Christmas Tree Lane, some characteristics of the Coliseum are visible from certain angles, including the Olympic torch and the existing matrix scoreboards (refer to Figure V.A.1-4, Views 6, 7, and 8). These views would be modified by the removal of the scoreboards and sound clusters that currently sit on top of the Peristyle. Since the matrix and scoreboards were added elements to the Peristyle and were not a part of its original construct, historic preservationists would perceive this modification as an improvement. This change would be visible to viewsheds of the Coliseum's entrance that already exist. The gate currently surrounding the Coliseum would be removed, and the exterior wall of the stadium would become accessible to visitors who are not entering the stadium. The sports and Coliseum athletic history museum and ancillary retail use would not be visible from Figueroa, but would likely be visible from the Peristyle area. From this vantage point, however, views of the Coliseum would not be affected by the ancillary structures. Also visible from some vantage points on the east would be the upper seating deck and roof structure rising up from the north and south sides of the Coliseum's interior. These alterations would be visible from easterly vantage points but would not be considered significant, as the renovation would retain the Peristyle entrance as a dominant architectural feature.

- Views from West to East: The view of the Coliseum from the west facing east would be perceptively modified. As seen in Figure V.A.1-5, Views 9 and 10, the existing rim of the Coliseum is visible from westerly vantage points. The Coliseum's exterior wall and rim would remain intact while the existing outbuildings and gate around the Coliseum's exterior would be removed. From this vantage point the new ancillary structures may be visible to the south of the Coliseum and toward the southeast end. In addition, the elevators that are now visible from the exterior will be relocated inside, thus exposing more of the original facade. The Proposed Project would not adversely affect the exterior view of the existing Coliseum structure, but would improve the view at ground level. Above and beyond the existing rim, the tensile fabric roof canopy and new upper deck seating would be visible on the north and south sides of the stadium. The alterations to the west-to-east views are not considered adverse, as views of the new architectural additions would not obstruct views of the Coliseum's existing facade, which would continue to be prominent in the foreground.

Impact Summary

The Proposed Project would renovate the interior of the Coliseum, altering its existing interior appearance. The separation of the stadium's seating into three main sections, with two suite levels positioned in between the lower bowl level and the club level, and one suite level positioned between the club level and the upper concourse level, would effectively change the perception of the existing stadium as a homogeneous symmetrical, elliptical bowl. The addition of a new upper seating deck above the new suite levels and horizontally positioned closer to the field would create the general visual effect of a smaller, less expansive stadium. The overall alteration of the interior of the Coliseum would be considered to be a significant visual change. From an aesthetic point of view, this change could be considered to be either adverse or beneficial, depending upon the perception of the viewer. The interior modifications proposed as part of the Proposed Project would not be anticipated to be clearly visible from any location surrounding the exterior of the stadium, and would therefore not be expected to produce an adverse visual impact on views toward the site.

One of the main objectives of the Proposed Project are to renovate the Coliseum in conformance with the generally accepted standards of design for NFL stadiums, thus enabling the Coliseum Commission to acquire and maintain an NFL franchise in the City of Los Angeles. In obtaining this goal, the proposed architectural design is oriented around improving sight-lines and bringing the seats closer to the field level for optimum views of the playing field. In this regard the appearance of the stadium structure is diminished by improved sight-lines to the playing field. In keeping the exterior facade intact and retaining as much of the original seating fabric as possible, the existing portions of the seating areas would remain visible behind the new seating areas from the main concourse and club level areas. As a result, the Coliseum would retain its historic image and feel within a modern state-of-the art sports venue.

CUMULATIVE IMPACTS

Development of the Proposed Project, in conjunction with the related projects, would cumulatively contribute to visual character and viewshed impacts in and around the Exposition Park area. The renovation and expansion of the EPICC complex and Los Angeles Swim Stadium, the California Science Center, the Science Museum School and Education Resource Center, planned renovation and expansion of the Natural History Museum, and the development of the LAUSD Armory School site are all related projects in Exposition Park. The Proposed Project and the related projects, are in accordance with the objectives stated in the Exposition Park Master Plan. The objectives of the Plan include enhancing the Park's character, preserving the historical legacy of the Park and generally encouraging recreational uses in the Park.[2] The Proposed Project and the related projects located

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[2] *California Museum of Science and Industry, Exposition Park Master Plan Draft Environmental Impact Report, May 1993.*

within Exposition Park aim to encourage passive and active use of the Park by renovating existing uses but restoring the historic character present.

MITIGATION MEASURES

Development of the Proposed Project would not result in a significant aesthetic impact to any view, view corridor, or visual resource. Therefore, no mitigation measures are required.

V. ENVIRONMENTAL IMPACT ANALYSIS
A. AESTHETICS
2. LIGHT AND GLARE

ENVIRONMENTAL SETTING

Project Vicinity

Ambient lighting in the vicinity of the Project Site consists of relatively low to high levels of lighting. The streets surrounding Exposition Park and the Project Site, Figueroa Street, Martin Luther King Jr. Boulevard, Vermont Avenue, and Exposition Boulevard include streetlights for their entire length. The other uses in Exposition Park all maintain mid-level lighting at night, and surface parking lots in the Park are relatively brightly lit. Surrounding commercial uses along Figueroa Street and Vermont Avenue maintain high-level lighting, while residential areas along Martin Luther King Jr. Boulevard maintain a relatively low level of nighttime lighting. Overall, existing ambient lighting levels surrounding the Project Site range from low to high.

Project Site

The existing permanent lighting at the Coliseum consists of small and moderate scale area lighting at the entrances and on the surrounding plaza as well as floodlights positioned around the Coliseum for various events. Because the former has little or no effect on adjacent properties, attention in this section is focused on the primary lighting component, the field lighting. There are 360 existing floodlights within the Coliseum.

The impact of the field lighting on the surrounding community at the Coliseum can be measured through the evaluation of two conditions: light trespass and light pollution.

Light Trespass

Light trespass is defined as the unwarranted or uninvited incursion of light from one property onto adjacent propertyies or surrounding land uses. The magnitude of this condition can be analyzed through the evaluation of the intensity of *direct glare* on the surrounding properties and the determination of the actual *area* which is affected. The comparison of values ascertained for the existing and proposed lighting schemes yields relative levels of trespass, allowing the determination of improvement or degradation of the existing light trespass condition expected to result from implementation of the Proposed Project.

Direct Glare. Direct glare is the annoyance or discomfort resulting from high luminances or insufficiently shielded light sources in the field of view. An analysis of the luminaire aiming angles, architectural configuration, and intensity of light at angles which project light directly onto adjacent properties, produces a metric which can be used as an evaluative barometer of direct glare.

The architectural configuration of the Coliseum causes direct visual shielding of the luminaires from view on adjacent properties surrounding the stadium, the magnitude of which can be determined through analysis of the concept known as architectural cut-off (shielding) angles. The average height of floodlights above the north rim of the Coliseum is 16 feet, resulting in a cut-off angle to the opposite (south) rim of approximately one degree below horizontal. The average height of the floodlights above the south rim wall (and press box) is 29 feet, yielding a cut-off angle to the opposite rim of approximately two degrees below horizontal.

Given an average vertical aiming angle for all floodlights of 16 degrees below horizontal, a vertical angle of 15 degrees above floodlight beam center is, on average, the photometric plane which projects over the opposite parapet walls and beyond. In the existing condition, a viewer to the north of the Coliseum sees a maximum of 204 floodlights when looking south. A viewer to the south looking north sees a maximum of 156 floodlights.

Affected Area. Though not an indicator by itself, the size and location of the area(s) upon which the stadium floodlighting projects direct illumination is also relevant. The inner perimeter of the area affected is determined by evaluation of the cut-off, or shielding, provided by the stadium parapets themselves. The outer perimeter or maximum extent of the area affected by direct glare is determined by the cut-off, or light source shielding, provided by and integral with the floodlights. Land uses within the area approximated by Exposition Boulevard to the north, Figueroa Street to the east, Vernon Avenue to the south and Vermont Avenue to the west could be potentially affected by direct glare from distances away from the Coliseum. The inner perimeter of the affected area starts approximately 4,000 feet from the stadium exterior on the south side and approximately 2,000 feet to the north. It should be noted that there is no outer perimeter because the existing floodlights do not have any lamp shielding or controlled cut-off. However, potential glare annoyance would extend only to areas with a direct line-of-sight to the Coliseum. It is also noted that, in reality, direct glare and trespass dissipate over great distances.

Light Pollution

Light pollution is defined as the contamination of the atmosphere with unwanted light above and around an installation. A relative measurement of this factor can be achieved by the evaluation of direct and indirect light pollution independently. The combination of these two components will produce a fixed quantity of light which is projected directly from the floodlights into the atmosphere and reflected indirectly from the ground. The magnitude of the light pollution effect is variable depending upon the moisture content of the atmosphere as well as the amount of other air carried particles such as smoke, exhaust fumes, pollen, etc. A relative scale to quantify light pollution is utilized not only because of its variable nature, but also because its impact is highly subjective. The fixed quantity of light is measured below in *lumens.* Lumens is a measurement of the amount of light present, just as gallons are a measurement of the amount of fluid present.

Direct Light Pollution. Based upon the average vertical aiming angle of 16 degrees below horizontal for all floodlights, the quantity of direct light pollution is determined by the product of light emitted above a horizontal plane coincident with the floodlight times the total number of floodlights. Each floodlight projects

19,134 lumens above the floodlight's 15 degree horizontal photometric plane. With a total of 360 floodlights, the total contribution of direct light pollution is approximately 6.9 million lumens.

Indirect Light Pollution. The quantity of indirect light pollution (reflected light from the ground) is determined by the product of light emitted below a horizontal plane coincident with the floodlight, multiplied by the total number of floodlights. This product is then multiplied by the ground reflectance factor (the percentage of light which reflects off of the field and stands). An estimated ground reflectance factor of 10 percent was used for this evaluation.[1] An average vertical aiming angle of 16 degrees below horizontal was used for all floodlights consistent with that used for the direct light pollution evaluation. Each floodlight projects 88,230 lumens below the floodlight's 15 degree horizontal photometric plane. With a total of 360 floodlights, and a ground reflectance of 10 percent, the total contribution of indirect light pollution is approximately 3.2 million lumens.

Under existing conditions, the direct and indirect light pollution components yields a total light pollution basis of 10.1 million lumens.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

The California State CEQA Guidelines requires the assessment of aesthetic impacts to consider whether a project would create a significant impact. An impact to light and glare is considered to be significant if the project would result in a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Project Impacts

As discussed in Section III.C of this document, Project Characteristics, the Coliseum is currently limited to hosting 25 weekend or holiday events per year (for events exceeding 25,000 attendees), and will continue to be limited to this number with the NFL as a new permanent tenant. The field lighting, then, is assumed to be in operation for the same number of events under the Proposed Project as under the existing project.

Floodlight Description

A detailed lighting system has not yet been designed for the Coliseum. However, the Proposed Project includes the incorporation of a tensile fabric roof structure along the north and south sides of the

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[1] *The 10 percent factor was derived using values from Figure 7-28 of the IES Lighting Handbook (1984 Reference Volume).*

stadium and the field will be illuminated by floodlights attached to this roof. Figure V.A.2-1, provides an illustrative rendering of the Coliseum while lit. The effects of the lighting system, located under the roof structure can be noted. Also visible is the ability of the roof structure to shield light from spilling to adjacent areas, and instead directing lighting toward the field. The new lighting system will improve upon the existing pole mounted lights by including directional light and glare control in the design criteria. The lighting fixtures will have a narrow beam distribution and will be mounted high enough to eliminate shallow aiming angles that can cause light to "spill" out of the stadium. Lighting will be employed in a manner that will not increase the reflectivity of the site.

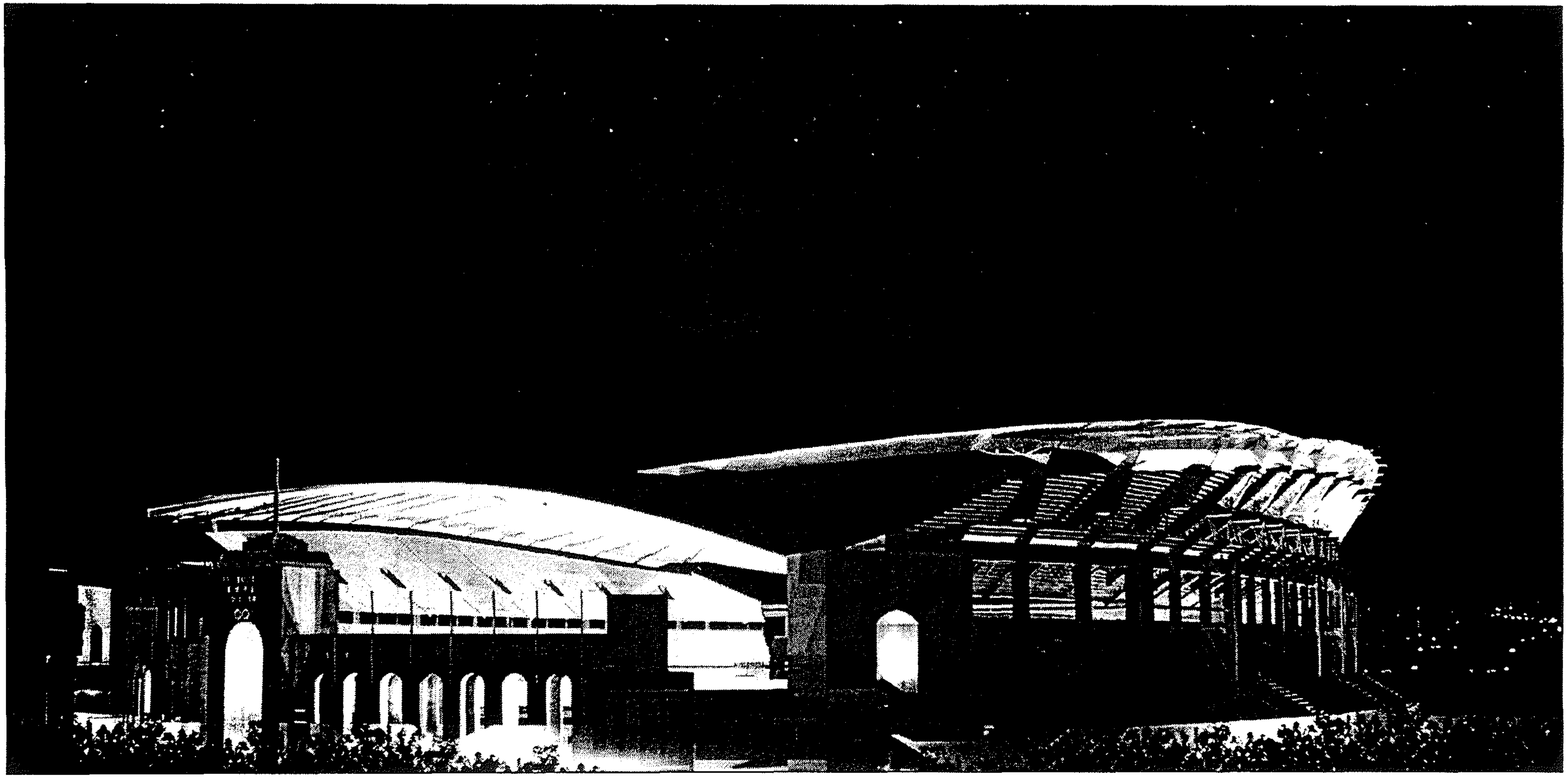
Because the floodlight design of the Proposed Project directs lighting more accurately than the exisiting lighting system, a significant beneficial reduction in the amount of light projected onto adjacent properties would result as compared to existing conditions. Thus, the *magnitude* of direct light and glare from the field lighting will be reduced significantly with the Proposed Project. The reduction is primarily the result of the steeper floodlight aiming angles in the proposed scheme as compared with existing conditions.

Affected Area. Land uses that could be adversely impacted by glare and light trespass would be predominantly residential dwelling units in the area generally bounded by Martin Luther King Jr. Boulevard to the north, Flower Street to the east, Vernon Avenue to the south, and Vermont Avenue to the west. However, because of the steeper floodlight angles, and the directed field lighting, a smaller area is expected to be impacted by the project, and the magnitude of the brightness, or direct glare, would be reduced as compared to existing conditions.

Anticipated Light Pollution

Total light pollution would be slightly reduced in the proposed scheme, as compared to existing conditions. The reduction described herein results from a significant reduction in light pollution from individual floodlights because of their steeper aiming angles.

Currently, the Coliseum is lit by field lights located along the rim of the stadium, directed toward the field. The field lights are not designed to prevent light spill outside of the stadium, as are those in the Proposed Project's preliminary design. The Proposed Project will further reduce existing light and glare impacts through the incorporation of lighting located within the roof structures and directed toward the field. As such, the project's impact on light and glare will be less than significant.



Source: NBBJ Sports & Entertainment, May 2003.

No Scale

CHRISTOPHER A. JOSEPH & ASSOCIATES
Environmental Planning and Research

Figure V.A.2-1
Illustration of the Proposed Project

CUMULATIVE IMPACTS

Development of the Proposed Project, in conjunction with the related projects, would cumulatively contribute to light and glare impacts in and around the Exposition Park area. While each related project's light and glare impacts would be evaluated by either the City of Los Angeles, State agencies or stakeholders in Exposition Park, or other agencies, as appropriate in accordance with applicable regulations, the cumulative effects of this development would be experienced as modifications to the light levels in the general vicinity in which each particular project is located. However, no significant alteration to light or glare impacts would be expected to occur in the immediate vicinity. Since the Proposed Project will reduce light and glare impacts from existing levels, the project will not contribute to significant cumulative light and glare impacts.

MITIGATION MEASURES

The project is not anticipated to result in any significant light or glare impacts. Therefore, no mitigation measures are required.

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

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[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;

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

[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

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[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 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.

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.

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.

V. ENVIRONMENTAL IMPACT ANALYSIS
C. CULTURAL AND HISTORIC RESOURCES

ENVIRONMENTAL SETTING

The Coliseum is located in Exposition Park, a 145-acre site established in 1908 under joint administration by the State, City, and County as an area for cultural and recreational activities. Its boundaries include Exposition Boulevard to the north, Figueroa Street to the east, Martin Luther King Jr. Boulevard to the south and Vermont Avenue to the west. Three buildings, the Armory and the Exposition Building, now part of the California Museum of Science and Industry, and the California Museum of History, Science and Art, now the County Museum of Natural History, as well as the Rose Gardens remain from the first group of improvements to the site in the 1910s. The Coliseum was added in 1923 and the Los Angeles Swim Stadium to the south dates from the 1932 Olympic Games.

Other buildings from the 1920s in Exposition Park include the small brick power station to the south of the Coliseum, and the Exposition Club House, now the Menlo Recreation Center, built in 1928 by the City of Los Angeles Playground Department to the south of the Los Angeles Swim Stadium. The Los Angeles Memorial Sports Arena, built in 1959, lies to the southeast of the Coliseum. In the 1980s, a number of buildings were added in the northeast section of the Park as part of the Museum of Science and Industry, including the Frank Gehry-designed Aerospace Museum, the California African American Museum, the IMAX Theater, the Space Museum, the Space Garden, a Multi-Cultural Center, and the Mark Taper Hall of Economics and Finance.

Architectural Description

The Coliseum, an elliptical reinforced concrete bowl oriented east and west, is 1,038 feet long by 738 feet wide. It rises 74 feet above ground, and the playing field lies 32 feet below grade. The rows of seats rise in a continuous smooth line in three tiers. The construction and layout of the seats was determined by its location in an abandoned gravel pit. The first tier, consisting of 29 rows, was cast in place on the banks of the pit and the second tier, of 25 rows of seats, was cast on a compacted earth berm built up around the excavated pit. The third tier, also of 25 rows of seats, is a built-up reinforced concrete frame system supported on a continuous pilaster and panel wall system. The top four rows are cantilevered beyond the wall and are supported by concrete fin brackets. Seats are theater-type with the exception of those at the east end, which are wooden benches dating from 1932. The seats of these wooden benches have been covered with fiberglass.

The Peristyle, the dominant feature located at the eastern end of the Coliseum, consists of a large central arch, the Propylaeum, with seven smaller arches on either side. The Propylaeum is topped by a 107-foot flame holder of concrete with a brass bowl. Four-story towers, or pylons, which house accounting offices in the north building and Coliseum Commission-related functions in the south building, serve as buffers between the tiers of seats and the arches. A series of reinforced concrete walls step outwards and upwards from these towers; they are designed to hide the additional seating added on the third uppermost tier. Two overscale arches, in a wall with pierced decoration, contain steps leading from the east elevation to the upper level. Two one-story office building additions, a ticket office on the north and the Coliseum Commission offices on the south, extend from the intersection of the Peristyle and the concrete walls.

The Peristyle is clad in a travertine veneer, and has a mural of an Aztec sun painted by German-born Heinz Rosien, an Alhambra muralist and art teacher, on the ceiling of the Propylaeum. A matrix scoreboard and a video board as well as two speakers are attached to the top of the Peristyle. Below the flame is a matrix clock. There is also a large clock on the upper wall of the north tower and a thermometer on the south tower wall. Bronze plaques forming the Memorial Court of Honor decorate the pillars of the Peristyle. The front facade of the Peristyle is decorated with a neon sign, reading "Los Angeles Memorial Coliseum" with the five interlinked rings symbolizing the Olympics underneath. Two large pieces of rock, from the Colosseum in Rome and Altis Olympia, Greece, sit on the bases flanking the main arch.

A series of 28 reinforced tunnels at yard level lead through the earth berm to the interior of the stadium. Between each pair of tunnels is a flight of concrete steps with pipe railing leading to the concourse level, which contains bathrooms, concession stands, elevators, and storage. A series of passages lead from this concourse to the interior of the stadium.

On the exterior of the Coliseum, between stairs 4 and 5, 10 and 11, and 20 and 21, are escalators. A press box elevator tower and entry way, on the south facade of the Coliseum, lead to the three-level (two level plus roof deck) 354-seat press box which juts above the south rim of the Coliseum. Tunnel 30, entering from Menlo Avenue at the southwest side of the Coliseum, provides vehicular access to the playing field. An underground dressing room and locker facility is reached from this ramp and tunnel.

A three-story reinforced concrete structure, used as a concession storage building and Los Angeles Police Department substation, extends from the west facade at the yard level. A number of ancillary buildings ring the Coliseum at the yard level, including eleven permanent concession stands and four restroom buildings inside the 10-foot chain link and steel bar fence, four permanent ticket booths, a maintenance and equipment storage facility adjacent to Tunnel 30 at the southwest edge of the site, and a souvenir shop at the southeast edge of the Coliseum outside the fence. A memorial statue of two sculpted torsos is located at the Peristyle entrance approach to the east end of the Coliseum. The mature landscaping consists of eucalyptus, deodar, yucca, agave, and palms covering the berm, and vines which virtually cover the south and west elevations. The interior of the concourse level has bathrooms and concession stands, elevators, storage rooms, and first aid stations in the 1930 additions to the towers, or pylons, at each end of the Peristyle.

History

The Coliseum was built in Exposition Park in 1923. In order for such a stadium to be realized, three separate individuals or groups, each concerned with civic pride and the beautification of Los Angeles, came together. The first was Judge William M. Bowen, the second was the executive committee of the California Fiestas Association, and the third was the architectural firm of John Parkinson and Donald B. Parkinson.

Exposition Park had been established as early as the 1870s as an Agricultural Park, owned by the Southern District Agricultural Society, and it contained a racetrack and fair grounds with covered stalls for exhibiting produce. Apparently its use degenerated into bull-fighting, horse racing, greyhound racing and gambling. Under the new owners, the Sixth District Agricultural Association of the State of California, the gambling continued. The surrounding neighborhood, including the Methodist-founded USC, led by William M. Bowen, a judge, law professor at USC, and Sunday school teacher, spent a decade attempting to shut down the racetrack and have the Park declared public property, a goal reached in 1908. That year the City, County, and State joined to develop Exposition Park. The northern half of it was laid out in 1911 in a formal Beaux Arts style by landscape architect Wilbur D. Cook, Jr. with a sunken rose garden with central fountain flanked by square formal gardens. By 1914, three civic buildings, the Exposition building, the California Museum of History, Science and Art, and the Armory, were erected in a "C" shape around the rose garden.

In 1919, a group of well-to-do Los Angeles citizens were appointed by the publishers of the daily newspapers to a committee, the "California Fiestas Association", to revive the old Spanish fiestas in Los Angeles. The committee realized that without a stadium in town, such fiestas could not be produced. An executive committee drawn from the larger Fiestas Association, headed by William May Garland, a real estate developer, and including Harry Chandler of the Los Angeles Times and former U.S. Senator Frank P. Flint, decided that a stadium should be built. They chose Exposition Park as its location and suggested a joint Association/City/County venture to create such a stadium, which was to be named the "Los Angeles Memorial Colosseum" (changed in 1920 to Coliseum) as a memorial to World War I dead.

Simultaneous with the suggestion to build the Coliseum came the idea that Los Angeles be the site of the 1924 Olympics. To this end, William Garland presented an invitation from the City and County of Los Angeles and the Association, plus plans for the stadium, to the International Olympics Committee at the summer games in Antwerp in 1920. He was advised that Paris had already been chosen for 1924 and Amsterdam tentatively for 1928, but was appointed to the International Olympic Committee. In Rome in 1923 he again formally asked that Los Angeles be the city chosen for the 1932 games, a suggestion which was accepted.

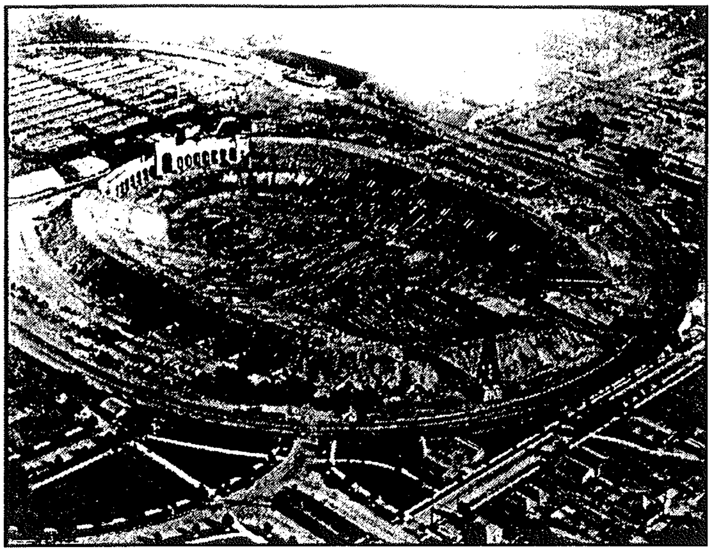
The architect, John Parkinson, donated his profit for the design of the Coliseum as a "citizen's contribution", being reimbursed solely for his costs. He began sketching plans in 1919, well before the stadium was a definite project, in order for Garland to present the designs to the Olympics Committee. He was no stranger to participation in civic beautification. Moving to Los Angeles from Seattle in 1894, he became a charter member of the Los Angeles Municipal Art Commission, established to improve and beautify the city by cleaning streets and planting trees. When this committee brought the noted planner Charles Mulford Robinson to draw up plans for Los Angeles, Parkinson assisted him.

Between the years 1905 and 1915, Parkinson, with his partner G. Edwin Bergstrom, designed many ornate high-rise office and civic buildings, in the Beaux Arts style combining a symmetrical formality with classical ornamentation. Nineteen of these buildings on Spring Street are now listed as a Historic District on the National Register of Historic Places. Additionally, with his son Donald, also an architect who joined him in the firm in 1921, John Parkinson designed such other notable Los Angeles buildings as the City Hall, Bullock's Wilshire, and Union Station, as well as numerous buildings for the USC campus.

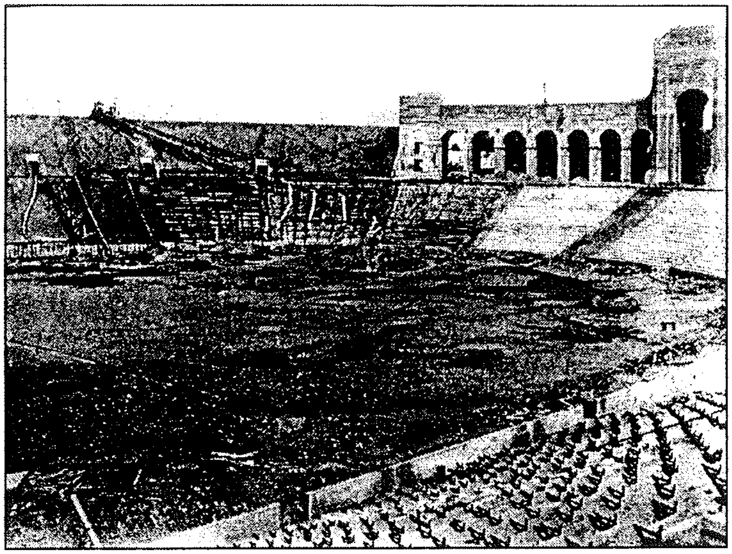
The Fiestas Association chose an abandoned gravel pit south of the formal gardens, Armory, and Museum in Exposition Park as the site of the bowl because excavation would be cheaper. One of Parkinson's early plans showed the Coliseum oriented north and south, rather than east and west, presumably to make use of the configuration of the existing pit. Possibly the east-west orientation was ultimately chosen to be aligned with the old race track which encircled it in an east and west direction.

The Coliseum, begun in December 1921 and finished in June 1923, was created from this pit by excavating 20 feet below grade and compacting the excavated dirt into a large berm which rose in an elliptical shape around the central field. As shown in Figure V.C-1 (See Views 1, 2 and 3), the wooden Coliseum seats were built in three tiers upon this earthen structure: the lowest, on the excavated section, were set on concrete steps poured in place; the middle tier, on the compacted berm, were set on redwood 2" x 4"s placed over 3" x 6" stringers; the upper level of nine rows were set on a raised redwood frame constructed above the berm. This upper tier of seats was reached by flights of wooden stairs built on the exterior of the berm. The Coliseum seated a total of 76,000 people in 53 rows.

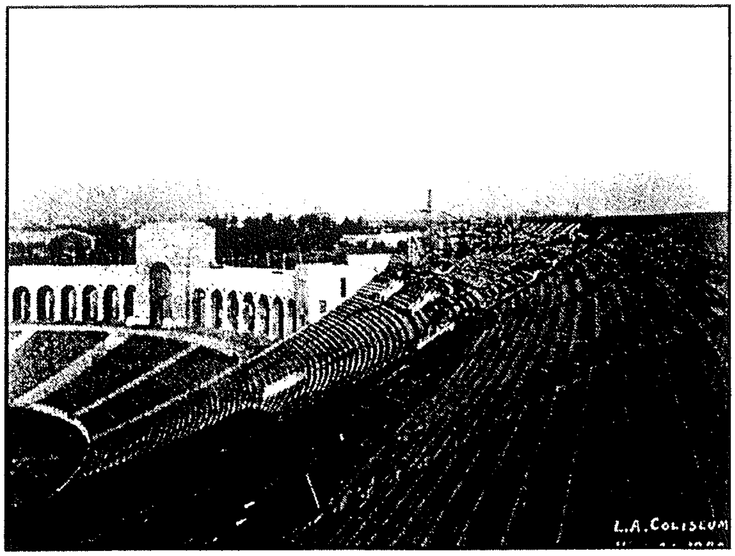
As shown in View 2 in Figure V.C-1, a reinforced concrete Peristyle, with flanking pylons, was built at the east end of the Coliseum. Concrete retaining walls above and around the pylons formed the ends of the seats at north and south. The 1921 plan, shown in Figure 108, showed the pylons with hipped red tile roofs, which were omitted in favor of simple flat roofs with parapets. The rectangular pylons, four stories high, radiated outward from a point at the center of the field. A low concrete wall linked the ends of the Coliseum beyond the Peristyle. Pipe flag poles decorated both the interior and the exterior of the Peristyle's arches, and single lights illumined its interior roof. A row of lights along the east side of the Coliseum lit the entrance. Bases for statuary extended from the Propylaeum on both the interior and exterior elevations. Boxes were indicated on the plans in the front rows of both the north and the south sides of the field. Occupants sat on folding wooden chairs.



View 1: Aerial view of the Coliseum under construction in December 1921.



View 2: View looking towards the north end of the Coliseum while still under construction in 1923.



View 3: View of the top level at the north end while under renovation in November 1930 to accommodate the spectators of the 1932 Olympics.

Source: *Images of America Los Angeles Memorial Coliseum*, Chris Epting, 2002.

CHRISTOPHER A. JOSEPH & ASSOCIATES
Environmental Planning and Research

Figure V.C-1
Historic Views of the Project Site,
Views 1, 2 and 3

A 1923 sketch by the landscape architect indicated that the berms were to be planted with deodar cedar, Spanish broom, acacia, Arizona cypress, eucalyptus, with cotoneaster hedges around the archways and begonia and Boston ivy at the top. A simple rectangular Athletes Building, housing dressing rooms and showers, was built to the south of the Coliseum and was connected to the playing fields by underground Tunnel 29. Four toilet buildings were built, two on the north and two on the south. Tunnel 30, entering from the west, was built to provide vehicular access to the field.

The Coliseum was finished in June of 1923 and the USC Trojans played their first home football game there, against Pomona College, in October, with 12,836 spectators attending. Over the next nine years, USC packed the stadium with its football games against Stanford University, the University of California, and the University of Notre Dame, the latter of which it first played in 1926. Paavo Nuurmi of Finland was featured in a track meet and Jack Dempsey held a boxing exhibition in the Coliseum. Additional uses of the Coliseum for non-sporting events in these first years of its existence showed its appeal to a wide variety of audiences. The Los Angeles Philharmonic played there in 1925, the Shrine and the Elks held their conventions and electrical pageants there, Lindbergh was honored at a reception, and Easter Sunrise services and a pontifical mass were celebrated in the Coliseum.

As early as 1923, the Coliseum had been chosen for the 1932 Olympics and, by 1928, a one million-dollar state bond issue was passed to finance the Olympic Games. To handle the expected crowds, the Coliseum's seating of 76,000 was enlarged to 101,573, and various other improvements were made. The enlargement took from February 1930 to May 1931 to complete and cost $950,293, which was financed by the City and the County. To add approximately 25,000 seats, the Parkinsons removed the third wooden tier, and built up a new third tier of concrete with 25 rows of seats for a total of 79 rows.

The addition of these extra sixteen rows necessitated a major change in the exterior of the Coliseum. A large concrete superstructure was built, consisting of a continuous pilaster and panel wall system which extended over the top of the berm and halfway down the outside. The top four rows were cantilevered beyond the wall and were supported by concrete brackets. The newly created upper concourse included restrooms and concession stands.

Major changes were necessary at the east end of the Coliseum to hide the ends of the new third tiers, which rose well beyond the existing pylons. The retaining walls at the ends of the pylons were incorporated into new units, which formed stepped parapet walls radiating outward from the existing pylons. These walls were decorated with pilasters, pierced wall designs, and cast concrete screens. The ground floor of these units contained staircases beneath overscale arches leading to the concourse level, and the concourse level contained hospital rooms and storage created by the new units. Two lamp standards lit the entrance to each arch. Low concrete walls with large blocks for statues connected the new sections with the old sections. The existing pylons were slightly changed during this expansion: a new concrete slab was poured on the roof and was topped with composition roofing.

Doors and windows were replaced on the Peristyle side and new steps and an opening into the top floor of the pylon were added on the seating side.

The existing wooden stairs leading down the outside of the berm were replaced with double-width concrete steps with pipe railings, firmly set into the berm with footings. The tunnels had new concrete foundation slabs poured. A new poured concrete concession building, with storage rooms, a service elevator, and truck docks, was attached to the exterior wall of the Coliseum at the west end. A police substation was also housed in this building. A series of pole lamps with twin lights lit the rim of the Coliseum, doubling as vents for the restrooms on the upper level. A press stand, centered at the top of the south wall of the Coliseum provided cubicles and desks for reporters on one side of the central staircase and cameras and radio on the other. A scoreboard was built on the stadium side of the propylaeum, consisting of a built-up arched extension three floors high and deep enough for operators to stand in to manipulate the letters and numbers of the winners as needed on the actual board, which measured 22 feet by 44 feet. Additionally, the top deck held the flag loft where Navy men were trained to quickly hoist the flags of the three winners as the results were placed on the scoreboard. To handle the expected record crowds for the Olympics, twelve square ticket booths and six rectangular concession booths were built on the perimeter of the Coliseum.

All Olympic track and field events, gymnastics, field hockey finals, demonstration lacrosse and football, and the equestrian jumping finals, as well as the beginning and end of the marathon, and the opening and closing ceremonies, were held in the Coliseum, with the Armory hosting the fencing and sword competitions and the Swim Stadium hosting the aquatic events. Sixteen world track records were broken, by such athletes as William Carr, Eddie Tolan, and Babe Didrickson.

The Olympic Games in the Coliseum included a number of firsts: the use of a victory podium where flags of the winning nations were raised; the use of a photo-finish camera; the playing of the national anthems of winners during the awards ceremonies; the use of a stadium press box where teletype operators were able to transmit the results of the competition to the wire services; and the full participation of women athletes under international track and field competition according to Olympic Games' standards. Additionally, the creation of an Olympic Village to house the men enabled many countries, impoverished by the Depression, to send athletes who otherwise would have been unable to attend. This village, consisting of 500 pre-fabricated residences, an administration building, amphitheater, post office, hospital, bank, and telegraph offices, was built in Baldwin Hills on 331 acres of land loaned by the heirs of the Baldwin estate. After the Games, the buildings were removed, but the idea of such a Village became a requirement for subsequent Olympic Games.

Over the years, other changes have been made to the Coliseum. By 1937, some settling in the floors of the tunnels and some water damage had occurred, which caused the reinforcing bar inside the concrete tunnel walls to rust. As a result, extensive repairs of the tunnels were called for in 1937. All hollow spaces in the walls were dug out, the reinforcing bar cleaned, and the areas patched with gunite. The floors of all the tunnels except 13, 29, and 30 were to be dug up to the depth of two feet or to the existing subfloor, backfilled and compacted, and new floors poured.

The Olympic scoreboard was replaced in 1936-7 by an electric board, "the first all-electric, all-purpose announcing tableau of its kind in the world", courtesy of the Tide Water Associated Oil Company. The Coliseum continued to be used by the USC football team and for such other sporting events as the 1934 National Collegiate Athletic Association (NCAA) track meet, the 1936 Olympic final trials, as well as a ski jump, tennis match, and a golf clinic and exhibition. In addition, the Coliseum hosted two appearances by then-President Franklin D. Roosevelt, a campaign rally in 1932 and a eulogy of Will Rogers in 1935, Shrine and American Legion conventions, the Sonja Henie Ice Show, and various rodeos.

A cluster of post-war additions, from 1946 to 1955, caused the next major visible changes to the appearance of the Coliseum. In 1945, a new Coliseum Commission was formed, and a new contract authorized surplus revenues to be given to the Coliseum alone, without payments to the City and County. A new manager, William Nicholas from the Pasadena Parks Department, was hired; he used the surplus money for a number of necessary repairs and renovations. The Pasadena architectural firm of Bennett and Bennett was retained for this work. Robert Bennett chose to design the additions in the 1930's Moderne style, defined by smooth simplified exteriors combining rounded and flat surfaces with a minimum of decoration, in order to link the Coliseum visually to the neighboring Los Angeles Swim Stadium which had been built for the Olympics, also in the Moderne style.

The first improvement was the addition of six curved banks of floodlights in 1946, an innovation which allowed for night football games. A Moderne six-story elevator tower to the press box, reached through a special press entrance, was built in 1947, followed by a new three-level press box in 1948. This press box was honored in 1949 by the National Sports Writers Association as the "outstanding press box in the country." The USC football team continued to use the Coliseum as its home stadium, and in 1949 the Cleveland Rams relocated to Los Angeles, giving both the City and the Coliseum its first professional football team.

The same year, the present one-story Moderne addition, housing general offices and the Coliseum Commission boardroom, was built onto the walls of the south pylon addition of 1931, somewhat obscuring the 1930-31 design. A new rounded ticket booth was built southeast of the Peristyle entrance. In 1950, a 13,000 square foot underground dressing room complex was built adjacent to Tunnel 30, on the southwest side of the stadium. At this time, no doubt as a result of the construction of these state-of-the-art facilities for athletes, the 1922 Athletes Building on the south side was torn down.

Three additional rounded ticket booths were added to the perimeter of the Coliseum by 1951. A one-story office for event staff was added to the north pylon in 1953. In 1955, escalators were built, necessitating a change in the angle of stairs 4 and 20. The same year, additions such as concession booths, restrooms, and the souvenir shop were constructed around the perimeter of the Coliseum. The neon sign was added to the exterior of the Propylaeum. The Memorial Court of Honor, consisting of brass plaques honoring athletes, coaches, or contributors to the world of sports who have been affiliated with the Coliseum, was instituted in 1955, and now consists of 38 plaques on the Peristyle walls. Plaques honoring athletes who played in the Coliseum or events which occurred there are placed on the inside wall of the Peristyle, while plaques for coaches or other contributors are placed on the exterior wall.

In 1943, the University of California at Los Angeles (UCLA) Bruins football team became tenants of the Coliseum, playing there until 1982. In 1958, the Brooklyn Dodgers relocated to Los Angeles, and from that year until 1962 when they moved to their new stadium in Chavez Ravine, they played at the Coliseum, necessitating temporary changes to the field, which were reversible for football games. National League champions in 1959, the Dodgers played three World Series games against the Chicago White Sox in the Coliseum.

During the 1940s and 1950s, the Coliseum was also host to such varied activities as political rallies for Wendell Wilkie, Thomas Dewey, and Dwight Eisenhower, religious occasions including a pontifical mass, the annual Mary's hour, war rallies such as the "I am an American" Day, the Army and Navy War Show, the reception for Generals Patton and Doolittle, and the Victory celebration, the Shrine Convention, as well as midget automobile races, rodeos, circuses, and fireworks shows.

By the 1960s, water damage had stained the concrete walls of the Peristyle. In 1969, with the hope that the 1976 Olympics would be held in Los Angeles, the Peristyle was given a cosmetic facelift with the addition of marble veneer, and the ceiling of the Propylaeum was painted by Alhambra artist Heinz Rosien. The track was replaced in 1962. At some time between 1960 and 1962 an aluminum window was added in the third floor of the south pylon. Folding and removable grandstands, with a 3,000 seat capacity, were used at the east end of the Coliseum for the first time in 1964, to bring the spectators closer to the field. These grandstands reduced the seating capacity by blocking off the end zone wooden seats, and were used primarily for Rams games, and occasionally for USC games which were not sold out. They were last used in 1978. Many of the old wooden end zone seats were replaced with theater type seats over a ten-year period from 1964 to 1974, resulting in an overall reduction in seating capacity from 101,573 to 92,800. A computer scoreboard replaced the old electric board in 1971. More concession stands were built in 1973. The press box and elevator were remodeled in 1976.

During these years, two National Football League (NFL) Super Bowls were played at the Coliseum, Super Bowl I in 1967 in which the Green Bay Packers defeated the Kansas City Chiefs, and Super Bowl VII in 1973 when the Miami Dolphins beat the Washington Redskins. Professional soccer teams such as the Los Angeles Aztecs and the Cosmos played at the Coliseum. Additionally, such events as the Royal Lippizan Stallions, the Super Bowl of Motocross, and Evel Knievel's jumping exhibition were staged at the Coliseum. John F. Kennedy accepted the Democratic Party's Presidential nomination there in 1960, and Billy Graham held his "Crusade for Christ" there in 1963.

A number of changes were made for the 1984 Olympic Games. The scoreboard was replaced in 1983 by the present color video board, measuring 36 feet by 48 feet, the largest in the world, which was added to the top of the Peristyle, necessitating the placement of steel I-beams in the arches to support it. A black and white matrix board, 30 feet by 50 feet, was also added to the Peristyle, as was the current matrix clock board. A new track was installed with the front wall moved back to accommodate it, resulting in the removal of approximately 300 seats, bringing the Coliseum's total seating capacity to the current level of 92,500.

For the XXIIIrd Olympiad, all track and field events, the beginning and the end of the marathon, the medal awards, and the opening and closing ceremonies were held in the Coliseum. Eighteen Olympic records were set by such athletes as Valerie Brisco-Hooks, who received three gold medals, Evelyn Ashford, and Carl Lewis, who received four gold medals. The 1984 Olympic Games included such firsts as the introduction of seventeen new sports, thirteen of them for women, such as the marathon, 3,000 meter race, and 400 meter hurdles; and funding entirely through the private sector, through such methods as sponsorships, television rights, and ticket sales. The number of nations participating in the 1984 Games, 139, was also the largest ever.

Historical Designations

The Coliseum is designated as a National Historic Landmark, a State Historical Landmark, and is listed on the National Register of Historic Places (National Register) in Washington, D.C. The Coliseum is significant as the site of numerous historical sporting events, and for its "association with important personages" rather than for its architectural design. As noted above, numerous structural alterations and additions have been made to the historic fabric of the Coliseum over the years. The Coliseum has been the site for many events including two Olympic Games, held in 1932 and 1984, Major League Baseball including the 1959 World Series, numerous track meets, collegiate and professional football, including two Super Bowls, and political rallies, rock concerts and political gatherings. The Coliseum is located within Exposition Park.

All three of the above designations were undertaken in 1984 for the fiftieth anniversary of the Historic American Building Survey (HABS) and for the Olympic Games to be held in 1984, for the second time at the Coliseum.

In addition, Exposition Park was determined eligible for listing on the National Register in 1993 as an Historic District. To date it has not been a formally listed on the National Register. The Exposition Park Historic District includes all of Exposition Park and a number of buildings located within it are listed as contributing structures to the District. The Exposition Building, the Natural History Museum, the California State Armory, the Rose Garden, the Memorial Coliseum, the Los Angeles Swimming

Stadium and the Park Clubhouse were all determined to be contributing elements to the District. The California Science Center, the Los Angeles Memorial Sports Arena, the California Aerospace Museum and the California Afro-American Museum were identified as non-contributing elements of the District. The historic Exposition Building was effectively demolished in 1995 for the Science Center and the Swimming Stadium substantially altered.

National Historic Landmark (NHL)

The United States Congress charged the Department of the Interior with the responsibility for designating nationally significant historic sites, buildings, and objects and promoting their preservation in 1935. The National Historic Landmarks program was established to identify and protect places possessing exceptional value in illustrating the nation's heritage. Only 3% of properties listed in the National Register of Historic Places are designated as National Historic Landmarks. An NHL is the highest level of significance designated by the Secretary of the Interior for historic properties. Today, fewer than 2,500 historic places bear this national distinction. Below are a few facts associated with the NHL designation:

- National Historic Landmark designation recognizes properties that are important to the entire nation.
- NHLs are listed in the National Register of Historic Places.
- Owners of National Historic Landmarks are free to manage their property as they choose, provided no federal license, permit, or funding is involved.
- Federal agencies whose projects affect a NHL must give the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on the project and its effects on the property.
- Owners of National Historic Landmarks may be able to obtain federal historic preservation funding, when funds are available. Federal investment tax credits for rehabilitation and other provisions may apply.
- A bronze plaque bearing the name of the NHL and attesting to its national significance is presented to the owner upon request.

Los Angeles Memorial Coliseum National Historic Landmark Information

Los Angeles, California
County of Los Angeles.
3911 S. Figueroa Street
National Register Number: 84003866 Resource type: Structure.
Property type: Recreation & Culture - sports facility.

Congressional District: CA-32 Certified Local Government: NO
This NHL offers public access.
Current use/information: Sports facility.

Statement of Significance (as of designation - July 27, 1984):

One of the premier outdoor sports facilities in the world, this giant elliptical, reinforced concrete, cast-in-place structure was constructed in 1921-23 and later enlarged. It has served as the focal site for the 1932 and 1984 Olympic Games. The Xth Olympiad witnessed a number of innovations, including the Olympic Village, which was introduced at Los Angeles, and use of the victory podium.

The federal National Historic Landmark designation notes that the Coliseum is significant as a site of historical athletic and sports events and for its association with important personages. Architectural and engineering elements were mentioned for informational purposes only.

The Proposed Project continues the historic use of the Coliseum as a sports venue for future generations and enhances or maintains most of the historic elements that contribute to its architectural character.

National Register of Historic Places

The National Register is the nation's master inventory of known historic resources. The National Register is administered by the National Park Service (NPS) and includes listings of buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the national, state or local level. The National Register criteria and associated definitions are outlined in National Register Bulletin Number 15: How to Apply the National Register Criteria for Evaluation. The following is a summary of Bulletin 15:

Resources (structures, sites, buildings, districts, and objects) over 50 years of age can be listed on the National Register. However, properties under 50 years of age that are of exceptional importance or are contributors to a district can also be included on the National Register. The following list of definitions is relevant to any discussion of the National Register:

- A structure is a work made up of interdependent and interrelated parts in a definite pattern of organization. Generally constructed by humans, it is often an engineering object large in scale.
- A site is defined as the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself maintains historical or archaeological value regardless of the value of any existing structure.

- Buildings are defined as structures created to shelter human activity.

- A district is a geographically definable area -- urban or rural, small or large -- possessing a significant concentration, linkage, or continuity of sites, buildings, structures, and/or objects united by past events or aesthetically by plan or physical development. A district may also comprise individual elements separated geographically but linked by association or history.

- An object is a material thing of functional, aesthetic, cultural, historical, or scientific value that may be, by nature or design, moveable yet related to a specific setting or environment such as an historic vessel.

There are basically four criteria under which a structure, site, building, district, or object can be considered significant for listing on the National Register. These include resources that:

A) are associated with events that have made a significant contribution to the broad patterns of history (such as a Civil War battlefield or a Naval Ship building Center);

B) are associated with the lives of persons significant in our past (such as Thomas Jefferson's Monticello or the Susan B. Anthony birthplace);

C) embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction (such as Frank Lloyd Wright's Taliesin or the Midwestern Native American Indian Mounds) or;

D) have yielded or may likely yield information important in prehistory or history (such as prehistoric ruins in Arizona or the archaeological sites of the first European settlements in St. Augustine, Florida or at the Presidio of San Francisco).

A resource can be considered significant in American history, architecture, archaeology, engineering, and culture. When nominating a resource to the National Register, one must evaluate and clearly state the significance of that resource. A resource can be individually eligible for listing on the National Register for any of the above four reasons. A resource can also be listed as contributing to a group of resources that are listed on the National Register. In other words, the resource is part of a historic district as defined above.

Districts are comprised of resources that are identified as contributing and non-contributing. Some resources within the boundaries of the district may not meet the criteria for contributing to the historic character of the district; however, the resource is within the district boundaries.

Contributing resources add to the historic association, historic architectural qualities, or archaeological values for which the district is significant because the resource was present during the period of significance, relates to the documented significant contexts, and possesses integrity.

Non-contributing resources do not add to the historic associations, historic architectural qualities, or archaeological values for which the district is significant because the resource was not present during the period of significance, does not relate to the documented significant contexts, or does not possess integrity.

Resources that meet the above criteria and have been determined eligible for the National Register are protected under Section 106 of the National Historic Preservation Act when an undertaking utilizing federal involvement is proposed. The National Register affords no protection to resources where private funding is used to alter or change those resources.

California Register of Historical Resources

The California Register of Historical Resources (California Register) is a listing of State of California resources that are significant within the context of California's history. The California Register criteria are modeled after National Register criteria. However, the California Register focuses more closely on resources that have contributed to the development of California.

All resources listed in or formally determined eligible for the National Register are eligible for the California Register. In addition, properties designated under municipal or county ordinances are also eligible for listing in the California Register. The primary difference between the National Register and the California Register is that the latter allows a lower level of integrity. The property must be significant at the local, state, or national level under one or more of the following criteria:

1. It is associated with events or patterns of events that have made a significant contribution to the broad patterns of local or regional history and cultural heritage of California or the United States.

2. It is associated with the lives of persons important to the nation or to California's past.

3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values.

4. It has yielded, or has the potential to yield, information important to the prehistory or history of the state or the nation.

The California Register criteria are linked to CEQA. Under CEQA resources are considered historically significant "if the resource meets the criteria for listing on the California Register" (Title 14 California Code of Regulations 15064.5 (3)).

Resource Integrity

To be eligible for either the National or California Register, a resource must not only be historically or architecturally significant, it must also retain integrity or the ability to convey its significance. Integrity is grounded in an understanding of a property's physical features and how they relate to its significance within one or more contexts. Integrity involves seven aspects: location, design, setting, materials, workmanship, feeling and association. These aspects closely relate to the resource's significance. For example, if the property is significant for architecture, the setting and association may not be as important as workmanship and materials. In this case, the Coliseum has been listed for its association with events and people rather than for the architecture of the Coliseum. Some level of architectural integrity must remain for the facility to convey its ties to the events and people for which it is listed, but architecture is not the prime reason the facility is historically important.

Integrity, particularly in the aspects important to the area of significance, must be primarily intact for National or California Register eligibility. Resources that have lost a great deal of their integrity are generally not eligible for the National Register. However, the California Register regulations have specific language regarding integrity, which note the following:

It is possible that historical resources may not retain sufficient integrity to meet the criteria for listing in the National Register, but they may still be eligible for listing in the California Register. A resource that has lost its historic character or appearance may still have sufficient integrity for the California Register (California Code of Regulations Title 15, 11.5 (c)).

It is possible to have a resource "delisted" as an NHL or National Register property, but this is very rarely done and generally requires a complete loss of integrity, such as removing all of the character-defining features or demolition due to fire or other event.

Local Criteria

Because the Coliseum itself is located on state land, it is not eligible for review at the local level, the City of Los Angeles Cultural Heritage Commission. The County of Los Angeles does not have an independent designation program but relies on the National Register and State Landmark programs for designation.

Exposition Park, which includes the Coliseum and numerous surrounding structures, has been designated as a Cultural and Historical Site by the County of Los Angeles. The Commission cannot designate buildings owned by the State independently. However, they may be recognized as "significant" to the County.

The Armory, at the northwest corner of the Park, is being converted to a Los Angeles Unified School District (LAUSD) school. The Science Center recently underwent a $90 million renovation with historic preservation of the facade. The Los Angeles Swim Stadium underwent a $32 million renovation and addition, now the Exposition Park Intergenerational Community Center - EPICC. The historic facade was retained and restored and the modern addition is a visible and obvious improvement.

An historical or cultural monument is any site (including significant trees or other plant life located thereon), building or structure of particular historic or cultural significance to the City of Los Angeles, such as historic structures or sites in which the broad cultural, economic or social history of the nation, State or community is reflected or exemplified, or which are identified with historic personages or with important events in the main currents of national, State or local history or which embody the distinguishing characteristics of an architectural type specimen, inherently valuable for a study of a period style or method of construction, or a notable work of a master builder, designer, or architect whose individual genius influenced his or her age.

Effects of Local Designation

Section 5024.f requires that alterations to a State Historical Landmark owned by the State, be reviewed by the State Historic Preservation Officer (SHPO). Section 5024.5 (a) and (b) require the state agency having jurisdiction over the Landmark give a summary of any proposed changes to the SHPO for review and comment. Because the state only owns the land that the Coliseum sits on and not the Coliseum, section 5024.5 should not apply.

Properties designated at the local level are subject to review by the Cultural Heritage Commission. This review includes evaluation of alterations to designated structures to ensure the alterations are appropriate to the historic character of the building. This type of review occurs only for individually designated properties based on the following factors:

- Eligibility to enter into the City of Los Angeles Property Contract Program (the Mills Act - See Appendix Seven);
- Local Building Official must grant code alternatives under the State Historical Building Code;
- Limited Protection: Environmental review may be required under CEQA if the property faces potential impacts as defined in the CEQA Guidelines.
- Locally designated resources or qualifying surveys can be listed in the California Register of Historical Resources.
- Designated resources proposed for demolition will be reviewed by the Commission. The Commission can object for 180 days with the option for extending another 180 days with Commission and Council approval, to allow alternative preservation solutions to be developed.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

Pursuant to Section 15064.5 of the CEQA Guidelines, an historical resource is presumed significant if it is listed on the CRHR or has been determined to be eligible for listing by the SHRC. An historical resource may also be considered significant if the lead agency determines, based on substantial evidence, that the resource meets the criteria for inclusion in the CRHR. CEQA also contains the following additional guidelines for defining an historical resource:

- California properties formally determined eligible for, or listed in the NRHP (Section 5024.1.d.1);
- those resources included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code, or identified as significant in an historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code;
- those resources that a lead agency determines to be historically significant (generally, if it meets criteria for listing on the CRHC), provided the determination is supported by substantial evidence; or
- those resources a local agency believes are historical for more broadly defined reasons than identified in the preceding criteria.

Section 15065 of the CEQA Guidelines mandates a finding of significance if a project would eliminate important examples of major periods of California history or prehistory. In addition, pursuant to Section 15064.5 of the CEQA Guidelines, a project could have a significant effect on the environment if it "may cause a substantial adverse change in the significance of an historical resource." A "substantial adverse change" means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource is impaired." Material impairment means altering "in an adverse manner those characteristics of an historical resource that convey its historical significance and its eligibility for inclusion in the California Register of Historical Resources."

Impacts to historical resources not determined to be significant according to any of the significance criteria described above are not considered significant for the purposes of CEQA. Generally, under CEQA, a project that follows The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings or The Secretary of Interior's Standards for Rehabilitation and Guidelines for Rehabilitating

Historic Structures (The Standards) is considered to have mitigated impacts to an historical resource to a less-than-significant level (CEQA Guidelines 15064.5).[1] Section 15126.4 (b)(2) of the CEQA Guidelines notes that in some circumstances, documentation of an historical resource may not mitigate the effects to a less than significant level.

Project Impacts

The Proposed Project is only the latest in an ongoing series of alterations and expansions. Completed in 1923, the Coliseum had wood seats on three tiers of risers, the first being within the excavated bowl and the other two above grade on wood structural supports. Almost immediately after completion, an additional level of wood seats was added. In 1931 the Coliseum was greatly altered by adding another tier of seats with all the seating above the bowl now supported by concrete construction. There were now 25 rows of additional seating totaling 79 rows. The last four rows were cantilevered above the support structure and a series of concrete bracket pilasters and panels supported them, giving the Coliseum its unique form that is familiar today.

The Proposed Project reduces the number of seats in the Coliseum from 92,500 to 78,000 while upgrading the remaining seats to current comfort requirements.

Frequent alterations to the Coliseum have continued to the present day with major changes occurring for the 1932 and 1984 Olympics as well as numerous modifications before and after these events.

The Proposed Project is one more alteration and expansion that will allow the Coliseum to continue to be economically viable and continue on into the future.

In addition, most of the proposed alterations preserve the historic character-defining features of the Coliseum. Wherever possible, new construction has been added to cover over historic features, such as the seating, rather than remove it. Much of the new construction could also be removed at some time in the future, leaving these features again exposed and intact.

Great effort has been made to respect and enhance the historic features of the Coliseum while still meeting functional requirements for the 21st century. Photographs depicting the structural changes to the Coliseum since its original construction are shown in Figures V.C-2 through V.C-5.

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[1] *"Rehabilitation" is defined in the Standards as "the process of returning a property to a state of utility, through the repair or alteration, which makes possible an efficient contemporary use while preserving those portions or features of the property which are significant to its historic, architectural or cultural values."*

Proposed Project

The Proposed Project retains and enhances the character-defining features of the Coliseum. A few elements, described below, will be covered over by new construction; and an even smaller number of features, primarily concrete seating at the upper levels, will be removed.

Treatment of Historic Features

The Peristyle - Retained and enhanced as the major focus of the stadium. Adjacent nearby seating will also be preserved. The large existing, non-historic electronic scoreboards and video boards that sit on top of the Peristyle will be removed, allowing the Peristyle to be seen in its historic form for the first time in many years. The offices and ticket areas adjacent to the Peristyle will also be retained.

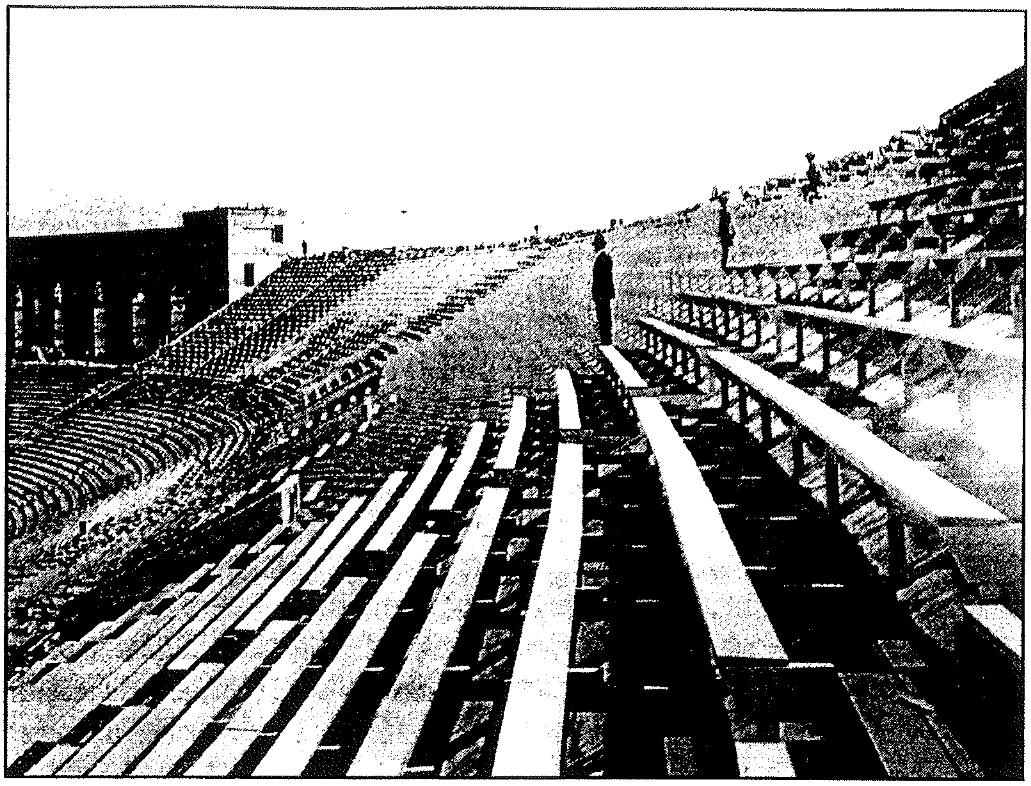
Exterior Coliseum Form and Walls - The exterior walls and cantilevered seating at the rim of the Coliseum will be retained, restored, and highlighted. New seating that extends above the historic form will curve in at the east and west ends, away from the exterior Coliseum wall, to enhance and differentiate the new seating from the historic form below. Existing stairs and tunnels on the exterior walls will be retained and used wherever possible. It should be noted that the existing stairs do not meet code requirements. They will be retained to keep the historic fabric, but it is possible they will no longer be used.

Bowl Configuration - The top rows of the bowl will be retained in a continuous band that is connected to the exterior wall. At the west end, a large section of the existing bowl, extending down to the main concourse, will be retained and remain visible. At the east end, portions of the existing bowl connected with the Peristyle will be retained and will remain visible.

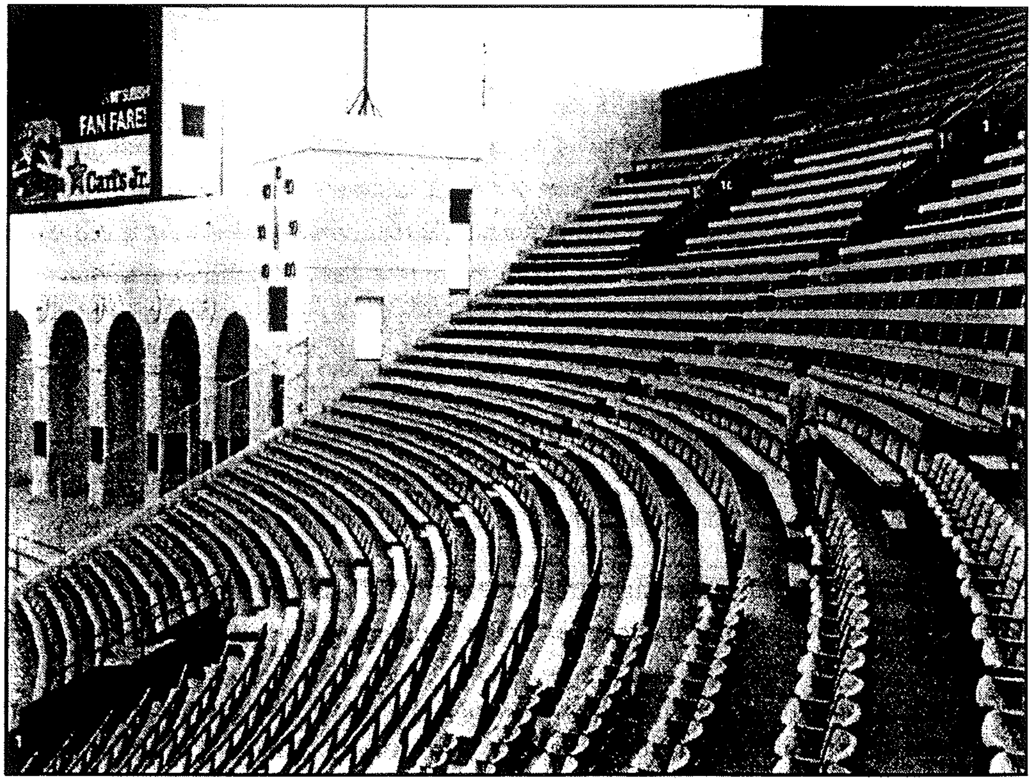
Field Level - The field level was lowered 11 feet in 1994 from its historic level. The existing field level will be maintained. Also, due to the current configuration of the field, track and field events are now not possible. The Proposed Project will provide the Coliseum the opportunity to host track and field events in the future, though it will require some modifications to the seating configuration.

Stairs - Many of the existing exterior stairs will be retained. The two existing exterior escalators will be removed and the area where the escalators are will be restored.

Tunnels - All except two of the historic vomitories that connect the interior of the Coliseum with the surrounding circulation areas will be retained and reused. Two of the tunnels will be widened for emergency exiting.



View 4: View looking toward the Peristyle in 1923. The original wooden bleachers are seen in this photograph.

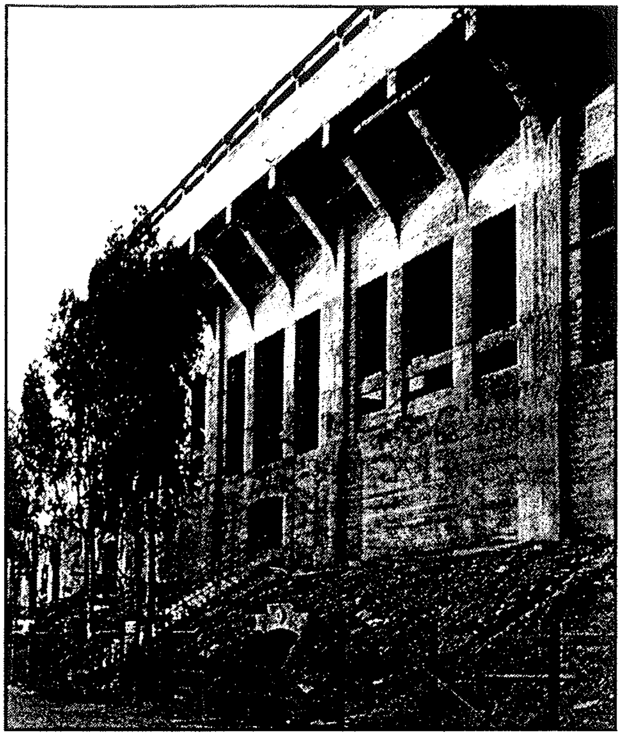


View 5: View looking toward the Peristyle today. The wooden bleachers have been replaced with "stadium" seating.

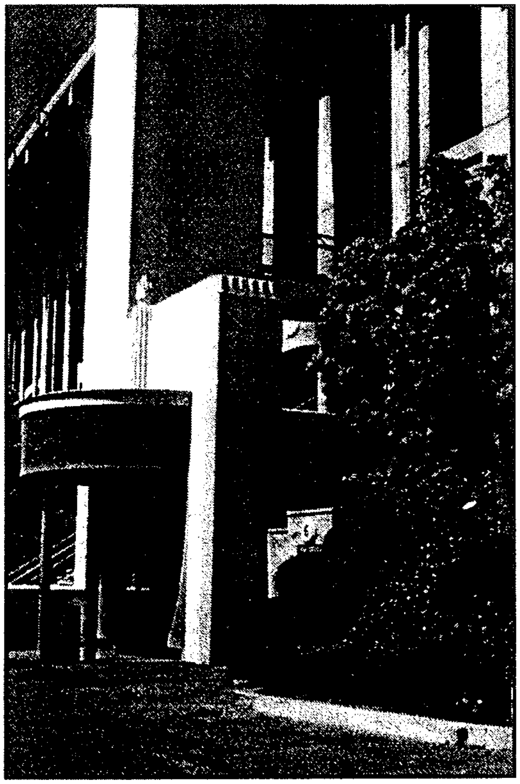
Source: *Images of America Los Angeles Memorial Coliseum*, Chris Epting, 2002.

CHRISTOPHER A. JOSEPH & ASSOCIATES
Environmental Planning and Research

Figure V.C-2
Historic and Present Day
Views of the Project Site, Views 4 and 5



View 6: View looking toward Gate Six in 1923.



View 7: View looking toward Gate Six today. The Press Box elevator and tower were constructed in 1947. Heavy Landscaping has also been done since 1923.

Source: *Images of America Los Angeles Memorial Coliseum*, Chris Epting, 2002.

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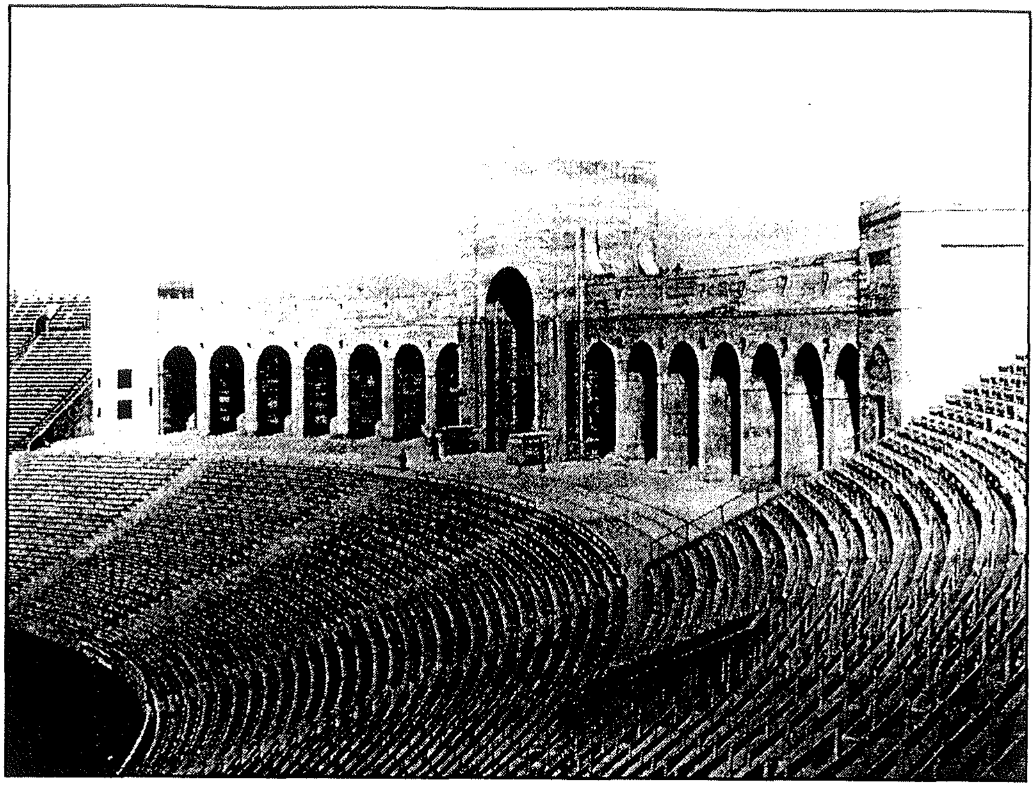
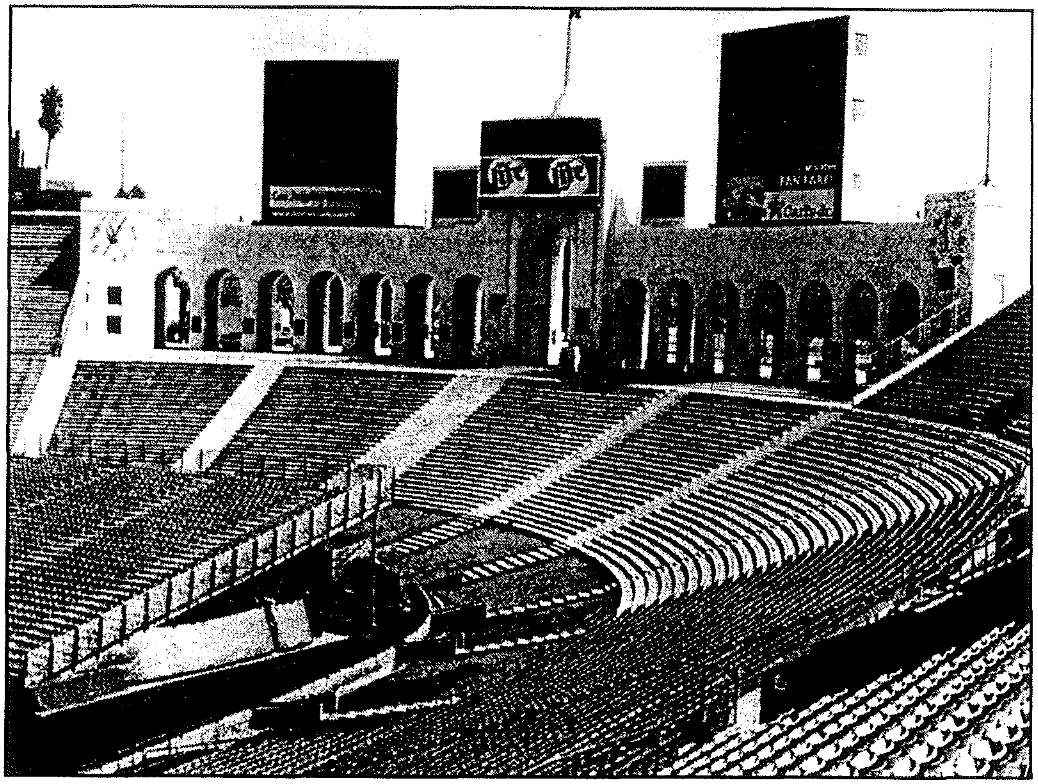
Figure V.C-3
Historic and Present Day
Views of the Project Site, Views 6 and 7



View 8: View looking toward the Peristyle Arches in 1923.



View 9: View looking toward the Peristyle Arches today.

Source: *Images of America Los Angeles Memorial Coliseum*, Chris Epting, 2002.

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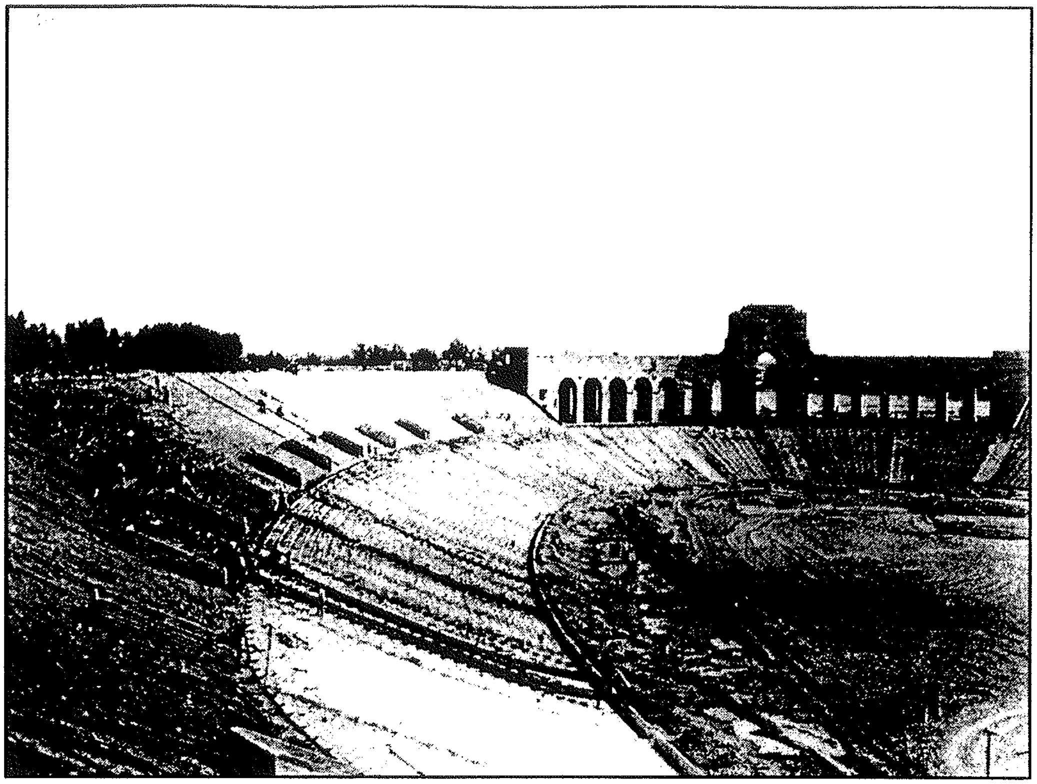
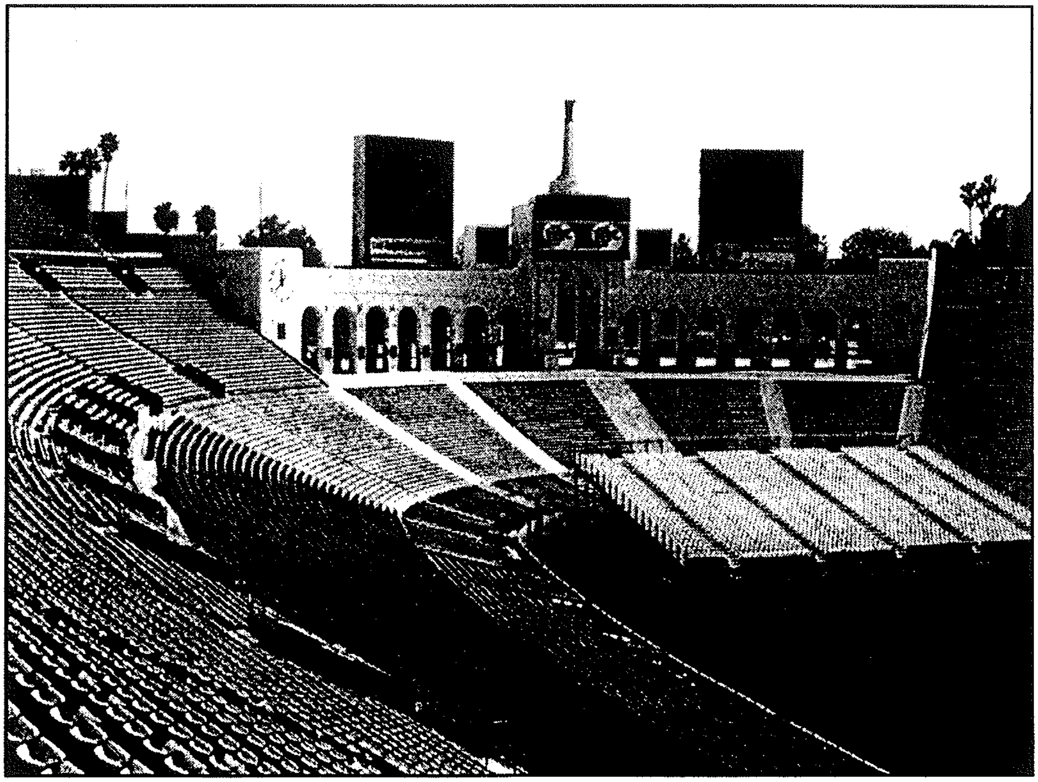
Figure V.C-4
Historic and Present Day
Views of the Project Site, Views 8 and 9



View 10: View looking toward the Peristyle from the north side of the Coliseum in 1923.



View 11: View looking toward the Peristyle from the north side of the Coliseum today.

Source: *Images of America Los Angeles Memorial Coliseum*, Chris Epting, 2002.

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Figure V.C-5
Historic and Present Day
Views of the Project Site, Views 10 and 11

Lower Seating - A new Lower Bowl will be placed over the existing concrete risers, preserving the stepped seating form in place while meeting current codes and providing improved comfort and sight lines. The design of the new seating will integrate the form geometry of the bowl and sideline seating so that the old and new will be integral.

Upper Seating - Between the Main Concourse, or Plaza Level, and the Club Level the historic concrete levels will be removed to accommodate the new Concourse and Suites. The top rows of treads and risers will be retained in a continuous band attached to the existing exterior wall. The rim of seating stops at the Peristyle.

Concourse Level and Floor Elevations - The existing Concourse Level will be retained and expanded as the new Club Level. The primary historic columns and beams that are part of the 1931 addition will directly relate to new structural elements that are part of the Proposed Project.

Lighting - The four existing 1932 standing lamps flanking the arched entrances and the 1932 double light brackets along the upper rim of the Coliseum would be rehabilitated and reused. Existing modern floodlight towers at the north and south rims of the Coliseum will be removed.

Landscaping - Historic plantings surrounding the Coliseum will be retained and enhanced.

Effect of Change in Use

The historic use of the Coliseum will continue and will be enhanced with the Proposed Project. A few specific uses such as holding track events at the Coliseum will not be possible without additional temporary construction, which has already been planned. The ability to hold NFL games at the Coliseum will open the facility up to much greater use and will provide the economic means to allow the facility to be self-sufficient long into the future. Thus, there will be no adverse impact due to a change in use.

Effect on Historic Designations

Because the Coliseum has been designated as an NHL, is listed on National Register of Historic Places, and is a California Historic Landmark based on the events and people associated with the facility, physical alteration to the Coliseum would need to be so severe that the original intent and association with the events and people were completely eradicated. Total demolition or severe changes to the form of the Coliseum would be required to remove these historic designations. The Proposed Project will update the Coliseum and make it economically viable while keeping its use as a sports facility consistent, thus there will be no impact on its historic designations.

Effect on Historic Fabric

As noted above, under CEQA, the level of compliance with the Standards is used to determine the level of environmental impact on historic resources. The following paragraphs first describe each of the ten standards and then describe the level of compliance of the Proposed Project using that standard.

STANDARD 1 "Every reasonable effort shall be made to provide a compatible use for a property which requires minimal alteration of the building, structure, or site and its environment, or to use a property for its originally intended purpose."

The Proposed Project retains its historic use as a sports facility, and as noted below, alterations to accommodate this use have been reduced as much as possible and in many cases are reversible.

Changes made to maintain its use as an economically viable facility include adding suites, club seats, rest rooms, concessions, a shade canopy, elevators and escalators, locker rooms, maintenance and operation areas, and making the stadium more intimate by placing the seats closer to the playing field.

Thus, Standard 1 will be met while bringing the facility up to current functional requirements for maintaining its continued historic use.

STANDARD 2 "The distinguishing original qualities or character of a building, structure, or site and its environment shall not be destroyed. The removal or alteration of any historic material or distinctive architectural features should be avoided when possible."

It is important to note that "Rehabilitation," as defined in the Standards, is "the process of returning a property to a state of utility, through the repair or alteration, which makes possible an efficient contemporary use while preserving those portions or features of the property which are significant to its historic, architectural or cultural values." In this context the alterations and new construction fit in with that definition because they will remove very few of the important character-defining features except in a few local instances. Generally, those aspects of the Coliseum will remain in place and in a few localized areas they will be covered over or removed as noted below.

The Coliseum has three primary character-defining features and many details that contribute to its significance. These include: the overall bowl shape that is perceived from inside the Coliseum; the exterior form of the Bowl with the concrete pilasters, panels and stepped seats at the rim; and the Peristyle which is the major architectural feature of the Coliseum.

The overall bowl form of the Coliseum as seen from the inside of the Coliseum will be retained and clearly evident. The original concrete bleachers will be covered over but the new seating will enhance and reinforce the bowl form. The upper seating areas will be removed and covered over but the new proposed seating will maintain the form and sense of a bowl when inside the facility.

The exterior form of the Coliseum with the walls, structural elements, stairways and entry tunnels, pilasters and cantilevered seating are all retained and enhanced. New seating will be set above and structurally free standing from the historic rim of the Coliseum. Exterior escalators, out buildings and the press box will be removed. New landscaping will be added to enhance and set-off the building.

The Peristyle is architecturally the most significant element of the Coliseum and will be restored and enhanced by the removal of the large electronic scoreboard and video board boxes now currently mounted on it. The concrete and other elements of the Peristyle will be restored.

The entire eastern end of the Plaza level will be enhanced and the Peristyle seen as the focus again when entering the facility. The proposed circulation system will provide new access to the many monuments and markers on the Peristyle and Pylons.

This Standard is met regarding the Exterior form of the building and treatment of the Peristyle. The exterior form of the Coliseum will be restored and be completely visible upon completion of the Proposed Project and the Peristyle will be restored and enhanced with inappropriate elements removed from it. Thus, of the three character-defining features, only the bowl shape and the seating will be altered to some extent. The bowl has already been altered over the years and the field level lowered. The one area where there is removal of character-defining features is the removal of historic concrete and wood seating at the Club level.

STANDARD 3 "All buildings, structures, and sites shall be recognized as products of their own time. Alterations that have no historical basis and which seek to create an earlier appearance shall be discouraged."

Standard 3 does not apply to the Proposed Project as no effort is being made to replicate an earlier appearance. All restoration work is being done using original historic drawings, photographs, and physical evidence found at the Coliseum.

None of the proposed changes will give a false sense of history or seem to create an earlier appearance. New construction is clearly not historic in appearance and has carefully been designed to blend with the historic character-defining features of the Coliseum.

***STANDARD 4** "Changes which may have taken place in the course of time are evidence of the history and development of a building, structure, or site and its environment. These changes may have acquired significance in their own right, and this significance shall be recognized and respected."*

The Coliseum has continually been altered since its initial construction. Important design elements were added in the 1930s, '40s and '90s that are being retained and enhanced. These include the Art Moderne additions such as the ticket booths and the Coliseum Commission office and other details that will be retained. In 1993 the locker rooms were renovated. Substantial seismic retrofit alterations occurred in 1994 after the Northridge Earthquake. The changes included new pilasters added to the interior of the exterior walls and extensive beams and connections from the exterior to the concrete seating areas. The interior concrete was excavated, crushed on site and reused to recast new seismically retrofitted seating sections. The seismic retrofit included over $100 million in improvements.

The changes to the Coliseum that have gained importance over time are being respected and enhanced. As noted above, only some seating at the Club level will be removed as part of the proposed alterations. Therefore, this standard will be met.

STANDARD 5 *"Distinctive stylistic features or examples of skilled craftsmanship which characterize a building, structure, or site shall be treated with sensitivity."*

Restoration of the Peristyle, the seating at the rim of the bowl and the exterior wall elements all contribute to compliance with this standard. Removal of upper level seating detracts from meeting Standard 5. The Proposed Project will therefore be substantially consistent with this Standard.

STANDARD 6 *"Deteriorated architectural features shall be repaired rather than replaced, wherever possible. In the event replacement is necessary, the new material should match the material being replaced in composition, design, color, texture, and other visual qualities. Repair or replacement of missing architectural features should be based on accurate duplication of features, substantiated by historic, physical, or pictorial evidence rather than on conjectural designs or the availability of different architectural elements from other buildings or structures."*

The Proposed Project will retain architectural features and wherever possible restore or maintain them. In some instances recreations of elements may be necessary due to deterioration or damage. This may include some elements of the rim seating and the exterior wall elements.

This Standard is being met as deteriorated features of the Coliseum will be repaired when possible and only replaced if repair is not possible. This includes restoration of the Peristyle, the concrete elements of the exterior, the pilasters and the rim and concrete beams and columns.

STANDARD 7 *"The surface cleaning of structures shall be undertaken with the gentlest means possible. Sandblasting and other cleaning materials that will damage the historic building materials shall not be undertaken."*

Methods and the extent of cleaning have not been determined at this time. All cleaning and repairs will undertaken to meet Standard 7.

STANDARD 8 *"Every reasonable effort shall be made to protect and preserve archeological resources affected by, or adjacent to any project."*

No archaeological resources have been identified on the site therefore Standard 8 does not apply to the Proposed Project.

STANDARD 9 "Contemporary design for alterations and additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant historical, architectural or cultural material, and such design is compatible with the size, scale, color, material, and character of the property, neighborhood or environment."

The new roof canopies, new seating areas and structural supports, suites and other new elements that are part of the Proposed Project will be clearly different, yet compatible with, the historic character-defining features.

Great care has been used so that elements added to the Coliseum will be compatible with the existing historic features while they are clearly modern. The new stadium seating added above the rim of the Coliseum is supported with new angled columns that are clearly modern.

In addition, the proposed canopies are not supported by numerous columns that interfere with sight lines and would affect historic elements but are cantilevered and supported by a few braces that are separate from the historic stadium. Modern stadiums have many freestanding columns or large superstructures to provide for both lighting and speakers. As a result they frequently overwhelm the stadium below them. This has been avoided with the Proposed Project.

The new Club and Suites Levels will also be designed to be differentiated from the historic elements below them. Therefore, the Proposed Project would be substantially consistent with this Standard.

STANDARD 10 "Whenever possible, new additions or alterations to structures shall be done in such a manner that if such additions or alterations were to be removed in the future, the essential form and integrity of the structure would be unimpaired."

Many new elements of the Proposed Project could be removed at some time in the future if that were desired. These include the roof canopy, the new lower seating areas and the upper seating sections above the new Upper Concourse.

If removed, the historic form of the bowl would continue to be seen from inside the Coliseum, the exterior form of the bowl would also be intact with the cantilevered rim seating in place. Finally, the Peristyle would remain in place in its restored setting. Therefore, the Proposed Project would be substantially consistent with this Standard.

CUMULATIVE IMPACTS

To analyze potential cumulative historical impacts, the list of related projects within the area, presented in Section IV.C, Cumulative Related Projects, were reviewed against a list of designated State Historic

Monuments, Los Angeles Historic-Cultural Monuments, and National Register of Historic Places properties. As stated previously, Exposition Park was determined eligible for listing on the National Register in 1993 as a Historic District. To date it has not been a formally listed on the National Register. The Exposition Park Historic District includes all of Exposition Park and a number of buildings located within it are listed as contributing structures to the District. The Exposition Building, the Natural History Museum, the California State Armory, the Rose Garden, the Memorial Coliseum, the Los Angeles Swimming Stadium and the Park Clubhouse were all determined to be contributing elements to the District. The California Science Center, the Los Angeles Memorial Sports Arena, the California Aerospace Museum and the California African American Museum were identified as non-contributing elements of the District. The historic Exposition Building was effectively demolished in 1995 for the Science Center and the Swimming Stadium has been substantially altered. Whether or not these changes would jeopardize the designation status of the Exposition Park Historic District in the judgment of SHPO cannot be determined prior to their evaluation.

MITIGATION MEASURES

The following mitigation measures are recommended to reduce the Proposed Project's impact upon historic resources. Mitigation measures shall be included in all contracts between the applicant and Project contractors to assure compliance with the following:

1. Recordation. Demolition of any historic fabric shall be documented in a report consistent with Historic American Buildings Survey (HABS) standards. The report shall document the significance and physical condition of the historic resources proposed for demolition, both historic and current, photographs, written data, and text. The documentation shall include:

    a. A brief written historic and descriptive report shall be completed in narrative format, including an architectural data form.

    b. A site plan on 8" x 11" paper showing the location of the buildings should be included. This site plan shall include a photo-key.

    c. A sketch floor plan on 8" x 11" paper shall accompany each architectural data form.

    d. Large format (4" x 5" or larger negative size) photographs in accordance with HABS guidelines. Views shall include several contextual views, all exterior elevations, detailed views of significant exterior architectural features, and interior views of significant historical architectural features or spaces.

    e. Field photographs (35mm) based on HABS guidelines. Views as detailed in large format photographs.

   f. The report shall include copies or prints of any available original plans and historic photographs.

   g. Archivally stable reproductions of any available significant historic construction drawings and photographs.

   h. Archival copies of the documentation shall be submitted to the Los Angeles Memorial Coliseum Commission.

2. In accordance with Standard 7 of the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings*, the surface cleaning of structures shall be undertaken with the gentlest means possible. Sandblasting and other cleaning materials that will damage the historic building materials shall not be undertaken.

3. The Proposed Project shall be constructed in substantial compliance with the Conceptual Historic Fabric Retention Plan, as depicted in Figure III-3 of this EIR.

LEVEL OF IMPACT AFTER MITIGATION

A concerted effort has been made to respect the history and importance of the Coliseum and recognize the many changes that have occurred to the facility during the course of its 80-year history. The conceptual design of the Proposed Project has gone through a number of revisions in response to many comments received during the design process and reflects this in the current form. It has not been possible to retain all elements of the Coliseum in the process of bringing the stadium up to today's requirements for maintaining its historic use as a venue for sporting events, but the few that have been sacrificed have been done so reluctantly.

The Proposed Project meets all of the Standards except for the removal of the seating at some locations. The removal of some of the existing seating, considered to be part of the historic fabric of the Coliseum, is a significant impact on the environment and cannot be feasibly mitigated. Much of the seating, as well as the form of the bowl, will remain and be clearly visible around the entire Coliseum for the interior. The exterior of the Coliseum will be returned to its former appearance and the Peristyle will be restored and enhanced with the removal of the large electronic scoreboards.

It should also be noted that the Coliseum is listed as a National Historic Landmark because of the events that have occurred there and that the stadium itself has been a backdrop to these events. Its historic use is largely why it has been designated a National and State landmark, and this rehabilitation will guarantee that historic use can continue into the future by making the Coliseum an economically viable facility for sporting events.

As a result of the Proposed Project, there is no specific mitigation for the loss of historic materials, primarily the removal of portions of the seating. Other alterations to the Coliseum either improve the character-defining features or could be reversed in the future. Therefore, an unavoidable significant adverse impact would result.

V. ENVIRONMENTAL IMPACT ANALYSIS
D. GEOLOGY/SEISMIC HAZARDS

This section provides an analysis of impacts related to seismicity hazards such as fault rupture, ground shaking, landsliding, and liquefaction. The analysis, in part, is based on readily available geotechnical and seismic information and the findings and recommendations presented in prior geotechnical investigations including a report prepared for the renovation of the Los Angeles Memorial Coliseum by Law/Crandall, Inc., (December, 1991). Smith Emery Company prepared a report of Compacted Fill for the Coliseum, dated July 2, 1993, documenting earthwork activities during the preparation of the site for future renovation. Following this report, the Coliseum suffered extensive damage during the 1994 Northridge earthquake. Law/Crandall subsequently prepared additional geotechnical and structural analysis as contained in the Report of Foundation Investigation for the Los Angeles Memorial Coliseum Repair, dated April 1, 1994 and the Draft Report of Pile Load Testing for the Los Angeles Memorial Coliseum, dated August 18, 1994. These technical reports are incorporated into the EIR by reference and are available on file at the Los Angeles Memorial Coliseum Commission offices at 3939 S. Figueroa Street, Los Angeles California.

ENVIRONMENTAL SETTING

Grading and Excavation

The Project Site is located in the north central portion of the Central Block of the Los Angeles Basin, and is currently developed with the Los Angeles Memorial Coliseum and its associated structures. The Los Angeles Basin is an extensive northwest-trending structural downwarped trough filled to capacity with Cretaceous through Pleistocene age marine and non-marine sedimentary bedrock formations and capped with late Pleistocene and Holocene age alluvial deposits. Regional subsidence in the basin reaches over 30,000 feet of depth and, in the immediate site area, the sediments are approximately 10,000 feet thick. Basement rock beneath the basin floor consists of Mesozoic age intrusive granitic rock types. Structural subsidence of the basin has been continuous throughout most of the Tertiary period, though relatively short periods of uplift are evident. Regional uplift continues to occur to the present time, with the most recent inland seas regressing oceanward approximately 120,000 years ago.

The floor of the Los Angeles Basin is generally flat and represents a vast alluvial outwash plain. Prominent mountain ranges and a series of hills bound the basin to the north, south and east, with the coastline of the Pacific Ocean forming the western boundary. As the basin subsided, the adjacent uplands were elevated by both faulting and folding processes that, in some cases, continue today. As the uplands were elevated, erosion slowly degraded them and streams transported the debris to the basin floor where they have remained as alluvial deposits.

The rugged, east-west trending Santa Monica Mountains lie roughly 10 miles northwest of the Project Site. The Elysian Park and Repetto Hills, which are of relatively low relief, lie approximately 2.5 miles northeast of the site. Located approximately 3.0 miles to the west are a series of discontinuous northwest-trending low hills associated with the Newport-Inglewood Structural Zone. The Baldwin Hills are located approximately 3.5 miles west of the Project Site. The coastline is located 9.9 miles to the southwest of the site at its closest approach.

Though the area around the Coliseum has been completely urbanized, the main drainage systems remain near their natural prehistoric course locations. The Los Angeles River is the closest main drainage to the site and is located approximately 3.5 miles to the east. The river flows southward to the Pacific Ocean in the vicinity of the Los Angeles Harbor and drains all of the San Fernando Valley and a major portion of the Los Angeles Basin inclusive of the area immediately surrounding the Project Site. Surface drainage in the vicinity of the site is controlled by street drainage and storm drains that flow to the improved Los Angeles River channel. The Coliseum was constructed on an alluvial surface that lies in the middle reaches of the Los Angeles River fan. Prior to urbanization, a very broad alluvial fan was slowly being deposited across the Los Angeles Basin floor by the meandering Los Angeles River. The fan building process has all but stopped due to the construction of paved surfaces and structures and the improvements to the drainages themselves. Local surfaces are not prone to erosion or deposition in the site area due to the intervening presence of these alterations.

The Coliseum was constructed on a relatively flat surface at an elevation of approximately 175 feet above sea level. The natural surface gradient slopes down to the southwest at roughly 25 feet per mile. The interior floor of the Coliseum (the field level) was excavated approximately 30 feet below the natural ground surface. In 1994 the field level was lowered an additional 11 feet to allow for additional seating areas within the bowl. The field level is presently at an average elevation of 135 feet above sea level. The alluvium on which the Coliseum was constructed is of Pleistocene and Holocene age and has been accumulating for at least one million years. These deposits extend downward to a depth of approximately 3,000 feet below the surface. Based on data from water wells, the alluvium consists of unconsolidated beds of silt, sand, gravel, and minor clay that are mixed and discontinuous. This alluvial sequence forms the groundwater aquifers in the Los Angeles Basin.

Underlying the alluvium is a thick section of Tertiary age bedrock that was deposited in a mostly marine environment. This sequence consists of consolidated strata inclusive of sandstone, siltstone, and shale. These bedrock units have been assigned to the Pico, Repetto, Puente, and Topanga Formations. None of these formations are exposed near the site, although they do crop out in the upland areas surrounding the basin. Petroleum products are often found in these formations but are generally associated with structural folds and faults. Numerous oil fields exist in the Los Angeles Basin, but none lie in proximity to the project location. The closest oil field to the site is the Las Cienegas Oil Field, located approximately ½ mile north of the Project Site, north of Jefferson Boulevard.[1]

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[1] *City of Los Angels Environmental and Public Facilities Maps - Oil Field & Oil Drilling Areas in the City of Los Angeles, Los Angeles City Planning Department, September 1996.*

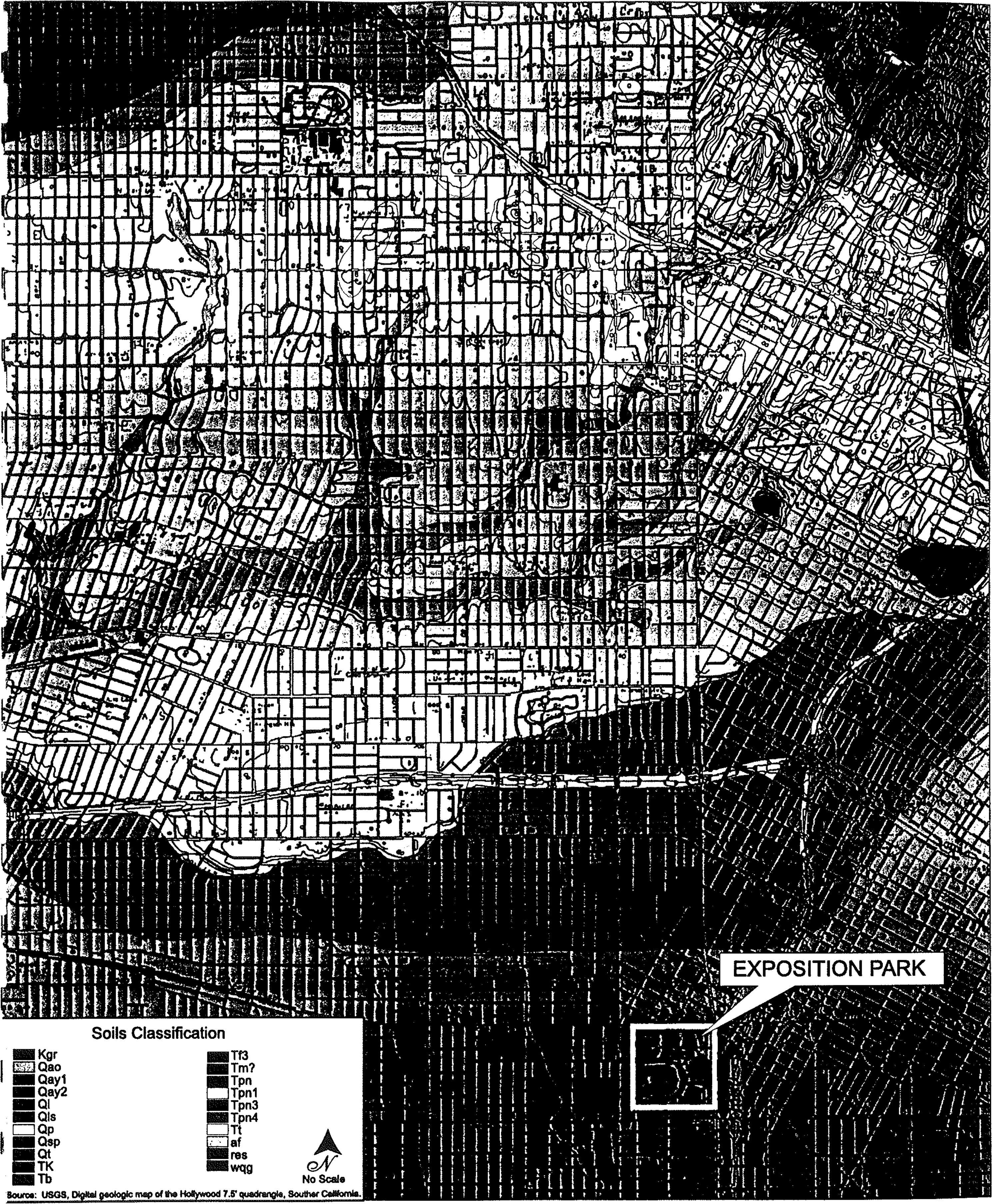
The Tertiary age bedrock sequence has an approximate thickness of 17,000 feet in the site area based on deep oil well data. Collectively, the alluvium and bedrock deposits are approximately 20,000 feet thick beneath the site and are underlain by a granitic basement of Mesozoic age. Figure V.D-1 shows the distribution of alluvial, bedrock, and basement deposits in the greater Los Angeles Basin area relative to the site.

Since bedrock is not exposed near the site, little detailed information is available about the structure of the bedrock or basement materials. However, indirect information from oil and water well drilling and geophysical studies do provide a reasonable indication of the composition of the structure. The general and regional structure of the Los Angeles Basin consists of a northwest- to southeast-trending syncline or trough with the site lying on the northeast side of the syncline axis. The bedrock to either side of the syncline dips toward the center or axis of the structure. Bedrock beneath the site is therefore dipping toward the southwest at presumably shallow to moderately steep angles. The alluvium is also bedded but much younger and is known to dip toward the southwest at very shallow angles, corresponding to the ground surface gradient.

Groundwater

The Los Angeles Basin contains a well-utilized groundwater aquifer system. Many hundreds of water wells have been drilled in the basin to supply groundwater. The quality of this groundwater is tested by numerous agencies. Generally, groundwater is found in the alluvial sequence and can be unconfined, confined or perched. In the site area, the groundwater is considered unconfined, meaning that there are no natural deposits that prevent the vertical flow of groundwater. The water table beneath the Coliseum lies at an approximate depth of 225 feet. This water surface fluctuates seasonally responding to the infiltration of water and pumpage. Extended upward and downward trends also occur during droughts or peak storm periods. The highest stand of the groundwater table was recorded in 1932 with a depth of 55 feet below the ground surface in the Coliseum area.

Perched groundwater is also known to exist in the area, and is a common occurrence throughout the basin and is not considered an important aquifer source. The groundwater in the near-surface Lakewood Formation is generally of poor quality. Groundwater in the underlying San Pedro Formation is extensively utilized for good quality water supply throughout most of the basin. Although water wells are located in the vicinity of the Coliseum, imported water supplies, rather than groundwater, are used for domestic use and irrigation. None of the existing structures on the Project Site are currently in contact with the water table. Sanitary effluent from the Project Site is currently disposed of off-site through the City sewer system for treatment and disposal into the ocean (for more detail, see Section V.H.3 of this EIR, Sanitary Sewers).



Source: USGS, Digital geologic map of the Hollywood 7.5' quadrangle, Souther California.

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Figure V.D-1
Geologic Soils Map

Subsidence

Several areas in the greater Los Angeles Basin have experienced subsidence in recent history, due largely to the withdrawal of oil resources and, to a much lesser degree, the withdrawal of groundwater. Known areas where subsidence has occurred lie near existing oil fields and/or water well fields, all at a considerable distance from the Project Site. The nearest such area to the site is the Wilmington Oil Field, located approximately 13 miles directly south of the Project Site, where up to 28 feet of subsidence occurred during the 1960's.

Flooding

Flooding in the Los Angeles Basin is rare, but does occur during periods of major storm runoff. The Los Angeles County Flood Control District has developed an extensive storm sewer system, which has been purged several times during the past 100 years and which has generally functioned as designed. The Coliseum site is located in FEMA Community Panels No. 060137-0080D, effective February 4, 1987, and No. 060137-0081C dated December 2, 1980. These areas are designated as Zone C, areas of minimal flood hazard, where flood insurance is not mandatory. Although the Coliseum field itself is a depressed area, it has been provided with sufficient means to drain accumulated surface water. Furthermore, based on a review of the City's Environmental and Public Facilities Maps, the Coliseum is not located in a 100-year or 500-year flood plain area.[2]

Geotechnical and Foundation Investigations

In December 1991, Law/Crandall Inc. prepared a geotechnical investigation for the renovation plans at the Coliseum. The 1991 investigation was prepared for a specific design plan as proposed in 1991. That design was never fully implemented. The present design plan for the Coliseum is based substantially on the same design concept as previously envisioned, though the plans are being refined and modified by the project Architect. It should be noted that as the architectural design plans are modified, a review and update of the prior geotechnical investigations should be evaluated for conformity and feasibility.

Smith Emery Company prepared a report of Compacted Fill for the Coliseum, dated July 2, 1993, documenting earthwork activities during the preparation of the site for future renovation. Following this report, the Coliseum suffered extensive damage during the 1994 Northridge earthquake. Law/Crandall subsequently prepared additional geotechnical and structural analysis as contained in the Report of Foundation Investigation for the Los Angels Memorial Coliseum Repair, dated April 1, 1994 and the Draft Report of Pile Load Testing for the Los Angeles Memorial Coliseum, dated August 18, 1994. These technical reports are incorporated into the EIR by reference and are available on file at the Los Angeles Memorial Coliseum Commission offices at 3939 S. Figueroa Street, Los Angeles California.

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[2] *City of Los Angels Environmental and Public Facilities Maps – 100 and 500-Year Floodplains In the City of Los Angeles,, Los Angeles City Planning Department, March, 1994.*

Seismic Hazards

Fault Rupture Potential

Active and potentially active faults have been mapped adjacent to, within, and beneath areas in the City of Los Angeles. A potentially active fault is a fault that has demonstrated surface displacement of Quaternary age deposits (within the last 1.6 million years). An active fault is one that has had surface displacement within Holocene times (the last 11,000 years) or is included in an Alquist-Priolo Earthquake Fault Zone as established by the California Division of Mines and Geology. Faults that have not experienced movement within the past 1.6 million years are generally considered inactive.

The Project Site is located in the north central portion of the Central Block of the Los Angeles Structural Basin. As discussed previously, the Central Block is a fault-bound basin characterized by an alluvial lowland plain, bounded on the west by the Santa Monica Mountains and associated Santa Monica Fault; on the north by the Elysian and Repetto Hills and Elysian Park Fault; on the northeast by the Puente Hills and Whittier Fault; on the east by the Santa Ana Mountains; on the southeast by the San Joaquin Hills; and on the southwest by the Newport-Inglewood Fault zone.

The active and potentially active faults which are deemed capable of producing fault rupture in the City of Los Angeles are shown in relation to the Project Site in Figure V.D-2. The maximum credible and probable earthquake from each of these faults is shown in Table V.D-1. According to the Draft EIR for the Los Angeles Citywide General Plan Framework, fault ruptures are not known to be present in the Central City planning area in which the site is located.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1973 (Public Resources Code Section 2621 et seq.) represents the current State mandated approach to controlling development in active fault zones. There are two general requirements of this act: 1) the location of most structures for "human occupancy" may not be across the trace of active faults and 2) proposed developments within 1,000 feet of the established special study zones must have geologic/seismic reports done. The Project Site is not located in a state-defined Alquist-Priolo Earthquake Fault Zone or Special Study Area, and no active or potentially active faults are known to exist beneath the Project Site.[3]

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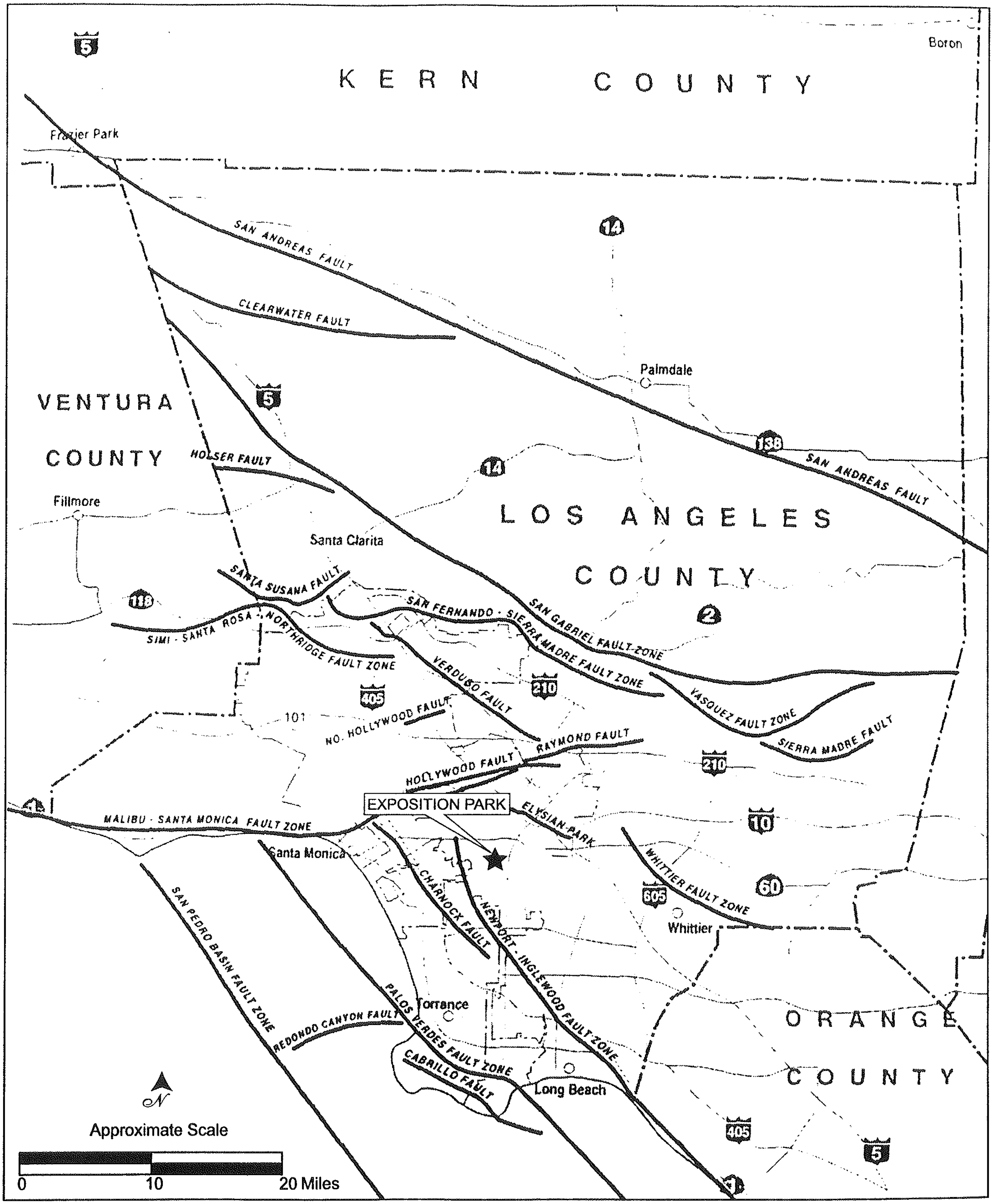
[3] ***California Department of Conservation, Division of Mines and Geology, Digital Images of Official Maps of Alquist-Priolo Earthquake Fault Zones of California, Southern Region, 2000.***



Source: Department of Regional Planning, County of Los Angeles, 1990.

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Figure V.D-2
Major Regional Faults

Table V.D-1
Characteristics of Major Faults in the Project Vicinity

Fault Name	Type	Closest Distance to Site (km)	Estimated Slip Rate (mm/yr)	Estimated Maximum Earthquake Magnitude[a]	Estimated Earthquake Intensity at Site[b]
Very Highly Active					
San Andreas-1,857 Ruptures	strike-slip	37.8	34 ± 5.0	7.8	VIII
Highly Active					
Santa Susana	reverse	25.8	5.0 ± 2.0	6.6	VII
Cucamonga	reverse	32.3	5.0 ± 2.0	7.0	VII
Oak Ride	reverse	35.2	4.0 ± 2.0	6.9	VII
Sierra Madre	reverse	16.7	3.0 ± 1.0	7.0	VIII
Palos Verdes	strike-slip	13.0	3.0 ± 1.0	7.1	IX
Anacapa-Dume	reverse oblique	24.3	3.0 ± 2.0	7.3	VIII
Whittier	strike-slip	15.4	2.5 ± 1.0	6.8	VIII
Newport-Inglewood	strike-slip	4.0	1.5 ± 0.5	6.9	X
Compton	blind thrust	6.8	1.5 ± 1.0	6.8	X
Elysian Park	blind thrust	7.0	1.5 ± 1.0	6.7	X
Northridge	blind thrust	18.3	1.5 ± 1.0	6.9	IX
Moderately Highly Active					
Hollywood	reverse oblique	7.7	1.0 ± 0.5	6.4	IX
Santa Monica	reverse oblique	9.1	1.0 ± 0.5	6.6	IX
San Gabriel	strike-slip	21.0	1.0 ± 0.5	7.0	VIII
Chino	reverse oblique	28.8	1.0 ± 1.0	6.7	VII
Raymond	reverse oblique	8.8	0.5 ± 0.3	6.5	IX
Verdugo Hills	reverse	12.2	0.5 ± 0.5	6.7	IX
Clamshell-Sawpit	reverse	19.9	0.5 ± 0.5	6.5	VII
San Jose	reverse oblique	23.1	0.5 ± 0.5	6.5	VII

[a] *The maximum earthquake that may credible occur given the current understanding of regional tectonism*

[b] *Modified Mercalli scale. VI-VII: "Minor damage including cracks in chimneys and walks. Furniture moved and items knocked off shelves." VII-IX: "Moderate damage including toppled chimneys, cracked stucco, frames shifted on foundations. Damage more severe to weak walls and masonry." IX-X: "Major damage, including partial to complete collapse of weak masonry and frame buildings and moderate damage to stronger structures."*

Sources: GTC, 2000; CDMG, 1996 and California Science Center/California African American Museum Parking Structure FEIR, May 2001.

Ground Shaking

The most widespread, damaging effects of earthquakes are caused by strong ground shaking. The intensity of ground shaking at a given location depends on several factors, but primarily on the earthquake magnitude, the distance of the site from the earthquake's epicenter, and the response characteristics of the soil or bedrock units underlying the area. Strong ground shaking can catastrophically damage structures.

The two most consistent databases for assessing ground shaking hazard potential in the City of Los Angeles are the California Division of Mines and Geology (CDMG) (1988) planning scenario study for a major earthquake (magnitude greater than 7.0) on the Newport-Inglewood Fault Zone (NIFZ) and the Caltrans (1992) estimates of peak horizontal acceleration from maximum credible earthquakes for rock and stiff- soil sites.[4] The CDMG scenario utilizes the Modified Mercelli Intensity (MMI) scale standard, a modeled seismic intensity distribution. The MMI intensity values are presented as VII, VIII, and IX, where IX is considered a high hazard, VIII is moderate, and VII is low. However, an episode of VII intensity could severely damage an unreinforced structure, cause parapets and building fronts to fall on to sidewalks, and tumble chimneys through roofs. According to the January 1995 Draft Environmental Impact Report for the Los Angeles Citywide General Plan Framework, the Central City Subregion should reach an intensity of VIII (moderate) from the Newport-Inglewood Fault Zone scenario earthquake. Furthermore, according to the Caltrans scenario, the Central City Subregion could experience peak ground acceleration (PGA) of greater than 0.5 to 0.6g[5] from a large earthquake on any of the nearby faults. This is considered a high hazard, since it is greater than minimum levels upon which building code standards are based, although the Project Site would not be exposed to any greater risk from groundshaking than any other site in the Central City subregion.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

A significant geologic or seismic impact would occur if the project has the potential to pose an increased threat to public safety or destruction of property by exposing people, property, or infrastructure to seismically-induced hazards that can not reasonably be reduced to acceptable levels of safety with modern geotechnical engineering practices.

Project Impacts

Implementation of the Proposed Project would include the construction of new seating decks, bringing the majority of the seats closer to the field. The existing exterior concrete wall of the Coliseum would be

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[4] *Los Angeles Citywide General Plan Framework Draft EIR, January 1995.*

[5] *"g" is the force associated with PGA.*

preserved, with new construction on the interior being attached to the exterior wall. The existing 35-foot earth berm supporting the elevated concourse level would be removed to grade inside the exterior wall, with a new concrete structure built in the same location. Project uses, building sizes and locations, designs, and building heights for the Proposed Project are discussed in detail in Section II.C of this report, Project Characteristics.

Implementation of the Proposed Project would result in the excavation and removal from the site of approximately 250,000 cubic yards of soil and demolition debris material.

Several types of foundation systems may be considered for support of the proposed structures to be developed as part of the Proposed Project. Examples of these foundation systems may include the use of spread footings, mat-type foundations, and cast-in-place piles. For preliminary design, shallow spread footings may be designed using an allowable bearing value of 1,500 pounds per square foot for a footing of 12 inches in width and depth of embedment. This allowable bearing value may be increased by 300 pounds per square foot (or by 20 percent) for each additional foot of depth and width to a maximum bearing value of 4,500 pounds per square foot. Higher maximum bearing values may be permissible after an additional soil and foundation investigation is performed and the specific location and loading of structures become known. Total settlement and differential settlement should be within tolerable design limits, generally less than 0.5 inch and 0.25 inch, respectively. Other construction details, including design curves and other information pertinent to the deep foundation consisting of cast-in-place friction piles would be expected to be fully developed during the geotechnical investigation phase of the actual construction period. However, based upon preliminary investigations, it is expected that some difficulty may be encountered during the drilling operation due to the presence of some gravel, cohesionless sand, and scattered cobbles in the soils underlying the site. However, this difficulty should be overcome through the utilization of casing. The proposed design includes the excavation of the lower concourse underneath the northern and southern portions of the stadium at an elevation of approximately 12 feet below the street level. In addition, the design includes the excavation in the southwest portion of the site to a depth of approximately 22 feet below street level. In these areas, it would be desirable to utilize spread footings where necessary.

Geology

Impacts associated with implementation of the Proposed Project on the site's geologic formations, inclusive of the near surface alluvial deposits, are expected to be minimal. The surface soils would be disturbed during grading but only to limited depths. Natural surface drainages have previously been modified when the Coliseum was originally constructed, and all new proposed drainages would be compatible with the existing system. Due to the relatively flat topography of the site, proposed grading would have little topographic impact. No well-defined natural or man-made drainages exist on the site, thus the potential for flooding would remain minimal.

The relatively flat topography of the site and surrounding area preclude the possibility of landslides resulting from project development. Cut and fill slopes are expected to remain essentially unchanged for the proposed new development. No evidence of subsidence in the vicinity of the site was noted during the literature review and the generally dense nature of the site's soils would minimize the likelihood of local subsidence. All soil surfaces, whether natural or artificial, would be concealed and protected by asphalt or concrete covers or would be landscaped to limit erosion by wind and water. Laboratory testing indicated that the surface soils within the foundation area of the proposed development are not expansive, collapsible, or compressible. Therefore, implementation of the Proposed Project is not expected to produce any adverse impacts relative to non-seismic geotechnical issues.

Grading and Excavation

During grading activities, noise and dust impacts would result from the use of heavy equipment to excavate, load, and transport earth materials off-site. The hauling of excavated materials to either fill-dirt receptor sites or regional landfills would require an estimated total of 20,000 truck trips over a six-month period. Dust raised during grading would have an incremental short-term adverse impact on local and regional air quality (for more detail, see Section V.B of this report, Air Quality). In addition, the excavation and hauling of earth materials would temporarily increase noise levels in the immediate area for the expected 18 to 20 month duration of project construction activities (for more detail, see Section V.F of this report, Noise). At this time, no export haul route has been identified since the ultimate destination of the materials to be removed from the site is not yet known. However, any regional transport of removed materials from the site would utilize the nearby Harbor Freeway (Interstate 110) via Martin Luther King Jr. Boulevard, and would avoid local residential streets. Development of the Proposed Project would not result in the loss of any material resources. All uncontaminated graded materials would be transported off-site to either one of several local Class III landfills or an as-of-yet-unidentified receptor site needing imported fill material. If landfills are utilized as receptor site(s) for this material, project implementation would incrementally contribute to the ultimate exhaustion of local landfills. Landfills would only be considered as a last resort disposal option for materials from the site (for more detail, see Section V.H.4 of this report, Solid Waste and Disposal). Discarded building and/or earth materials containing any hazardous materials, primarily asbestos, would be disposed of in accordance with all applicable local, state, and federal regulations. Without mitigation, impacts to landfill capacities by the disposal of graded materials could result in a significant impact.

Groundwater

The shallow aquifer below the Project Site is of generally low quality and the pumping of groundwater locally for use at the Coliseum is not being proposed as part of the Proposed Project. As stated previously, though water wells do lie in the vicinity of the Coliseum, imported water supplies, rather than wells, are used for domestic use and irrigation. All grading and construction activities expected to be associated with the Proposed Project would take place above the present continuous groundwater table and above the historic high groundwater table, and none of the existing or proposed structures associated with the Coliseum facility would be in contact with the water table. Groundwater is not expected to be encountered during grading or construction; however, perched groundwater or saturated soil conditions may exist in scattered areas underneath the site. Implementation of the Proposed Project is not expected to produce any adverse impacts relative to groundwater.

Liquefaction

In addition to ground shaking at the Coliseum site, the potential for other secondary effects caused by earthquakes was evaluated, including seismically-induced liquefaction, subsidence, landsliding, and flooding. Due to the depth of the groundwater table (approximately 225 feet below the surface of the Project Site) and the relatively high density of the soils underlying the site area, the potential for soil liquefaction is considered very remote. A major regional earthquake may cause a very small amount of subsidence across the basin, although the amount of subsidence expected would likely be non-differential and extremely small. The Project Site is located far enough from the closest uplands to preclude a hazard of induced landsliding. Similarly, the site is high and/or far enough from the coastline or any large inland body of water to preclude any dangers from tsunami or seiche waves or inundation from the breaching of an up-gradient reservoir. Therefore, the Proposed Project would not be subject to significant impacts caused by seismically-induced liquefaction.

Seismicity

Since no known or mapped active, potentially active, or inactive faults, if projected, would trend toward or directly through the Project Site area, and the Coliseum does not lie in an Alquist-Priolo Special Study Zone, the potential for direct surface fault rupture on the site is considered very unlikely. Thus, impacts associated with implementation of the Proposed Project relative to the seismic displacement of structures on the site would be less than significant. In the event that any of the active faults within the greater Los Angeles area were to rupture, an earthquake would be generated which would, in all likelihood, result in potentially significant ground shaking on the Project Site. However, development of the Proposed Project would not increase the likelihood of the occurrence of a seismic event affecting the site. The Proposed Project would not be anticipated to adversely impact any portion of the City's Seismic Safety Plan, as it would be consistent with the relevant policies of the Plan, which include the upgrading of public facilities to meet the risk requirements for seismic safety and the preservation of the architectural character of buildings and structures important to the cultural heritage of the City, consistent with life safety considerations. Therefore, the Proposed Project would not result in any significant seismic impacts.

Ground Shaking

The degree of ground shaking experienced on the site would depend on the location of the earthquake's epicenter relative to the site, and the earthquake's magnitude. When a fault moves, it may or may not cause surface displacement, but it most likely will cause ground shaking, the amount of which depends on many geologic and tectonic parameters. Eleven faults, shown in Table V.D-1, were identified that could influence the site relative to earthquake ground shaking. Additional faults outside the local area, such as the San Andreas would also have the potential to create moderately strong ground motion effects in the project area. As mentioned previously, the maximum magnitude event capable of occurring along a given fault under the current scientific framework of tectonics is the maximum credible earthquake. In determining the maximum credible earthquake, little regard is given to probability of occurrence. It should be noted that present building codes and construction practices are intended to minimize structural damage to buildings and loss of life as a result of a moderate or major earthquake. While it is impossible to totally prevent structural damage to buildings and loss of life as a result of seismic events, adherence to all applicable building codes and regulations and site specific engineering specifications can reduce such impacts to less than significant levels. A significant impact posing an increased threat to public safety or destruction of property by ground shaking is not expected to occur with the development of the Proposed Project.

CUMULATIVE IMPACTS

As with the Proposed Project, development of the identified related projects could require the extensive export of graded earth materials off-site. Although the degree of impact associated with any single related project would have to be analyzed on a project-by-project basis as each project is reviewed by the appropriate City and/or State agencies, the cumulative generation of this graded material could contribute to the ultimate exhaustion of local landfills, if landfills are chosen as material receptors. If landfills are utilized as receptor site(s) for project-generated materials, then the project, together with the related projects, would be considered to have a cumulatively adverse impact on landfill capacities in Los Angeles County. No cumulatively adverse soil impacts would be anticipated relative to any local property proposed for development with a related project in conjunction with the Proposed Project due to the potentially concurrent construction and operation of the project and related projects, provided all are implemented with design mitigations appropriate for each property. Each related project would need to be evaluated by the appropriate agencies on a case-by-case basis in order to determine the mitigations appropriate for each project.

No adverse geotechnical impacts are anticipated relative to proposed development on any local property due to the potentially concurrent construction and operation of the Proposed Project and related projects, provided that all are implemented with appropriate design mitigation. The Proposed Project and related projects would continue to be subject to ground shaking in the event of an earthquake, as would most other areas of Los Angeles. Assuming adherence to the applicable building codes and regulations, potential significant adverse impacts from a major earthquake would be reduced, but not eliminated.

MITIGATION MEASURES

The following mitigation measures are required in order to effect a reduction in the severity of potential on-site impacts resulting from seismic events occurring on Southern California faults:

1. All structures to be constructed or renovated as part of the Proposed Project shall be designed as required by either the Uniform Building Code for structures within Seismic Zone 4, or other pertinent State and/or City building codes (such as Division 23, Section 91.2305 of the City of Los Angeles Building Code), to withstand the expected ground motions.

2. A comprehensive geotechnical investigation shall be prepared to the satisfaction of the responsible State and/or City reviewing agencies. The investigation shall verify the soil conditions under the proposed structures and derive the pile capacities.

3. All grading activities shall be in compliance with specific recommendations and requirements provided in the geotechnical report prepared for the Proposed Project, subject to review and approval by the appropriate State and/or City responsible agencies.

4. A copy of the foundation report and/or supplements and approval letter shall be attached to the State and/or City office and field sets of plans, with one copy of the foundation report and/or supplements submitted to the State and/or City plan checker prior to the issuance of the permit.

5. During construction, all grading shall be carefully observed, mapped, and tested by the project engineer. All grading shall be performed under the supervision of a certified engineering geologist and/or soils engineer in accordance with the applicable provisions of the State and/or City Building Codes to the satisfaction of the State and/or City building and safety authorities. The responsible engineer shall review and approve the foundation plan and/or the excavation/shoring plan prior to the issuance of any permits.

6. Artificial fills in the existing 35-foot earth berm shall not be considered suitable for the support of foundations unless excavated, recompacted, and tested to be in compliance with the applicable State and/or City Grading Codes.

7. The geologist or the soils engineer shall inspect and approve all fill and subdrain placement areas prior to placing fill.

8. Haul route approval for the transport of graded and excavated earth materials and removed building materials to receptor sites and/or local landfills shall be obtained from the City of Los Angeles Department of Building and Safety and/or other responsible City agencies. Haul routes for the transport of such materials shall be established, where possible, through non-residential areas so as to minimize the effects of noise, and shall maximize, where possible, the distance traveled on major arterials.

9. Discarded building and/or earth materials containing any hazardous materials, primarily asbestos, shall be disposed of in accordance with all applicable local, state, and federal regulations.

10. To the maximum extent feasible, uncontaminated graded materials shall be transported off-site to a receptor site needing imported fill material. Landfills shall only be considered as a last resort disposal option for materials from the site.

11. Prior to the issuance of building permits, if the soils and/or perched groundwater beneath the site are found to be contaminated, the City of Los Angeles Fire Department shall be notified and provided with a summary of all local, state, county, and federally required remediation activities and submit evidence of compliance.

12. Where encountered on the site, perched groundwater or saturated soils should be removed to the extent feasible or necessary.

LEVEL OF IMPACT AFTER MITIGATION

Implementation of the Proposed Project would require the grading, excavation, and removal from the site of approximately 250,000 cubic yards of earth and building materials, which would result in short-term incremental dust and noise impacts around the Project Site and along the chosen haul route. If landfills are utilized as receptor site(s) for this material, project implementation would incrementally contribute to the ultimate exhaustion of local landfills. Implementation of the recommended mitigation measures would reduce, but not eliminate, these impacts. With implementation of the foregoing mitigation measures, project construction and operation would not be expected to have any unavoidable significant adverse impacts on subsurface soils at the Project Site. Temporary soil disruption would occur during excavation and construction activities.

With implementation of the foregoing mitigation measures, project construction and operation would not be expected to have any unavoidable significant adverse effects on the natural terrain or local geology. As with most other areas of Southern California, the Proposed Project is subject to potential ground shaking as a result of seismic events. In event of a major earthquake, this ground shaking could result in significant impacts for the Project Site and surrounding area. However, with the implementation of recommended mitigation measures, including compliance with applicable building codes, the potential risk would be reduced to an acceptable level consistent with similar stadiums and public facilities in the Southern California area.

Any potentially significant impacts associated with geology and soils would be less than significant after implementation of the above listed mitigation measures.

V. ENVIRONMENTAL IMPACT ANALYSIS
E. LAND USE

ENVIRONMENTAL SETTING

Existing Land Uses

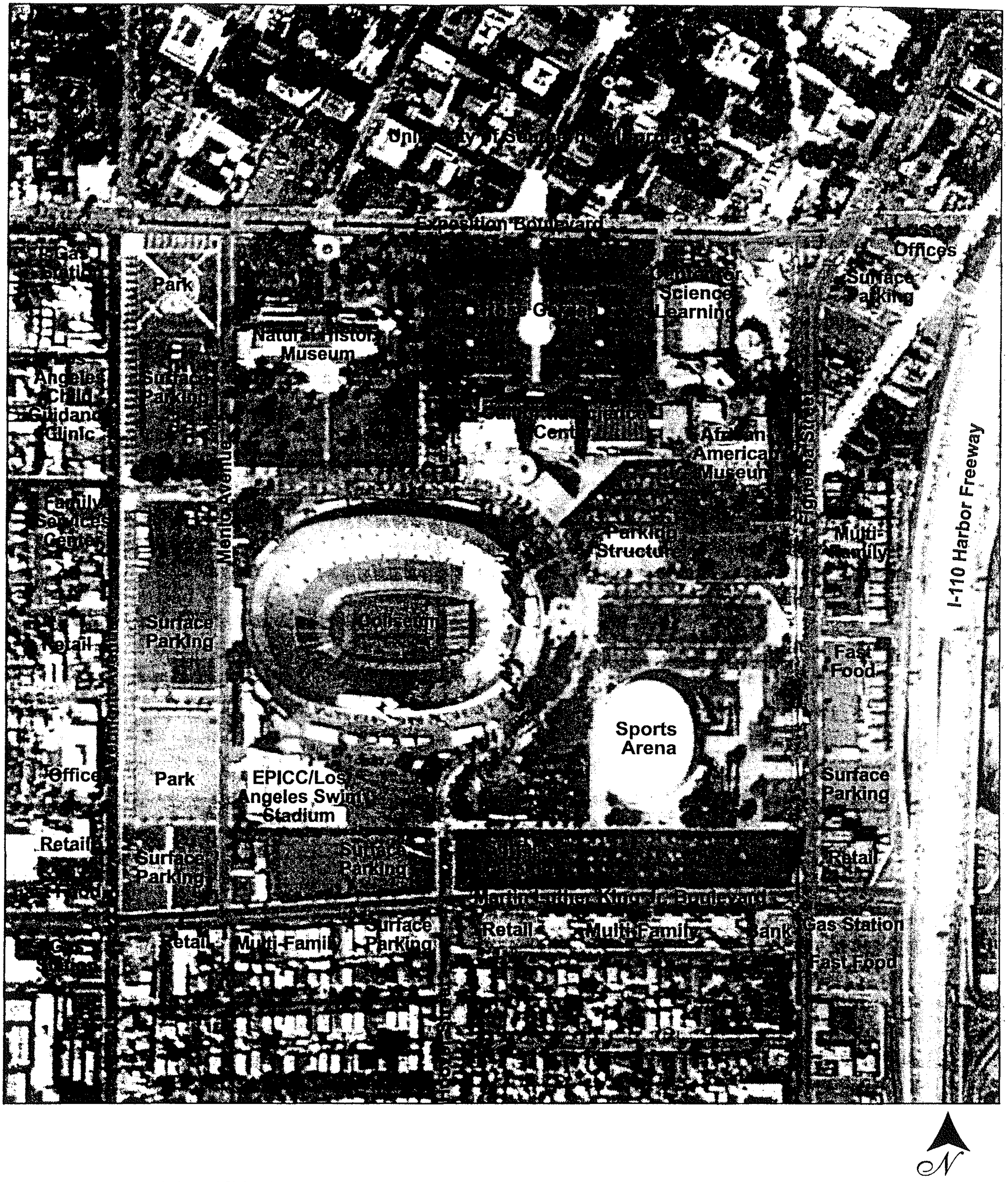
The Project Site is located within the South Los Angeles Community of the City of Los Angeles and consists of an oval-shaped, approximately 27.4-acre parcel of land within Exposition Park. The Project Site includes the Los Angeles Memorial Coliseum and the areas immediately surrounding the Coliseum structure and is situated within the southwest portion of the Park. Exposition Park is an approximately 160-acre reservation of public land established that was originally established in 1908. The Los Angeles Memorial Coliseum was constructed in 1932.

Exposition Park is bounded by Exposition Boulevard on the north, Figueroa Street on the east, Martin Luther King Jr. Boulevard on the south, and Vermont Avenue on the west. Streets accessing the internal portions of Exposition Park include State Drive, North Coliseum Drive, and South Coliseum Drive. Menlo Avenue, which parallels the western edge of Exposition Park (Vermont Avenue) between Exposition and Martin Luther King Jr. Boulevards, bisects the park from north to south.

Exposition Park, while also a landscaped setting for community public recreation, is primarily a site for cultural, entertainment, and sporting facilities that draw visitors from much greater distances. Major public facilities within the park include the Los Angeles Memorial Coliseum (the Project Site), the California Science Center, the Rose Garden, the County Museum of Natural History, the Los Angeles Memorial Sports Arena, the African-American Museum, the Center for Science Learning, the IMAX Theater, and the EPICC/Los Angeles Swimming Stadium. An aerial map of the Project Site and immediately surrounding area indicating the existing arrangement of facilities, access routes and land uses within and adjacent to Exposition Park is provided in Figure V.E-1.

Land Uses Surrounding Exposition Park

Land uses surrounding Exposition Park generally consist of commercial/retail uses, surface parking lots, and multi-family residential uses (see Figure V.E-1). The University of Southern California (USC), a private university, is located directly north of the park, across Exposition Boulevard. To the east of Exposition Park is surface parking, a USC school related use, multi-family residential uses, fast food restaurants, and a retail center. To the south of Exposition Park is a bank, multi-family residential uses, surface parking and a retail use. To the west of Exposition Park, on the west side of Vermont Avenue, is a fast food restaurant, retail uses, a family guidance center, a children's guidance center and a gas station.



Source: L.A. Coliseum Commission and Christopher A. Joseph & Associates, July 2003.

Approximate Scale 1" = 500'

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Figure V.E-1
Aerial Photograph of the Project Site

Relevant Land Use Policies

The Project Site and many of the other land uses within Exposition Park are owned or operated by the State of California. The land under which the Coliseum is developed is owned by the Sixth District Agricultural Association of the State of California, also known as the "California Museum of Science and Industry" ("CMSI") or the "California Science Center." It is in the State and Consumer Services Agency and is deemed to be a tax-exempt organization as an instrumentality of this State in accordance with Section 23706 of the Revenue and Taxation Code (See Food and Agricultural Code Section 4101-4108). The Coliseum and the Sports Arena are operated by the Los Angeles Memorial Coliseum Commission. As a State entity, the Coliseum Commission is not subject to local General Plan and Zoning Code requirements for new development or redevelopment.

On a regional level, the Project Site is located within the planning area of the Southern California Association of Governments (SCAG), the Southern California region's federally-designated metropolitan planning organization that has prepared a Regional Comprehensive Plan and Guide (RCPG) to address the issue of regional growth. The Proposed Project is also located within the jurisdiction of the South Coast Air Quality Management District (SCAQMD). Each of these plans is discussed in greater detail below in relation to the project.

On a local level, the Project Site is located within the South Los Angeles Community Planning Area of the City of Los Angeles. It is also within the Hoover Redevelopment Project area, which is administered by the Community Redevelopment Agency of Los Angeles (CRA).

CMSI/Exposition Park Master Plan

As noted above, the Project Site is owned and operated under the auspices of the State of California. The CMSI/Exposition Park Master Plan is the overriding land use planning document for State-owned property and uses within Exposition Park. In 1987, the California Legislature and the Governor approved the development of the CMSI/Exposition Park Master Plan ("Master Plan"). The Master Plan included goals and objectives oriented around developing, preserving and restoring the following areas within Exposition Park: (1) the California Museum of Science and Industry; (2) the Science Museum School; (3) the Science Educational Resource Center; (4) the California African-American Museum; (5) park landscaping and open space areas, (6) parking facilities and circulation; and (7) ancillary infrastructure improvements. Although the Master Plan did address ancillary issues such as infrastructure and landscaping improvements throughout Exposition Park, it did not address or left unchanged the following facilities: (1) the Rose Garden; (2) the Natural History Museum; (3) the Coliseum; and (4) the Sports Arena.

Southern California Association of Governments (SCAG)

In 1994, the member agencies of SCAG adopted the Regional Comprehensive Plan and Guide (RCPG) to set broad goals for the Southern California region and identify strategies for agencies at all levels of government to use in guiding their decision-making. It includes input from each of the 13 subregions that make up the Southern California region (comprised of Los Angeles, Orange, San Bernardino, Riverside, Imperial and Ventura Counties). The Project Site is located within the City of Los Angeles subregion, which encompasses the entire City of Los Angeles. The RCPG serves as a policy document that sets broad goals for the Southern California region and identifies strategies for agencies at all levels of government to use in guiding their decision-making with respect to the significant issues and changes, including growth management, that can be anticipated by the year 2015 and beyond.

In response to the NOP for the Proposed Project, SCAG has determined that the renovation of the Coliseum is not regionally significant per SCAG Intergovernmental Review (IGR) Criteria and the California Environmental Quality Act (CEQA), Section 15206. Therefore, no further analysis with respect to the project's consistency with SCAG policies is required.

South Coast Air Quality Management District

The Proposed Project is located within the South Coast Air Basin (SCAB) and therefore within the jurisdiction of the South Coast Air Quality Management District (SCAQMD). In conjunction with SCAG, the SCAQMD is responsible for formulating and implementing air pollution control strategies. The Air Quality Management Plan (AQMP), adopted in 1997 by SCAQMD and SCAG to assist in fulfilling these responsibilities, is intended to establish a comprehensive regional air pollution control program leading to the attainment of state and federal air quality standards in the SCAB area. Air quality impacts of the Proposed Project and consistency of the project impacts with the AQMP is analyzed in greater detail in Section V.B, Air Quality.

Congestion Management Program

The Congestion Management Plan (CMP) for Los Angeles County was developed in accordance with Section 65089 of the California Government Code. The CMP is intended to address vehicular congestion relief by linking land use, transportation and air quality decisions. Further, the program seeks to develop a partnership among transportation decision-makers to devise appropriate transportation solutions that include all modes of travel and to propose transportation projects which are eligible to compete for state gas tax funds. To receive funds from Proposition 111 (i.e., state gasoline taxes designated for transportation improvements) cities, counties, and other eligible agencies must implement the requirements of the CMP. Within Los Angeles County, the Metropolitan Transportation Authority (LACMTA) is the designated congestion management agency responsible for coordinating the County's adopted CMP. The project's Traffic Impact Analysis, which is presented in greater detail in Section V.I, Traffic Access and Parking, was prepared in accordance with the County of Los Angeles CMP Guidelines.

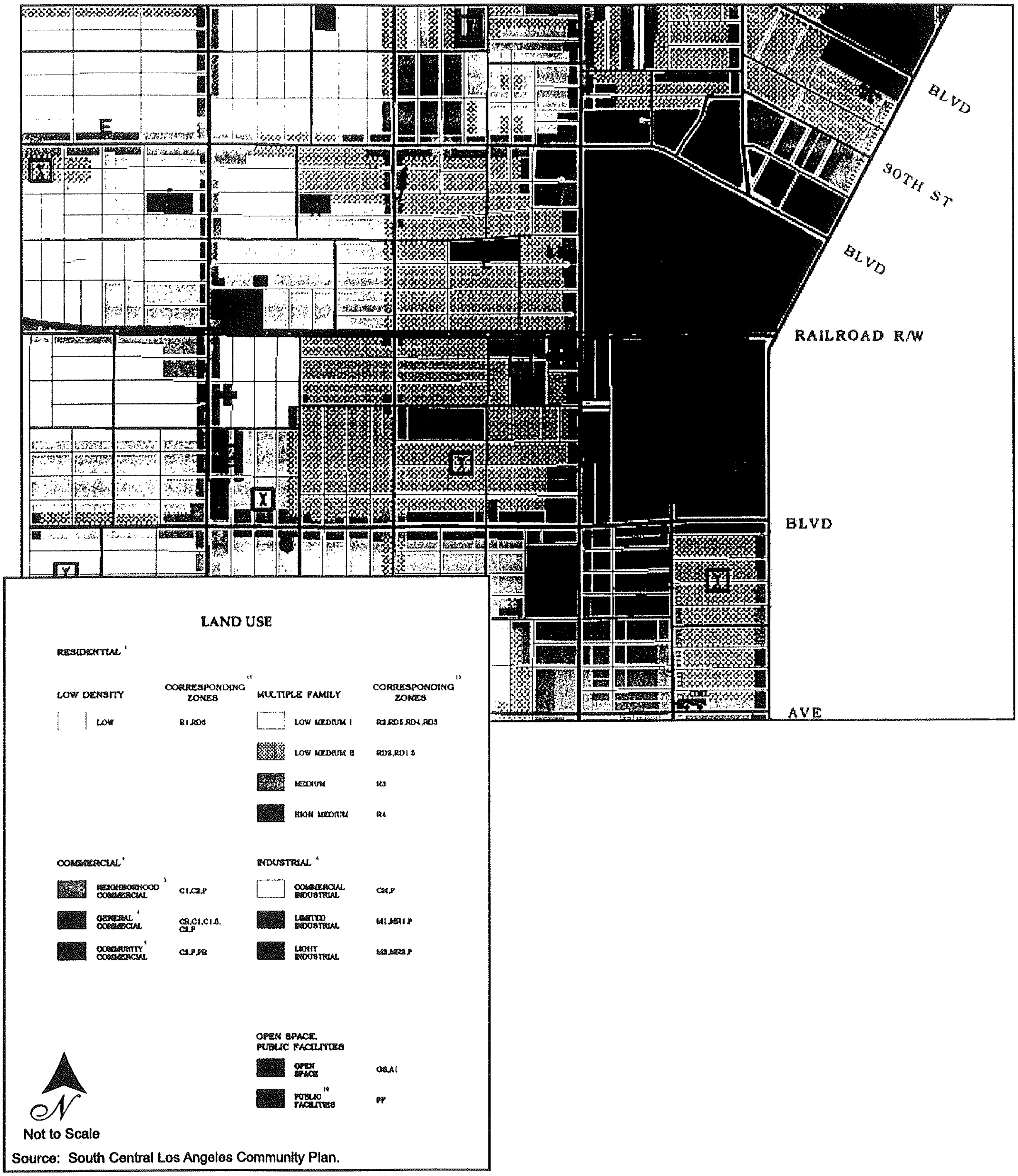
City of Los Angeles General Plan (Land Use Element)

The City of Los Angeles General Plan addresses community development goals and policies relative to the distribution of land use, both public and private. The General Plan integrates the citywide elements and community plans, and gives policy direction to the planning regulatory and implementation programs. The Land Use Element of the General Plan is divided into 35 Community Plans for the purpose of developing, maintaining and implementing the General Plan. These community plans collectively comprise the Land Use Element of the City of Los Angeles General Plan. Exposition Park, including the Project Site, is located within the South Los Angeles Community Plan area of the City of Los Angeles.

The South Los Angeles Community Plan (Community Plan) was adopted by the Los Angeles City Council on October 26, 1979, and was amended as recently as March 22, 2000. The Community Plan designates the entire Project Site, as well as the majority of Exposition Park, as "Open Space." The Open Space land use designation is reserved for public land and does not allow any residential or commercial development that is not associated with a public-oriented facility. The Community Plan designates the corresponding zoning associated with this designation as Open Space (OS) and Agricultural (A1). Figure V.E-2 shows the existing Community Plan designations for the Project Site and immediately surrounding areas.

As shown in Figure V.E-2, land use designations in the locale of the Project Site and Exposition Park along Vermont Avenue Martin Luther King Jr. Boulevard are predominately designated as "Community Commercial" uses with the exception of a "High-Medium Residential" land use classification on the south side of Martin Luther King Jr. Boulevard between Hoover Street and Menlo Avenue. The areas west of the commercial uses along Vermont Avenue and south of the commercial and high density residential uses along Martin Luther King Jr. Boulevard are designated as being within the "Low Density Residential" and "Low Medium II Residential" land use categories. These designations are consistent with the existing residential neighborhoods located south of Martin Luther King Jr. Boulevard and west of Vermont Avenue.

Areas to the east of Figueroa Street (the eastern boundary of Exposition Park) are located in the Southeast Los Angeles Community Plan area and are designated with respect to land use by the Southeast Los Angeles Community Plan. Properties along the east side of Figueroa Street, between Exposition and Martin Luther King Jr. Boulevards, are designated for Community Commercial uses and are developed with low-rise (one-to three-story) retail uses, multi-family residential uses, office uses and surface parking lots. The land strip containing the Harbor Freeway (Interstate 110) is located immediately to the east of these properties and is designated as Public Facility. Areas east of the Harbor Freeway are generally designated for Limited Manufacturing uses (with corresponding zoning



Source: South Central Los Angeles Community Plan.

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Figure V.E-2
South Central Los Angeles Community Plan
General Land Use Map

of M1, MR1, and P). These areas are densely developed with uses generally conforming to their corresponding Community Plan designations.

Other prominent land use designations in the area include the University of Southern California (USC) campus, located north of Exposition Boulevard, which is designated as High Medium Residential and Manual Arts High School, located on the west side of Vermont Avenue south of Martin Luther King Jr. Boulevard, which is designated as Public Facilities. The location of the USC Campus, an educational institution adjacent to Exposition Park containing recreational and cultural facilities, has effectively created a large public and quasi-public land reservation that dominates the vicinity and is surrounded by the non-related residential and commercial land uses comprising the basic fabric of the community.

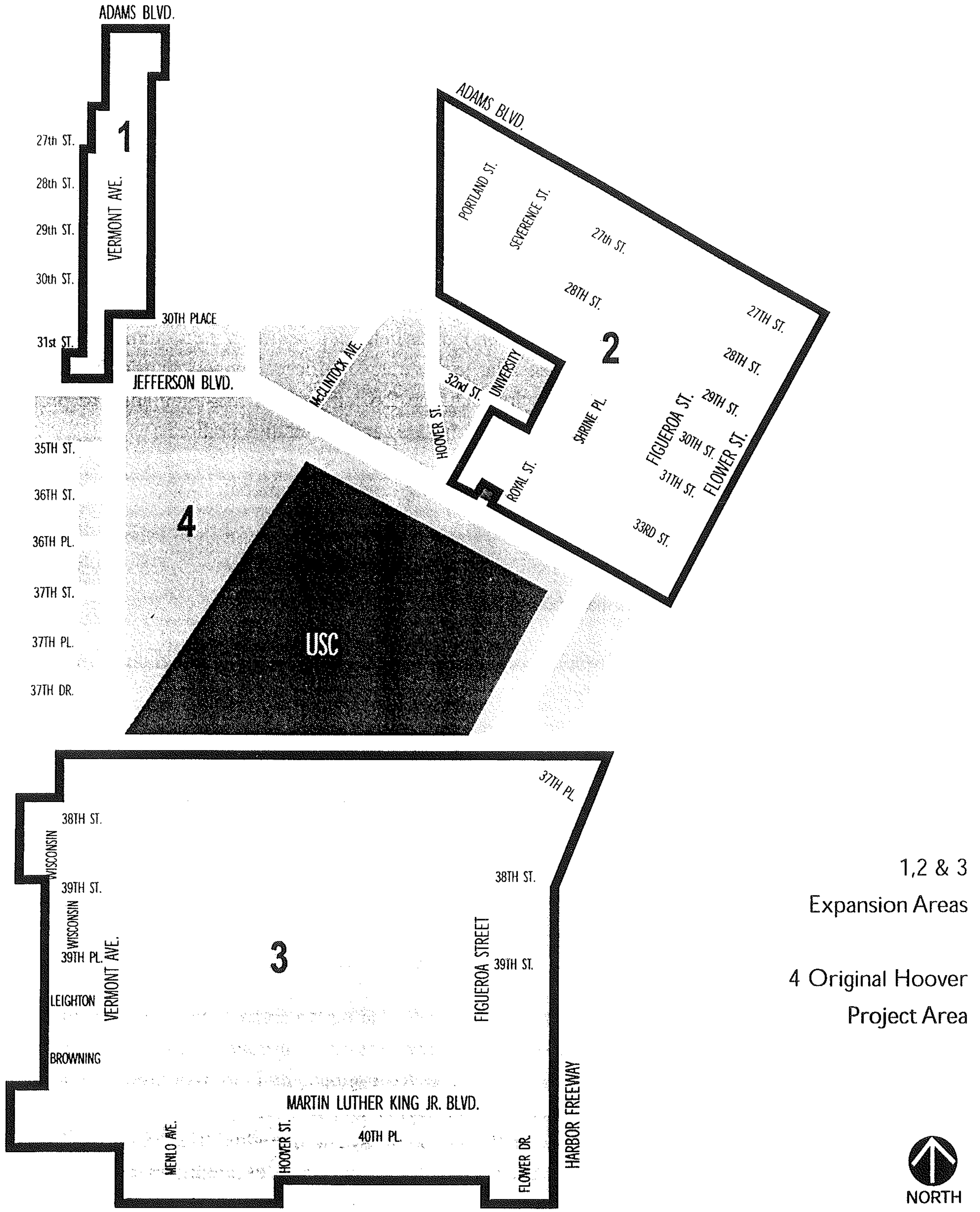
As identified by the Community Plan, Exposition Park is defined as a "major opportunity site." A major opportunity site is an area that has the potential to generate significant impacts within the surrounding neighborhoods. According to the Community Plan, the Exposition Park Master Plan shall provide the following guiding principles in the development of this area and the facilities it holds:

- The need for community empowerment regarding future development;
- The opportunity for a variety of jobs and job training for community residents;
- Development reflective of community needs;
- The need for appropriate development plans to prevent incongruent, incremental development.

Hoover Redevelopment Plan

The Project Site is located within the City of Los Angeles Community Redevelopment Agency's (CRA) Hoover Redevelopment Project (Redevelopment Plan). The Hoover Redevelopment Project Area (HRPA) was established by the Los Angeles City Council on January 27, 1966, and was expanded on May 9, 1989. The HRPA consists of a 574-acre portion of the City generally bounded by Adams Boulevard on the north, Flower Street on the east, 41st Street on the south, and Walton Avenue and Catalina Street on the west. The boundaries of the HRPA are depicted in Figure V.E-3. As depicted in Figure V.E-3, the HRPA excludes the USC Campus. The project area includes all of Exposition Park.

The Redevelopment Plan is divided into four subareas, including the Exposition Sub Area, in which the Project Site is located (see Figure V.E-4). The Redevelopment Plan governs development within the project area and is administered by the CRA. The Redevelopment Plan was designed to promote revitalization and development within the Hoover Project area. The Redevelopment Plan designates the Project Site for Public Use. According to the Redevelopment Plan, permitted uses of Public- and Quasi-Public-designated property include the establishment, maintenance, or enlargement of public uses including, but not limited to, park and recreational facilities, libraries, educational or fraternal facilities,



Source: City of Los Angeles Community Redevelopment Agency, 2002.

Figure V.E-3
Hoover Redevelopment Area

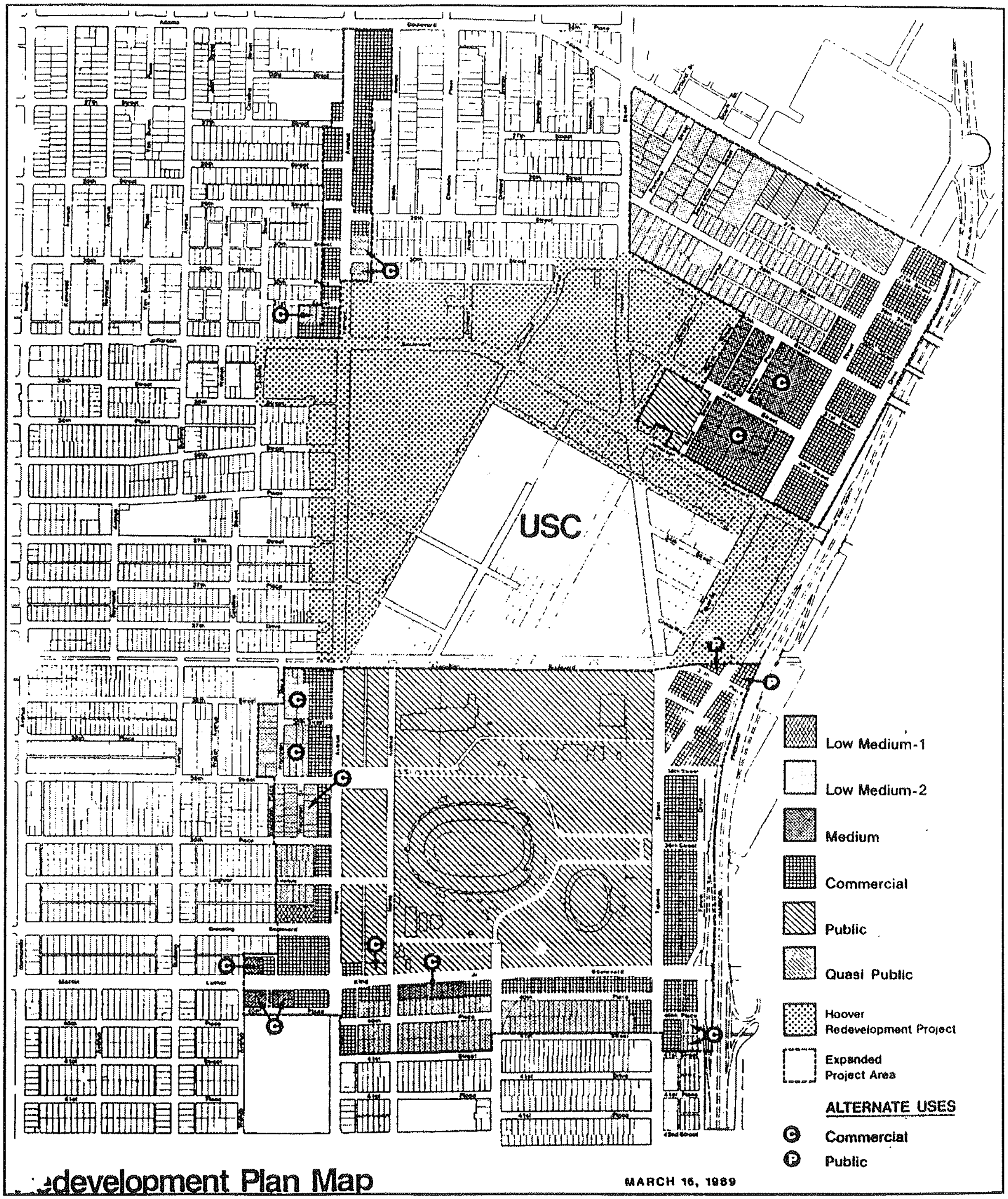


Figure V.E-4
Land Use Designations

parking and parking structures, housing, philanthropic and charitable or other institutions, and facilities of other similar associations or organizations.[1]

It should be noted that real property which is owned or controlled by either the State of California or the Los Angeles Memorial Coliseum Commission, including the Project Site, is not subject to requirements and policies of the Hoover Redevelopment Plan, nor is it subject to review and/or approval by the CRA. Even so, current uses on the Project Site are consistent with the Redevelopment Plan's Public Use designation for the property.[2]

City of Los Angeles Planning and Zoning Code

Development Guidelines for properties within the City of Los Angeles are established by the City of Los Angeles Municipal Code (LAMC) Planning and Zoning Code (July 2000 Edition, Published by the City of Los Angeles).

The Project Site is in the OS-1XL (Open Space) Zoning District, as is the majority of Exposition Park. The OS-1XL designation refers to a zoning designation of Open Space with a corresponding Height District designation of No. 1, Extra Limited Height District (XL). The OS zone permits a limited amount of designated of uses under the City's Planning and Zoning Code (L.A.M.C. Section 12.04.05), including parks and recreation facilities (i.e. bicycle trails, equestrian trails, walking trails, nature trails, park land/lawn areas, children's play areas, picnic facilities, and athletic fields), natural resource preserves, marine and ecological preserves, sanitary landfill sites, and water conservation areas. Height District No. 1 limits development to a Floor Area Ratio (FAR) of 3:1. The XL allows a building height of two-stories, which shall not exceed a height of 30 feet. Like a number of other older buildings which pre-date the Planning and Zoning Code, the Coliseum is "grandfathered" into the zoning code because of its long term prior use.

Properties surrounding the Project Site are located within Exposition Park and are currently designated for High Density Housing and zoned RD1.5-1. The remainder of the parcels, located at the southern most end (fronting Martin Luther King Jr. Boulevard) are designated for Community Commercial use and zoned C2-1L and [Q]C2-1. This area is developed with park facilities, park/green space areas and surface parking facilities, utilized for Coliseum and Sports Arena events.

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[1] *"Redevelopment Plan for the Expanded Project Area of the Hoover Redevelopment Project as amended by the Fifth Amendment to the Redevelopment Plan for the Hoover Redevelopment Project", adopted May 17, 1989.*

[2] *Exposition Park was added to the HRPA in 1983, and in 1984 the CRA prepared a Master Plan for the park. However, the Master Plan was contested and was never formally adopted. In 1985, the CRA and the State of California reached a settlement agreement that voided CRA consultation, review, or control over State of California or Los Angeles Memorial Coliseum Commission properties within Exposition Park. (EPICC EIR, Community Redevelopment Agency of the City of Los Angeles, 1999)*

ENVIRONMENTAL IMPACTS

Thresholds of Significance

In accordance with the State CEQA Guidelines a project may result in a significant impact if it is found to be in conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project including, but not limited to the General Plan, Specific Plan, local coastal program or zoning ordinance. A significant impact related to land use consistency would result if a project were found to be in substantial conflict with the applicable goals, policies or objectives contained within the *City of Los Angeles General Plan*, the *South Los Angeles Community Plan, the Exposition Park Master Plan, the Hoover Redevelopment Plan,* or the City of Los Angeles Planning and Zoning Code, and regional plans or other adopted City or CRA plans. The determination of compatibility is based upon a survey of land uses in the area, in combination with the analysis of the physical development, construction and operational characteristics of the project.

Project Impacts

Land Use Compatibility

Although the project would be considered compatible with the land use policies of the South Los Angeles Community Plan, the Coliseum's physical and functional compatibility as described strictly in relation to lighting, noise, and traffic/parking indicates that the Coliseum could currently be considered to be physically incompatible with its surrounding environs with respect to these areas of impact. Such impacts have the potential to adversely affect neighboring residential properties to the south and west of Exposition Park. However, the Coliseum was originally constructed in 1932 and has been a part of the community for over 80 years. The Proposed operations and intensity of use is consistent with the operations that have historically occurred on site, which includes having the NFL as a primary tenant along with the USC football team. As indicated in Section IV, Overview of Environmental Setting the Coliseum has hosted an NFL team during 45 of its 80 years, including the Los Angeles Rams from 1946 to 1979 and the Los Angeles Raiders from 1982 to 1994. As a publicly-oriented land use contained within a larger reservation of public land (i.e., Exposition Park), the Coliseum currently displays a high degree of physical compatibility with its surroundings, particularly when considering its proximity to other public recreational uses and major arterial roadways, its centralized location within the context of the Greater Los Angeles area, and its proximity to a major university (USC) which is also one of its primary tenants.

Development of the Proposed Project would modify various aspects of the Coliseum, but would continue the site's existing character of use. As a result, while the project itself is not anticipated to introduce physically incompatible features to the site in and of itself, the Project would facilitate the continuance of existing uses, which are considered to be physically incompatible with the surrounding environment with respect to traffic, access and parking, noise and demands on public services (i.e., Police and Fire). Please see the applicable sections of this report for a complete discussion of such impacts, as well as measures recommended to mitigate both the project's environmental effects and existing adverse impacts associated with operation of the Coliseum. Implementation of the project would maintain the existing physically compatible aspects of the Coliseum resulting from its location in Exposition Park.

Land Use Compatibility With Surrounding Uses (Functional)

Functional land use compatibility is defined herein as the capacity for adjacent, yet dissimilar land uses to maintain and provide established services, amenities, and/or environmental qualities associated with such uses. Adverse functional compatibility impacts are generated when a proposed development may result in the degradation of the ambient environmental character and/or hinders relationships associated with existing patterns of use both on-site and in the immediately surrounding community. Ingress and egress locations, pedestrian access and safety, and availability and access to amenities and services are all project features that may affect functional compatibility between existing and proposed land uses and the surrounding area. Other issues that can adversely impact functional compatibility include overall site configuration, building height and design, continuity of building architectural style and integrity, and landscaping.

The Proposed Project consists of the renovation of an existing facility with the objective of maintaining current levels and types of usage. The project would not alter the current land use of the site, nor would it alter the ambient environmental character associated with the site and the surrounding vicinity, as it would retain the Coliseum's existing character of use, with only minor modifications visible to off-site viewers. No existing land use relationships between the site and the surrounding portions of Exposition Park would be altered as a result of project implementation. In effect, the Coliseum would continue to serve its current function relative to the surrounding communities, both local and regional.

As the overall site configuration would remain similar to existing conditions, the Proposed Project would not be anticipated to alter the existing land use relationship between the Coliseum and adjacent land uses. The Proposed Project would take place within the frame of the existing stadium. Most of the existing landscaping on-site would be retained with project development, including the majority of the vegetation on the exposed outer portions of the earthen berm. Additional landscaping to be provided as part of the Proposed Project would be of a similar character to existing vegetation both on-site and within adjacent portions of Exposition Park, and would therefore not be expected to detract from the aesthetic compatibility of the site with surrounding areas. All of the existing mature, original landscaping outside of the perimeter fence on the site would be retained, extending to the edge of the site. In addition, the perimeter fence would be removed, thus promoting the open space park-like atmosphere of Exposition Park. In addition to the Coliseum, adjacent portions of Exposition Park contain a variety of other publicly-oriented sports and non-sports facilities including the Sports Arena, the Los Angeles Swim Stadium, and the museums, all of which reinforce the Park's function as a public gathering place where a variety of cultural and entertainment events may be enjoyed. No other modifications to existing landscaping in the vicinity would result from project implementation.

It is anticipated that the Proposed Project would secure the continued long-term utilization of the Coliseum, and thus would preserve the present functional relationship between the Coliseum and the surrounding areas discussed above. Accordingly, the Proposed Project would facilitate the land use objectives of the Exposition Park Master Plan, the South Los Angeles Community Plan, and the Hoover Redevelopment Plan with respect to promoting revitalization of the Park and preserving cultural monuments. Therefore, land use compatibility impacts would be less than significant.

Consistency of Land Use Policy and Regulations

This Section analyzes the consistency of the Proposed Project with the provisions and requirements of the applicable regional and local plans that currently govern development of the Project Site and surrounding areas. In general, land use impacts associated with implementation of the Proposed Project would be limited in scope, as the project would not induce any change to the existing use of the site. Existing impacts associated with the current and future land use of the site as a sports venue primarily include traffic congestion, increased noise levels, and increased demands for security and other public services on event days in areas surrounding the site. Such effects, however, only occur on days or evenings when major events are held at the Coliseum and have been occurring on site since the construction of the Coliseum in 1932. The Proposed Project would continue the existing use at generally the same level of intensity as the current operations, but with an additional 12 scheduled professional football games each year. This represents an approximate 35% increase in the annual number of events. Therefore, since the project would not change the current use of the Coliseum, no adverse land use impacts would result from development of the Proposed Project.

Exposition Park Master Plan

As stated previously, the CMSI/Exposition Park Master Plan (1993) did not include any specific alterations or renovation for the Coliseum. At the time the Master Plan was being prepared the Coliseum was the home field of the Los Angeles Raiders. The Coliseum was also undergoing a minor renovation project at the time which included lowering the field, expanding the locker rooms, building a press box, and upgrading and constructing new concession outbuildings surrounding the Coliseum. The Master Plan briefly discussed the current renovation activities underway at the time, but made no specific reference with respect to goals or objectives for the long-term use of the Coliseum. Nevertheless, the following general six objectives of the Master Plan are relevant to development within Exposition Park and are described and evaluated with respect to the Proposed Project as follows:

- *Objective 1: Provide a vision and depict the limits for the future development of the institutional uses of the park while reinforcing its dual role as a regional and community resource.*

  Consistent. The Proposed Project will reinforce Exposition Park's role as a major regional community resource in the southern California region. The Coliseum is currently in a form of disrepair and has lost its ability to retain an NFL franchise as a primary tenant. Without the Proposed Project, the Coliseum will continue to deteriorate and will be unable to compete with other modern sports and entertainment venues in the southern California region as well as the nation.

- *Objective 2: Enhance the park's character and landscape features by increasing the area available for passive and recreational uses, defining entrances to the park and facilities, providing a clearly delineated system of pedestrian walkways and minimizing vehicular uses.*

  Consistent. The Proposed Project will predominately take place within the walls of the existing Coliseum. The Proposed Project will include excavating the earth berm beneath the interior Upper Concourse level to provide locker rooms, a commissary, and a lower Concourse level within the interior of the Coliseum. The proposed design will substantially limit the amount of land area needed to provide upgraded and modern amenities and concession areas to support the future use of the Coliseum. In addition to the design of the Coliseum itself, the Proposed Project will include demolishing many of the exiting outbuildings and steel bar and chain link fence that surrounds the Coliseum. These modifications will increase the open space and pedestrian areas for passive recreational use year round. On any given day Exposition Park visitors will be able to walk up to the walls of the Peristyle and Coliseum structure. This design feature will greatly enhance the park's character and landscape features by increasing accessibility to passive recreation areas.

  The Proposed Project will also include creating two new structures outside the Coliseum - an approximate 20,000 square-foot retail use and the other an approximate 20,000 square-foot sports and Coliseum athletic history museum. Both uses will be ancillary uses to the Coliseum, but will be operational on a day-to-day basis throughout the year. These uses would be complementary to the existing uses within Exposition Park and would be designed and placed in a manner that is compatible with the surrounding structures.

- *Objective 3: Integrate the park with adjacent neighborhoods by providing convenient pedestrian transit linkages, minimizing traffic and parking impacts and developing employment, recreational, educational, and cultural opportunities within the park jointly with area residents.*

  Consistent. While this objective is not specifically oriented towards the Coliseum's operations, the Coliseum will coordinate with other park stakeholders and implement a traffic management plan to minimize traffic and parking impacts on days when major events and football games are scheduled. The traffic management plan will include but not be limited to the following measures: implementing ride share incentives for ticket holders, provide a shuttle system to facilitate and promote the use of satellite parking lots, provide assignable parking lots for ticket holders, and manage parking and traffic patterns and conditions on the surrounding roadways. (See Section V.I.1 for additional details on the traffic and parking management mitigation measures). With implementation of these measures, the Proposed Project will be consistent with this objective.

- *Objective 4: Preserve and interpret the historical legacy of the Park allowing the memories of the Park to be relived through appreciation of the historical significance of features such as the Rose Garden, the Coliseum, and other sites.*

  Consistent. The Proposed Project would renovate the Coliseum in a manner that preserves the historic integrity of the structure to the maximum extent feasible. While some of the historic fabric of the Coliseum would be compromised by the proposed design (i.e., the geometry of the seating bowl), many of the major elements of the Coliseum structure would be retained and restored to reflect the historic significance of the Coliseum (i.e., the Peristyle, the exterior wall, the stairway and tunnel entrances). While the Secretary of Interior Standard's will not be met with respect to retaining the original geometry of the bowl, significant efforts have been made to retain as much of the oval bowl shape as possible. In addition, much of the existing bowl will still be visible behind the new seating areas and within the Concourse level. As such, the historic legacy of the Coliseum would be preserved (See Section V.C, Cultural and Historical Resources for a detailed discussion of this issue).

- *Objective 5: Establish a framework of consistent and compatible design standards for future facilities in the park, including criteria for siting, massing, circulation, landscape and orientation elements of the plan.*

  Partially Consistent. This objective is not directly applicable to the Proposed Project as the project includes renovating the Coliseum structure which is in a fixed location. The Proposed Project will include the demolition and removal of the existing non-historic outbuildings and concession stands surrounding the Coliseum, and will construct two new structures for ancillary retail and museum uses. No specific framework or design standards for these future facilities have been developed. However, due to the nature of the project and the limited land area that is available to the Coliseum Commission, the location and massing of the proposed structures would be limited to the areas located southeast of the Coliseum Peristyle and northwest or west of the Sports Arena. This area is visually shielded from the majority of uses in Exposition Park by the Coliseum structure itself. Therefore, the development of these structures would not conflict with the scale and massing of other elements of the plan.

- *Objective 6: Strengthen and centralize park management to encourage cooperation among institutional users and the effective management of park resources such as circulation, parking, transit access, programming, security, maintenance and marketing.*

  Consistent. The Proposed Project of the Coliseum will strengthen and centralize park management and encourage cooperation among park stakeholders as the Project will provide a new life to the Coliseum. It is anticipated that while the maximum seating capacity will be reduced for any one event, the Project will increase the utilization of the Coliseum and help re-establish Exposition Park as a lively regional recreational center. Such activity will promote and encourage cooperation in management as each park stakeholder will need to coordinate major event operations.

Regional Comprehensive Plan and Guide

The Regional Comprehensive Plan and Guide (RCPG) includes several policies which are generally applicable to the Proposed Project. According to SCAG guidelines, the Proposed Project is determined to not be regionally significant per SCAG Intergovernmental Review (IGR) Criteria and the California Environmental Quality Act (CEQA), Section 15206. As such, no further analysis is warranted.

City of Los Angeles General Plan

As stated previously, the City of Los Angeles General Plan designation for the Project Site is OS, Open Space. This designation permits parks and community centers under the ownership and operation of a public agency. The South Los Angeles Community Plan sets forth numerous policy guidelines that are designed to govern land use decisions made within the South Los Angeles Community Plan area. Those Community Plan policies which are generally relevant to the Project Site are described and evaluated with respect to the Proposed Project as follows:

- *Policy 4-1.1: Preserve the existing recreational facilities and park space.*

  Consistent. The Proposed Project of the Coliseum would continue to provide passive recreational uses for the local and regional community in the form of events held at the Coliseum. The adjacent areas within Exposition Park would continue to provide public recreation opportunities to the community and would not be adversely impacted by the Proposed Project. Therefore, the project would be considered to be consistent with this policy.

- *Policy 19-1.2: Identify all designated City of Los Angeles Historic and Cultural Monuments in order to foster public appreciation of the City of Los Angeles' valuable historic resources and to promote education of the public by preserving Los Angeles' historic past and to promote that any other appropriate landmarks of unique architectural and historical significance continue to be identified for the purpose of inclusion in the list.*

  Partially Consistent. While this policy is directed at the City in identifying historic cultural monuments, the Proposed Project of the Coliseum recognizes the historical designation of the Coliseum as a National Historic Landmark. The proposed use and design is consistent with the intent of this policy as the proposed improvements would retain the exterior wall and as much of the original historic fabric of the inner bowl shape as possible. As concluded in Section V.C, Cultural and Historic Resources, while the Proposed Project would not achieve rehabilitation in conformance with the Secretary of Interior's Standards in all respects, the project would not jeopardize the Coliseum's listing on the National Register of Historic Landmarks. Therefore the project would be partially consistent with this policy.

- *Policy 19-2.1: Encourage the preservation, maintenance, enhancement and adaptive reuse of existing buildings in commercial areas through the restoration of original facades and the design of new construction which complements old in a harmonious fashion, enhancing the historic pattern.*

  Consistent. The Proposed Project would renovate the Coliseum, which is a designated National Historic Landmark, State Historic Landmark, and is listed on the National Register of Historic Places. As stated above, the proposed use and design is consistent with the intent of this policy as the proposed improvements would retain the exterior wall and as much of the original historic fabric of the inner bowl shape as possible. While the Proposed Project would not achieve rehabilitation in conformance with the Secretary of Interior's Standards in all respects, the project would not jeopardize the Coliseum's listing on the National Register of Historic Landmarks.

Hoover Redevelopment Plan

The Project Site is designated for Public Uses by the Hoover Redevelopment Plan, consistent with the current and historic use of the site. The Proposed Project would effectively perpetuate the existing use on the Project Site through the provision of a modern, state-of-the-art, multi-purpose sports and assembly facility. As a result, no adverse impacts to the Hoover Redevelopment Plan are anticipated to result from the implementation of the Proposed Coliseum renovation. The Hoover Redevelopment Plan contains several goals which are generally applicable to the Project or project vicinity. These goals are described and evaluated with respect to the Proposed Project as follows:

- *Goal: To eliminate and prevent the spread of blight and deterioration through the conservation, rehabilitation, and redevelopment of the area.*

  Consistent. The Proposed Project would preserve and rehabilitate the Coliseum facility, while at the same time transform it into a modern, state-of-the-art, multi-purpose stadium able to continue to fulfill a wide variety of publicly-oriented purposes. Currently the Coliseum is in a form of disrepair and is underutilized as a major regional sports and entertainment venue. In its report to the Ad Hoc Sports Franchise Assessment Committee to the City of Los Angeles City Council, the City of Los Angeles CRA acknowledged that the public sector has the responsibility to protect and maintain the Coliseum. The development of another venue that would compete for events with the Coliseum could further diminish revenues necessary to maintain and operate the Coliseum. To the extent that the project would halt the current deterioration of the Coliseum facility, it would be consistent with this goal.

- *Goal: The provision of well-planned community uses, facilities, pedestrian and vehicular circulation, and adequate parking, particularly as these relate to Exposition Park.*

  Consistent. The Proposed Project would redesign pedestrian access and circulation within the site and Coliseum itself in order to create a more well-designed and orderly pattern, and would reposition the existing entry gates to the Coliseum grounds in a specifically planned manner (see Section III.C, Project Characteristics). The Coliseum will continue to be served by existing parking facilities in and around Exposition Park, including approximately 20,000 parking spaces within Exposition Park, USC parking lots to the north and other private lots in the project vicinity. In addition, parking improvements are currently underway in Exposition Park to provide a 2,210-space subterranean parking lot adjacent to the California African-American Museum. This structure, which will likely be completed prior to the commencement of the Coliseum's renovation, will provide additional parking for Coliseum patrons. Therefore, the Proposed Project would be consistent with this goal.

- *Goal: To provide a basis for the location and programming of public service facilities, parks, and recreation facilities.*

  Consistent. The Proposed Project would facilitate a continuance of the existing publicly-oriented use of the site and would therefore be consistent with the general aim of this goal.

- *Goal: To encourage the cooperation and participation of residents, property owners, business persons, public agencies, and community organizations in the revitalization of the area.*

  Consistent. Implementation of the Proposed Project would be administered through private financial commitment by private businesses and individuals. The Proposed Project would not be dependent on Public Funds. Both the Coliseum Commission and the stadium's private operator, which has yet to be selected, would be expected to continue their current efforts to involve community organizations, residents, and property owners in the planning for on-going activities at the Coliseum. Coordination with the operators of the other facilities within Exposition Park would similarly be expected to continue. Therefore, the project would be considered to be consistent with this goal.

- *Goal: To promote coordinated management of Exposition Park with specific attention given to facility use, development, parking, circulation, security, and maintenance.*

  Consistent. The Proposed Project would not change the existing management and operation arrangement currently in place at the Coliseum with respect to the other facilities within Exposition Park. Improvements to existing security and maintenance arrangements affecting the Project Site would be expected to result from the project, as would parking and traffic circulation measures designed to mitigate existing conditions. Therefore, the project would be considered to be generally consistent with this goal.

- *Goal: To encourage the preservation of historic monuments, landmarks, and buildings, particularly those affected by new development which is subject to an owner participation or disposition and development agreement.*

  Consistent. The Proposed Project would renovate the Coliseum, which is a National Historic Landmark, State Historic Landmark, and is listed on the National Register of Historic Places. The proposed use and design is consistent with the intent of this policy as the proposed improvements would retain the exterior wall and as much of the original historic fabric of the inner bowl shape as possible. As concluded in Section V.C, Cultural and Historic Resources, while the Proposed Project would not achieve rehabilitation in conformance with the Secretary of Interior's Standards in all respects, the project would not jeopardize the Coliseum's listing on the National Register of Historic Landmarks. As a result, the Proposed Project would be consistent with this goal.

The Proposed Project would be generally consistent with the relevant goals of the Hoover Redevelopment Plan with the exception of the recommended provision of additional parking for patrons attending Coliseum events and/or other functions in Exposition Park, which is not contemplated by the Proposed Project (for more detail, see Section V.I, Traffic, Access, and Parking). However, the Proposed Project will benefit from the new parking structure that is currently under construction. Upon its completion, and prior to the estimated completion date of the Proposed Project, approximately 2,210 new parking spaces will become available in Exposition Park (see Related Project No. 32 in Section IV, Cumulative Related Projects). The availability of 2,210 new parking spaces in Exposition Park, and the reduction in the maximum seating capacity from 92,500 seats to 78,000 seats would improve parking conditions for future Coliseum events.

City of Los Angeles Planning and Zoning Code

The Project Site is zoned OS-1XL (Open Space), as is the majority of Exposition Park. The OS zone permits a limited amount of designated uses under the City of Los Angeles Planning and Zoning Code (Section 12.04.05), including parks and recreation facilities (i.e. bicycle trails, equestrian trails, walking trails, nature trails, park land/lawn areas, children's play areas, picnic facilities, and athletic fields), natural resource preserves, marine and ecological preserves, sanitary landfill sites, and water conservation areas. Outdoor stadium facilities seating over 200 persons are not permitted in any open space zones without a Conditional Use Permit. The existing inconsistency between the development on the Project Site and the site's zoning is explained by the fact that the City of Los Angeles did not incorporate a comprehensive zoning code and map system into its land use regulation process until after the Coliseum was built in 1923. In addition, the Proposed Project would not change the existing management and operation arrangement currently in place at the Coliseum with respect to the other facilities within Exposition Park. Therefore, the Proposed Project would be consistent with the Planning and Zoning Code.

CUMULATIVE IMPACTS

Identified related projects within the study area are located within either the South Los Angeles or Southeast Los Angeles Community Plan areas. Although the development of these related projects outside of Exposition Park could potentially require General Plan Amendments and/or Zone Changes in order to be effectuated, the cumulative implications of this growth, conformity with land use regulations, and compatibility with surrounding uses will be evaluated on a case-by-case basis by the City of Los Angeles. Given that the proposed Exposition Park Master Plan would govern land within the Park exclusively, future related projects located within Exposition Park would be subject to its requirements.

MITIGATION MEASURES

Implementation of the Proposed Project would not be expected to adversely impact the goals and policies of the South Los Angeles Community Plan, Exposition Park Master Plan and the Hoover Redevelopment Plan. As a result, no mitigation measures are recommended or required. Additional mitigation measures recommended and/or required (as appropriate) in relation to physical impacts such as noise, air quality, and traffic/parking are described in the respective sections of this report (Section V.B, Air Quality; Section V.C, Cultural and Historic Resources, Section V.F, Noise; and Section V.I, Traffic, Access, and Parking).

V. ENVIRONMENTAL IMPACT ANALYSIS
F. NOISE

ENVIRONMENTAL SETTING

Noise Descriptors and Definitions

Noise is defined as an unwanted sound and is an important factor in the quality of urban life. There are two main types of sound: ambient and intrusive. Ambient sound is the background sound that aggregates all sound emissions, far and near, as received within a particular locale. Intrusive sound is greater than the ambient sound level and is generally perceived as "noise." The word "noise" conveys the psychological response of humans to the physical phenomenon of sound. Noise can also be defined as sound that causes adverse effects on people such as hearing loss or annoyance. In every case, noise involves the judgment of someone and puts noise in the realm of psychology, not physics.

Because sound (or noise) can vary in intensity by over one million times within the range of human hearing, a logarithmic loudness scale similar to the Richter Scale is used to keep sound intensity numbers at a manageable level. Since the human ear is not equally sensitive to all sound frequencies within the entire spectrum, noise levels at maximum human sensitivity (middle A and its higher harmonics) are factored more heavily into sound descriptions in a process called "A-weighting," written as dB(A). Under controlled conditions in an acoustical laboratory, the trained healthy human ear is able to discern changes in sound levels of 1 dBA, when exposed to steady, single frequency ("pure tone") signals in the mid-frequency range. It is widely accepted that the average healthy ear, however, can barely perceive noise level changes of 3 dBA outside of the laboratory.[1] To assist the reader in understanding the various noise descriptors, commonly used terms relating to noise are defined in Table V.F-1. Figure V.F-1 illustrates typical noise levels for common noise sources.

Time variations in noise exposure are typically expressed in terms of a steady-state energy level equal to the energy content of the time varying period (called L_{eq}), or, alternately, as statistical descriptions of the sound level that exceed over some fraction of a given observation period. Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, state law requires that, for planning purposes, an artificial dB increment be added to quiet time noise levels in a 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL). An interior CNEL of 45 dB(A) is mandated for multiple family dwellings in Title 24 of the California Code of Regulations, and is considered a desirable noise exposure for single family dwelling units as well. Since typical sound attenuation within noise-sensitive structures such as homes, schools, medical facilities, etc. is about 15-20 dB, an exterior noise exposure of 60-65 dB CNEL is generally the noise/ land use compatibility guideline for new residential dwellings in California.

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[1] *California Department of Transportation (Caltrans), Technical Noise Supplement, October 1998.*

Table V.F-1
Commonly-Used Terms Relating To Noise

Terms	Definitions
Decibel (dB)	The unit for measuring the volume of sound equal to 10 times the logarithm (base 10) of the ratio of the pressure of a measured sound level to a reference pressure (20 micro-pascals).
A-Weighted Decibel (dBA)	A sound measurement scale that adjusts the pressure of individual frequencies according to human sensitivities. The scale accounts for the fact that the region of highest sensitivity for the average human ear is between 2,000 and 4,000 cycles per second, or hertz.
Equivalent Sound Level	The sound level containing the same total energy as a time varying signal over a given time period. The L_{eq} is a value that expresses the time-averaged total energy of a fluctuating sound level.
Maximum Sound Level (L_{max})	The highest individual sound level (in dBA) occurring over a given time period.
Minimum Sound Level (L_{min})	The lowest individual sound level (in dBA) occurring over a given time period.
CNEL	A rating of community noise exposure to all sources of sound that differentiates between daytime, evening, and nighttime noise exposure. A +4.77 dBA penalty is added to noise levels during the hours of 7:00 p.m. to 10:00 p.m. A +10 dBA penalty is added to noise levels during the hours of 10:00 p.m. to 7:00 a.m.

Regional Conditions

The Coliseum is located in an urbanized environment. The primary noise sources in the vicinity of the Coliseum are associated with traffic on the elevated Harbor Freeway (Interstate 110) as well as traffic on surface streets such as Vermont Avenue, Exposition Boulevard, Figueroa Street, and Martin Luther King Jr. Boulevard. The Coliseum is located within Exposition Park, which includes passive recreational spaces as well as County and State Museums. The majority of these areas are located north of the Coliseum. Within this park/institutional setting, the ambient noise environment is dominated by the Coliseum activities during special events. As stated previously in Section III, Project Description, the Coliseum currently operates with an average of 34 events per year (not including non-ticketed events).

Common Indoor Noise Levels	Noise Level (dBA)	Common Outdoor Noise Levels
Rock Band	110	
		Jet Flyover @ 1,000 feet
	100	
Inside Subway Train		Gas Lawn Mower @ 3 feet Diesel Truck @ 50 feet
	90	
Food Blender @ 3 feet Garbage Disposal @ 3 feet		Noisy Urban Daytime
	80	
Shouting @ 3 feet		
		Gas Lawn Mower @ 100 feet
	70	
Vacuum Cleaner @ 10 feet		
		Commercial Area
Normal Speech @ 3 feet		Heavy Traffic @ 300 Feet
	60	
Large Business Office		
	50	Quiet Urban Daytime
Dishwasher Next Room		
		Quiet Urban Nightime
Small Theater/Conference Room (background)	40	
Library		Quiet Suburban Nightime
	30	
Bedroom at Night Concert Hall (background)		Quiet Rural Nightime
	20	
Broadcast & Recording Studio		
	10	
Threshold of Hearing		
	0	

Source: Caltrans Noise Manual, California Department of Transportation, March, 1980.

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Figure V.F-1
Typical Noise Levels

Sensitive Land Uses

There are a number of land uses in the Coliseum vicinity that can be considered sensitive to noise. These uses include:

- 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.
- 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.

Noise Sources

The noise produced at Coliseum events includes the following sources:

- Crowd noise (particularly yells and cheers at high attendance sports or concert events).
- Public Address System (amplified public announcements and/or play-by-play announcements).
- Amplified concert music.
- Traffic-related noise from motorists traveling to and from Coliseum events.
- Helicopters and other aircrafts covering events.

Noise generated at the Coliseum is largely contained within the bowl structure. There are circumstances and conditions, however, when the public address system or amplified concert music is discernible within Exposition Park. Infrequently, amplified sound generated at the Coliseum is discernible (greater than five decibels above the ambient sound level) in surrounding residential areas. In the past, concert music at the Coliseum has been discernible for areas such as Baldwin Hills that are located as far as three miles away from the facility. The reasons for this are as follows:

- Baldwin Hills is on a direct line-of-sight to the top rim of the Coliseum. There are no intervening obstructions that would act as noise barriers.
- Noise complaints were received in the evening hours when other community noise sources were relatively low.
- Concerts that have been noticeable have had sound systems produce levels in excess of 110 decibels at the top rim of the Coliseum. At a distance of three miles (assuming the speaker cluster is located 500 feet from the rim of the Coliseum), noise levels of 80 decibels would occur.
- The rock concert sound spectrum tends to favor the lower sound wave frequencies created by drums and bass instruments. In the evening hours, similar to train noise, these lower frequencies are quite discernible when other community noise sources are relatively low.

For concerts using a central speaker cluster, located 500 feet or more from the rim of the Coliseum, a discernible change (five decibel increase above ambient) can be achieved three to four miles away in residential areas when the ambient residential noise levels are between 50-60 decibels and the sound level at the rim of the Coliseum ranges from 90-94 decibels.

Amplified Concert Music

As indicated elsewhere in this report, the Coliseum is host to major music concerts on average of three times per year. These events do not use the Coliseum sound system, which is not suited for music. The sound system for concerts consists of the use of a central speaker cluster located on or adjacent to the stage erected for the event. This central speaker cluster is sometimes reinforced by relays located on the Coliseum field. Relay speakers are often elevated eight to 12 feet above the Coliseum floor. The acoustical objective of these systems is to ensure that concert goers can discern the dynamic range of the music. It is typically expected that the sound level achieved at the listener for concert music, particularly popular or rock type music, would be in the 95 to 110 decibel range. The lower end of the range would be representative of ballad-type popular music while the upper end is representative of very loud rock or soul music.

In most instances the speaker system used for music concerts places the speakers at greater distances from the audience as compared to a public address system. The results of this mean that sound levels on the exterior of the Coliseum are higher for concerts than for public address announcements. For example, the public address system could produce a sound level of 95 decibels with speakers located approximately 150 feet from the listener on the upper Coliseum rim. A central cluster concert could also produce 95 decibels for a listener at the rim of the Coliseum but the speakers would be typically located farther away (approximately 300 feet from the listener). For a location 500 feet from the speaker source (outside of the Coliseum), the resulting sound level for the public address system would be approximately 65 decibels (this assumes that the walls of the Coliseum would function as a noise barrier). By comparison, the sound level for the concert music at the same distance would be 71 decibels.

Noise from Sporting Events

As the Coliseum is mainly used for sporting events, and the main objective of the Proposed Project is to renovate the Coliseum to house a Los Angeles NFL team, the impact on noise created by such events is critical to evaluate. Ambient noise measurements were conducted in 2002 by Ove Arup & Partners which measured sound in and around the Coliseum during two separate football games and compared this with sound data collected during a non-event day at the Coliseum. The first football game occurred on November 16, 2002, between Arizona State University (ASU) and the University of Southern California (USC). This game had a recorded attendance of 63,241 persons, or approximately 70 percent of the Coliseum's maximum capacity. Acoustic measurements were also obtained during a game on November 30, 2002, between the University of Notre Dame (ND) and USC with a recorded attendance of 87,944 (approximately 95 percent capacity). The noise data for the non-event day at the Coliseum occurred on December 7, 2002. For each of the two games and the non-event day, Ove Arup & Partners recorded sound levels at five locations outside and one location inside the Coliseum. A description of the location and site characteristics for each of these receptor locations is provided in Table V.F-2. The locations of these six monitoring stations are depicted in Figure V.F-2.

Table V.F-3 summarizes the measurement duration for each receptor location during each recorded noise event. Table V.F-4 summarizes the main findings of the noise impact from the study. In three of the five recording stations outside the stadium (R2, R3, and R5), no audible Coliseum noise occurred during either football game. In the other two recording stations, R1 and R4, the percentage of time Coliseum noise was audible during the two games was minimal. The observed noise level from outside the Coliseum during the two football games ranged from 60 to 69 dBA, with the Coliseum press box recording station (R6) having obviously the highest noise levels of 84 and 86 dBA, respectively. It is a reasonable assumption that if the Proposed Project is constructed with a partial roof structure, it will absorb and reflect some of the noise produced inside the stadium, thus lowering the spill-over noise effect in the neighboring community. In addition, however, it must also be noted that helicopters associated with the football games were measured in the study. Such occurrences are directly attributable to the events at the Coliseum and thus contribute to the game day noise impacts. It was found that the helicopters produced sound at locations R1 through R5 that was noticeable for about 50% of the measurement times and reached sound levels of up to 70 dBA. Figure V.F-3 illustrates noise levels over time as measured at the Coliseum roof and at Location 4. The graphs display sound levels and their causes.

Table V.F-2
Sound Measurement Locations

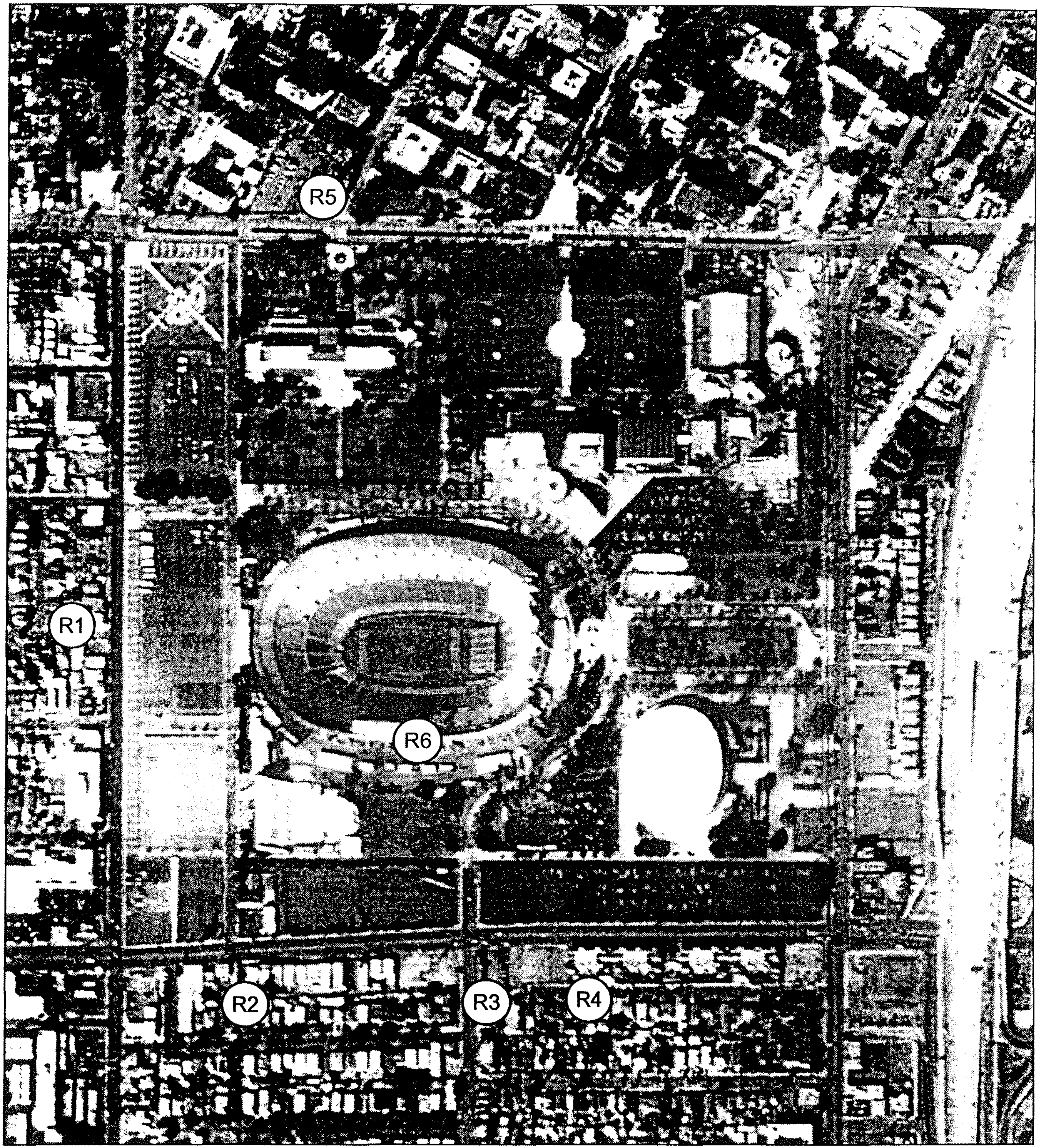
Sound Measurement Location	Description of Location	Estimated Distance from the Coliseum	Intervening Structures	Existing Land Uses [1]
R1	Intersection of Wisconsin St. & 39th Place	550	No	Residential- Single Family Homes
R2	Intersection of Menlo Ave. & W. 40th Place	650	Yes	Residential- Apartments
R3	Intersection of W. 40th Place & S. Hoover St.	550	No	Residential- Apartments
R4	702 W. 40th Place	600	No	Residential- Mix of Single Family Homes and Apartments
R5	USC Watt Way Entrance	900	Yes	USC Campus
R6	Coliseum Press Box Roof	0	No	Coliseum

[1] *Based on site observations of Ove Arup Acoustics.*

Source: Ove Arup & Partners California Ltd. Los Angeles Memorial Coliseum Acoustics Report, December 2002.

Noise from Event-Related Traffic

As discussed in Chapter V.I, Traffic, Access and Parking, the predominant mode of travel for Coliseum patrons is the automobile. Although there is considerable automobile activity prior to and following a Coliseum event, noise levels from this traffic are not significantly different from peak hour traffic noise. The reason for the relatively low increase in traffic noise is because of the lower vehicle speeds. Noise levels increase directly with vehicle speed. For example, 1,000 vehicles traveling at 35 miles per hour (mph) would produce a noise level of approximately 64 decibels at a distance of 50 feet. In comparison, vehicles operating in heavy traffic or congested conditions (approximately 15-20 mph) would produce noise levels of approximately 55-57 decibels. In terms of Coliseum events, field measurements and noise modeling from existing traffic volumes indicate that street traffic volumes can be as much as four to five times greater than typical non-event traffic volumes along Figueroa Street or Martin Luther King Jr. Boulevard without increasing ambient levels. The increase in event traffic is offset by the fact that the traffic is operating at extremely low speeds.



(R#) Residential Measurement Location

Sources: Christopher A. Joseph & Associates and Ove Arup & Partners California Ltd, July 2003.

Approximate Scale 1" = 500'

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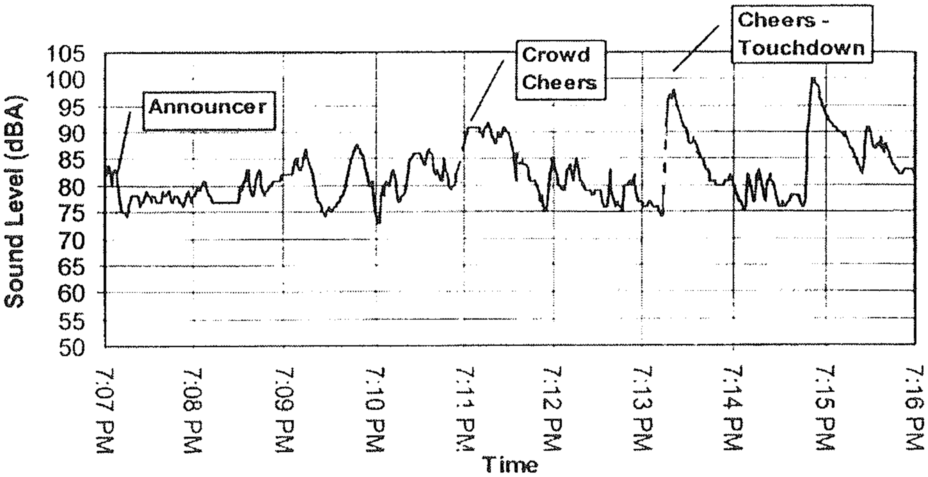
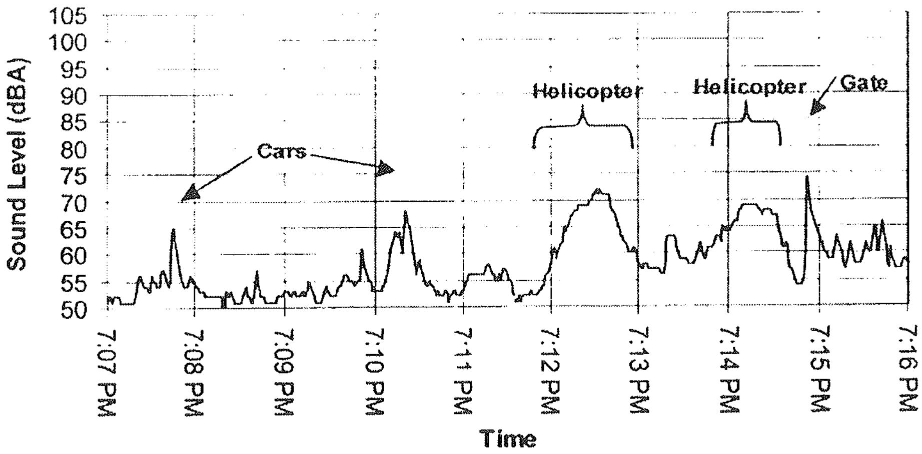
Figure V.F-2
Noise Sensitive Receptor Locations

Football Game - Coliseum Roof



Ambient During Football Game - Location 4 (720 W. 40th)



Source: Ove Arup & Partners Ltd., December 9, 2002.

Figure V.F-3
Time History Correlation of Noise Levels During Football Games

Table V.F-3
Sound Measurement Duration

Sound Measurement Location	Measurement Duration (Start and Finish Times)		
	ASU vs. USC 11/16/02	Notre Dame vs. USC 11/30/02	No Event 12/07/02
R1	4:46 p.m. – 5:01 p.m.	5:30 p.m. – 5:45 p.m.	5:20 p.m. – 5:35 p.m.
R2	5:16 p.m. – 5:31 p.m.	5:51 p.m. – 6:06 p.m.	5:39 p.m. – 5:54 p.m.
R3	5:38 p.m. – 5:53 p.m.	6:09 p.m. – 6:24 p.m.	5:57 p.m. – 6:12 p.m.
R4	6:03 p.m. – 6:18 p.m.	7:08 p.m. – 7:23 p.m.	6:13 p.m. – 6:28 p.m.
R5	6:31 p.m. – 6:46 p.m.	7:44 p.m. – 7:59 p.m.	6:43 p.m. – 6:58 p.m.
R6	3:45 p.m. – 7:19 p.m.	5:12 p.m. – 8:20 p.m.	N/A

Source: Ove Arup & Partners California Ltd. Los Angeles Memorial Coliseum Acoustics Report, December 2002.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

Construction-related impacts would be significant if, as indicated in the City of Los Angeles Noise Ordinance (No. 156,363), a noise-sensitive use is located within 500 feet of the Project Site and on-site construction noise levels exceed 75 dBA, measured 50 feet from the source.

For purposes of this analysis, a significant operational noise impact would occur if the Proposed Project causes an increase in ambient noise by 5 dBA, thus causing a violation of the City Noise Ordinance.

Project Impacts

Construction-Related Noise

The Proposed Project is anticipated to be constructed over an 18-20-month period. Construction noise would be generated on-site, within the Coliseum and surrounding perimeter grounds, and off-site as a result of construction equipment and haul trucks entering and leaving the site. As shown in Table V.F-5, outdoor construction noise levels at a distance of 50 feet from the source can range from 78 dBA L_{eq} to 89 dBA L_{eq} without any noise attenuating devices (e.g., mufflers, sound walls, etc.). With the use of mufflers, typical construction-related noise levels can range from 77 dBA L_{eq} to 86 dBA L_{eq} at a 50 feet distance from the source.[2] The impact of demolition and construction noise from within the Coliseum

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[2] *USEPA, Noise from Construction Equipment and Operations, Building Equipment and Home Appliances, PB 206717, 1971.*

would be reduced by the fact that the existing walls of the Coliseum will act as sound attenuation barriers. With an attenuation factor of up to 10 dBA for the exterior wall of the Coliseum breaking the line-of-sight from the noise source to surrounding areas, noise levels would be reduced to approximately 79 dBA at a distance of 50 feet from the source. Noise generated by the demolition of the outbuildings and other landscaping improvements outside the Coliseum would not be attenuated, as there are no intervening structures or obstacles separating the Coliseum grounds from the rest of Exposition Park. The nearest sensitive receptors within Exposition Park that would be affected by construction noise are the Senior Center and Child Care Center within the newly constructed Intergenerational Community Center (EPICC), the California Science Center, and the open space areas on the south lawn fronting the Natural History Museum. Portions of these uses are within 100 feet of the proposed active construction areas and will experience significant noise levels (above 75 dBA).

As a matter of distance and spherical spreading of sound energy, noise energy is attenuated by a factor of 6 dBA for each doubling of distance. As such, noise levels would be on the order of 69 dBA at a distance of 100 feet from the perimeter of the Coliseum, decreasing to a level of 63 dBA at a distance of 200 feet from the Project Site. Other sensitive uses within Exposition Park would not be exposed to significant construction noise levels. Since the properties adjacent to Exposition Park west of Vermont Avenue and south of Martin Luther King Jr. Boulevard are farther than 500 feet from the Coliseum, sensitive uses in those areas would not experience significant noise impacts from on-site construction activities.

Off-site construction noise will likely result from the ingress and egress of haul trucks used to transport excavated materials. Based upon preliminary estimates, approximately 250,000 cubic yards of earth and building material are estimated to be excavated and removed from the site during the construction process. The demolition and excavation process is anticipated to last approximately 6 months. Given the expansive parking areas associated with the Coliseum, haul trucks will not have to queue in any residential area or adjacent to any museum or park areas. Assuming the use of tandem bottom dump trucks with a hauling capacity of 15 cubic yards per truck, the demolition/excavation phase of the Proposed Project would generate approximately 118 haul trips per day, or up to 15 haul truck trips per hour. These trucks, however, will not use residential streets for access. The most direct and likely haul route from the site is from Martin Luther King Jr. Boulevard eastward to the Harbor Freeway.[3] There is one sensitive land use along this route, which is a multi-family housing project (Gilbert Lindsey Manor). Martin Luther King Jr. Boulevard east of Menlo Avenue experiences 32,310 car trips

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[3] *The final haul route will be determined in consultation with the Los Angeles Department of Transportation, prior to the construction process.*

Table V.F-4

Sound Measurements (in dBA) and Percentage of Audible Noise from the Coliseum

Sound Measurement Location [a]	L_{eq} in dBA (15 minutes)			% Time Noise Audible (Over Meas. Time)		Notes [b] Field Observations
	ASU vs. USC	Notre Dame vs. USC	No Event	ASU vs. USC	Notre Dame vs. USC	
R1	69	64	64	13%	13%	• Announcer is <u>clearly heard</u> (PA System) • Crowed cheer is <u>audible</u> • Referee whistle and band also <u>heard</u> • General ambient noise is primarily due to traffic on Vermont Ave. and 39th Place, residents talking and street music
R2	61	66	59	0%	0%	• Noise directly from Coliseum <u>not audible</u> • Buildings block line-of-sight to Coliseum • General ambient noise is mainly due to traffic on Martin Luther King (MLK) J Blvd. and children playing
R3	67	58	66	0%	0%	• Coliseum noise is <u>not audible</u> during ASU game • Band is barely heard at this location durin Notre Dame game • General ambient noise was from traffic on MLK Jr. Blvd.
R4	61	64	64	4%	6%	• Announcer's voice (PA system) is fairly <u>audible</u>, but muffled • Crowd and band can also be heard (faintly) • General ambient noise was from traffic o MLK Jr. Blvd.
R5	60	65	63	0%	0%	• Coliseum is <u>not audible</u> at this location du to distance • Exposition Blvd. was closed to thru traffic during both games thus lower general ambient sound levels are recorded durin the games • During the games general ambient noise was primarily from row of idling buse parked along the Exposition Park near th USC campus
R6	84	86	N/A	100%	100%	

[a] *See Figure V.F-2 for a map showing the physical location of these measurements and Table V.F-2 for location addresses.*

[b] *Helicopters associated with the football game produced sound at locations R1 through R5 that was noticeable for about 50% of the measurement times and reached sound levels up to 70 dBA.*

Source: Ove Arup & Partners California Ltd. Los Angeles Memorial Coliseum Acoustics Report, December 2002.

Table V.F-5
Outdoor Construction Noise Levels

Construction Phase	Duration[b]	Noise Levels (dBA L_{eq})[a]	
		at 50 Feet (dBA L_{eq})	at 50 feet with Mufflers (dBA L_{eq})
Ground Clearing/Demolition	12 weeks	84	82
Excavation, Grading	12 weeks	89	86
Foundations	28 weeks	78	77
Structural	52 weeks	85	83
Finishing	26 weeks	89	86

[a] *USEPA, Noise from Construction Equipment and Operations, Building Equipment and Home Appliances, PB 206717, 1971.*
[b] *The construction phasing is based on a 18-20-month (approx. 1.5 year) construction schedule and is approximate and subject to change.*

Source: Christopher A. Joseph & Associates, 2003.

per day.[4] As depicted in Table V.F-4, the ambient noise levels along Martin Luther King Jr. Boulevard on days when no Coliseum events are scheduled range from 59 to 66 dBA. Previous studies along the same roadway segment have noted much higher ambient levels (i.e., up to 70.9 dBA) along this roadway segment.[5] Haul trucks can generate noise levels up to 85 dBA at a distance of 50 feet. The combined effect of the haul trucks and the existing volume of cars traveling along Martin Luther King Jr. Boulevard would have the potential to increase the ambient noise levels by more than 15 dBA on an intermittent basis between 7:00 a.m. and 6:00 p.m. Monday through Friday, and between 8:00 a.m. and 6:00 p.m. on Saturdays, for approximately 24 weeks.[6] This would result in a relatively short-term and temporary noise impact for this sensitive receptor.

Coliseum Event Noise

At this preliminary stage in the design of the Proposed Project, information on the future sound system is conceptual in nature and subject to change. However, it is expected that the basic sound reinforcement system would provide coverage to:

- All ticketed seats within the stadium.

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[4] *Exposition Park Intergenerational Community Center Environmental Impact Report, Community Redevelopment Agency of the City of Los Angeles, January 1999, (Table 15).*

[5] *Ibid (Table 16).*

[6] *The referenced times and days of construction noise are based on compliance with the City of Los Angeles Municipal Code Noise Ordinance, Chapter IV, Section 41.40.*

- Press box areas.
- Public areas such as concourse areas, concession areas, rest rooms, elevators and offices.
- Private boxes, lounges and suites.
- Ticket booth areas.
- College and NFL team lockers.

The design for the stadium would include a distributed sound system including hundreds of small sound speakers throughout the stadium and concourse areas. The arrangement and location of speakers would be designed to provide intelligible and clear sound coverage throughout the stadium seating areas with sufficient quality to allow reinforcement of a music program. The loudspeaker system would be developed and oriented to direct speakers in a manner that would minimize sound reflections, and the creation of echoes, from the structure. In addition, as part of the Proposed Project, a tensile fabric canopy would be erected above the north and south seating areas which would help absorb and deflect noise produced during an event.

Currently the Coliseum utilizes a typical older sound system, having one or two "sound clusters" that operate at high volumes to service the entire stadium. With distributed sound systems, hundreds of small speakers positioned throughout the stadium would require lower volumes to provide clear and audible sound. Since individual speakers would be placed closer to the patrons, the sound volume would be much lower than with the current sound cluster system. It should be noted that it is unlikely that the improved public address system or "house system" would be utilized as the main speakers for concert events. Typically, each concert holder sets up their own free-standing central speaker cluster system with relays located on and adjacent to the performance stage. The improvement of musical sound through the public address system would largely improve the intelligibility of band music during football games. It is anticipated that the intermittent public address system noise would be discernible (a three to five decibel change) in the portions of Exposition Park shielded from street traffic with ambient noise levels in the 55-60 decibel range. For areas affected by street traffic (residences on the east side of Figueroa Street and on the west side of Vermont Avenue), public address system noise would be masked by this traffic (ambient levels 65-70 decibels) and would not result in a three to five decibel change above ambient conditions. Noise sources during special events and football games would be substantially similar to the levels that are currently generated during events held at the Coliseum. Football events and music concert noise is likely to exceed ambient conditions by five decibels in residential adjacent areas (including Baldwin Hills) during off-peak traffic times when noise levels in surrounding communities are low. As a result, some residents may continue to occasionally find evening concert noise intrusive or annoying. However, as the Proposed Project involves the renovation of an existing recreational facility that already creates significant noise impacts, and the Project would not increase the intensity of crowds, the Project's operational noise impacts for any one event would be reduced and thus considered less than significant. Additionally, the increase in the annual use of the Coliseum with an additional 12 events added to the typical event schedule would be less than significant.

Noise from Event Traffic

The maximum attendance at any one event at the Coliseum under the Proposed Project would be less than the recorded attendance level at the ND vs. USC football game had a recorded attendance of 87,944 persons. Therefore, sound levels recorded during this single event are representative of a worst-case scenario and exceeds the future capacity of the Coliseum by approximately 9,944 persons. Continued use of the Coliseum would result in ongoing nuisance noise effects similar to existing conditions. Such nuisances include loud voices from patrons leaving or returning to their cars, door slams, automobile alarms, automobile horns and radios, and engine run-ups. While it is highly unlikely that the Proposed Project would increase traffic-related noise levels above the existing maximum noise levels, the number of events, or days in which high noise levels are experienced, would be expected to increase by approximately 35 percent, or an additional 10-12 events a year. Since the Proposed Project involves the renovation and re-use of an existing recreational facility that already creates significant noise impacts, and the project would not increase the intensity of crowds, and would not substantially increase the existing average annual usage of venue, the Project's operational noise impacts from event-related traffic would be less than significant.

CUMULATIVE IMPACTS

Short-term cumulative construction-noise impacts in the immediate vicinity of the Project Site could occur if related projects in close proximity to the Project Site are under construction during the same time period as the Proposed Project. A number or renovation and expansion projects within Exposition Park are currently planned or underway. Such projects are detailed in Section IV.C, Related Projects and include the following: #28 - Manual Arts New Elementary School, #30 - California Science Center Phase II & III Expansion, #31 - Science Museum School and Science Education Resource Center, #32 - California Science Center/African American Museum Parking Structure, #33 - Exposition Park Intergenerational Community Center (EPICC), and #37 – renovation and expansion of the Natural History Museum. The combined effect of these related projects in addition to the Proposed Project would result in cumulatively considerable noise impacts. However, the construction process for each of these related projects would not coincide as each project is involved with unrelated project teams and schedules. For example, the EPICC Center and California Science Center/African American Museum Parking Structure are near completion and would be operational by time construction commences on the Proposed Project. In other instances, such as for the Natural History Museum Expansion, the construction process would likely be delayed until after the Proposed Project is completed, as it is currently in the initial planning process and dependent upon future funding. The impacts of these cumulative projects, however, were previously analyzed in the Exposition Park Master Plan EIR, which concluded that with adherence to the City's Noise Ordinance regulations, along with implementation of reasonable noise reduction control measures during the construction process, cumulative noise impacts would be less than significant.

Future traffic growth and associated noise from related projects would not result in significant changes in ambient noise levels. As mentioned previously, the traffic patterns around the Coliseum are dramatically altered during periods when Coliseum events are scheduled. As a result, the incremental effect of ambient traffic growth and traffic growth generated by the related projects is diminished as a result of lower traffic speeds and altered roadway patterns (road closures and detours). Since the Proposed Project will reduce the seating capacity of the Coliseum, the average number of vehicles generated by Coliseum events would not substantially alter the traffic-related noise levels that are currently generated prior to and after Coliseum events. Cumulative noise impacts from traffic would therefore be less than significant.

MITIGATION MEASURES

1. The Applicant shall comply with the construction hours as specified by the City LAMC Noise Ordinance, Chapter IV, Section 41.40., which prohibits construction before 7:00 a.m. or after 6:00 p.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday or any national holiday, and at anytime on Sunday.

2. The Applicant shall prepare a construction-related traffic plan detailing proposed haul routes and staging areas for the transportation of materials and equipment, with consideration for sensitive uses in the neighborhood. A traffic and parking plan for the construction phase will be submitted for approval by LADOT and the Department of Building and Safety prior to the issuance of any permits.

3. Adjacent museums and residents shall be given regular notification of major construction activities and their durations. A visible and readable sign (at a distance of 50 feet) shall be posted on the construction site identifying a telephone number where residents can inquire about the construction process and register complaints.

4. During construction, the Project contractors shall muffle and shield intakes and exhaust, shroud and shield impact tools, and use electric-powered rather than diesel-powered construction equipment, as feasible.

5. The perimeter of the Project Site (including the ancillary outbuildings proposed to be demolished) shall be enclosed with a temporary barrier wall for security and noise protection purposes. This barrier wall shall consist of a solid, heavy vinyl material or ¾-inch plywood positioned to block direct line of sight from the active construction areas and other open space areas and sensitive uses within Exposition Park.

LEVEL OF IMPACT AFTER MITIGATION

Based on the analysis above, significant construction noise impacts would result from construction activities in close proximity to two sensitive land uses within Exposition Park, the new Senior Citizen and Child Care Centers to be opened within EPICC, and the south lawn fronting the Natural History Museum. These areas could be exposed to noise levels of up to 75 dBA during the construction period. Implementation of the noise reduction measures listed above (i.e., construction of a temporary sound attenuation barrier during the construction process) and compliance with the City of Los Angeles Noise Ordinance (Section 41.40) would reduce construction-related noise impacts to less than significant levels.

While no new significant operational noise impacts would occur as a result of the Proposed Project, the recommended mitigation measures listed above would act to further reduce the operational noise impacts that already occur during major Coliseum events.

V. ENVIRONMENTAL IMPACT ANALYSIS
G. PUBLIC SERVICES
1. FIRE PROTECTION

ENVIRONMENTAL SETTING

Fire protection services for the Project Site and surrounding area are provided by the Los Angeles City Fire Department (LAFD). These services are provided as directed by the Fire Protection and Prevention Plan, an element of the General Plan of the City of Los Angeles. The Fire Protection and Prevention Plan is intended to act as a guide to City departments, other government agencies, developers, and the public at-large for the construction, maintenance, and operation of fire protection facilities in the City and establishes standards for the distribution, design, construction and location of fire protection facilities including systems incorporated into private developments. These standards specify fire-flow criteria, minimum distances to fire stations, public and private hydrant specifications and location criteria, and access provisions for fire fighting vehicles and personnel. The LAFD has fire stations at the following locations for initial response service to Exposition Park and the Los Angeles Memorial Coliseum:

Fire Station No. 15
Task Force Station - Truck and Engine Company
Paramedic Ambulance - EMT Ambulance
915 South Jefferson Boulevard
Staffing – 14
Miles from Project Site – 0.6

Fire Station No. 46,
Single Engine Company
Paramedic Ambulance - Paramedic Supervisor
Battalion 3 Headquarters
4370 South Hoover Street
Staffing – 8
Miles from Project Site – 1.2

Fire Station No. 14
Task Force Station - Truck and Engine Company
Paramedic Ambulance - EMT Ambulance
3401 South Central Avenue
Staffing – 14

Miles from Project Site - 1.8[1]

Fire station locations are shown in Figure V.G-1, Fire Station Location Map. The above mileage figures represent estimated response distances to the intersection of Martin Luther King Jr. Boulevard and Hoover Street, south of the Project Site. Actual mileage into other areas of the Project Site would vary accordingly. The adequacy of fire protection for a given area is based on required fire-flow, response distance from existing fire stations, and the Fire Department's judgment for needs in the area. In general, the required fire-flow is closely related to land use. The quantity of water necessary for fire protection varies with the type of development, life hazard, occupancy and degree of fire hazard. Fire-flow requirements vary from 2,000 gallons per minute (GPM) in low-density residential areas to 12,000 GPM in high-density commercial or industrial areas. According to the Los Angeles Fire Department, the required fire-flow for the Proposed Project has been set at no change for GPM from existing fire hydrants.[2]

Response distances are based upon service radii in miles by required fire-flow. Based on a required fire-flow of 9,000 GPM, the first-due Engine Company should be located within ¾ mile, and the first-due Truck Company should be located within 1 mile. The closest Truck Company is currently located 0.6 mile from the Project Site, within the distance recommended by the Fire Department. As a result, the manual Fire Department response travel distance for the existing Coliseum would be considered adequate. The three identified fire stations serving the site currently have established emergency response plans for the Coliseum.

Typically, there are no City of Los Angeles Fire Department personnel on site during football or soccer games; however, a Los Angeles Fire Department Public Assemblage Inspector (Safety Watch Officer) on duty in the South-Central Area may inspect the site at any time. During concerts and other special events, there are as many as six on-duty Fire Department Safety Watch Officers located at the stadium. There is no Fire Command Post located on the current Coliseum grounds. Thus, the Safety Watch Officers may be both located in the press box and/or walking the grounds, staying in contact with fellow staff on-duty via radio communication. These Fire Department staff are paid by the City of Los Angeles Fire Department, which currently bills the Coliseum on a per-event basis. Within the Coliseum, a first aid station is located on the concourse level at Tunnel 6, with additional medical assistance teams located at Tunnels 6, 14, 23 and 29 at the yard level. In addition, emergency medical technician (EMT) services are currently retained by the Coliseum and stationed on the site during large Coliseum events, such as football games and concerts. These services generally include the provision of at least one ambulance.

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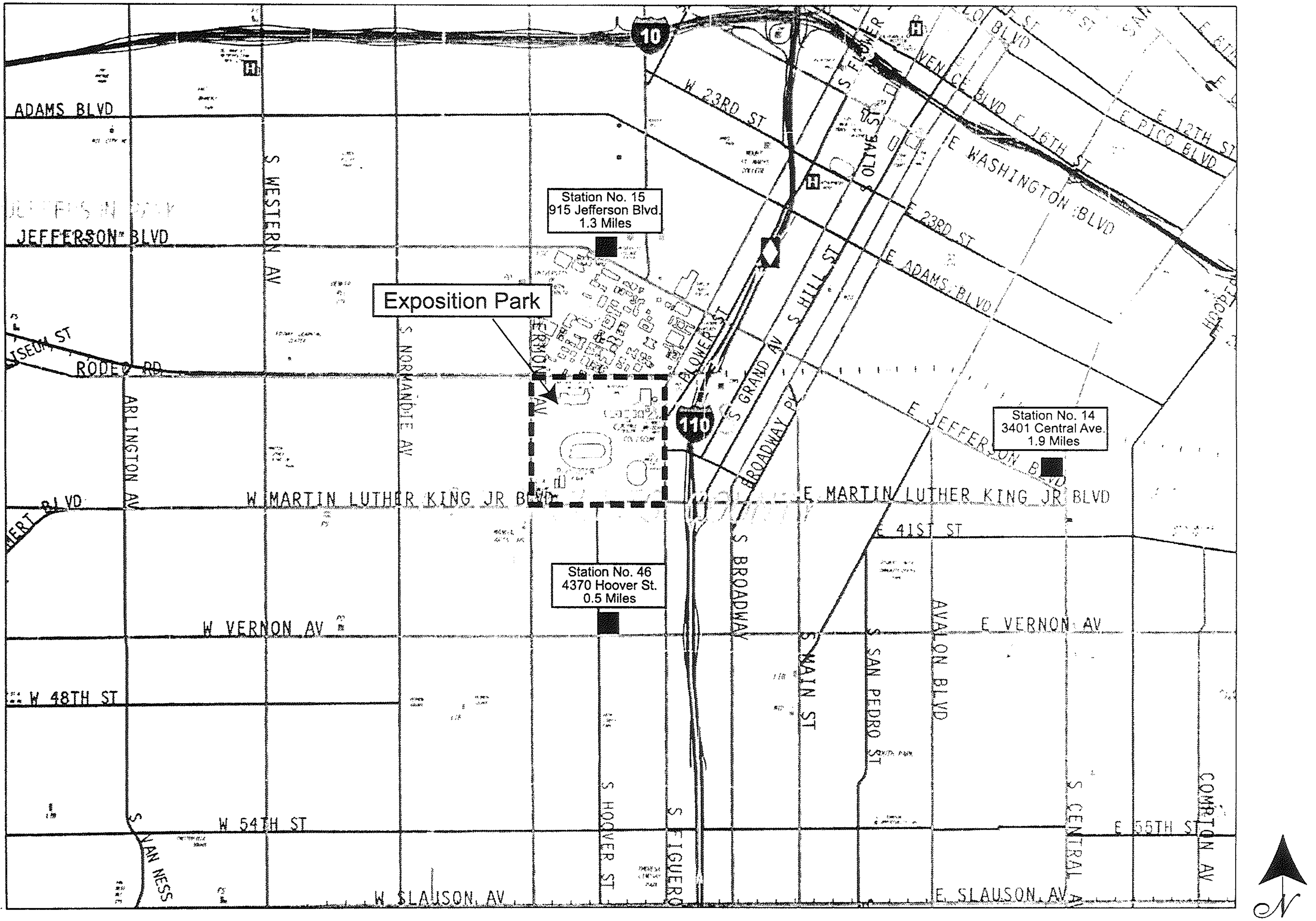
[1] *Correspondence from Alfred B. Hernandez, Assistant Fire Marshall, City of Los Angeles Bureau of Fire Prevention and Public Safety, July 1, 2003.*

[2] *Ibid.*



Source: 2001 Thomas Bro. Maps and Christopher A. Joseph & Associates, January 2003.

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Figure V.G.1-1
Fire Station Location Map

Current maximum capacity for Coliseum events is approximately 92,500 persons. Under existing operations, fire and emergency medical services are adequately provided on-site or available within an acceptable response time during sporting and special events.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

The Proposed Project would have a significant impact on fire services if it requires the addition of a new fire station or the expansion, consolidation or relocation of an existing facility to maintain service.

Project Impacts

The Proposed Project would renovate the Coliseum, reducing its maximum seating capacity from the current level of 92,500 persons to levels of approximately 78,000 persons. Project uses, building sizes and locations, designs, and building heights for the renovated Coliseum are discussed in detail in Section II.C of this report, Project Characteristics. The proposed renovation Project will be developed in accordance with all applicable State and local codes and ordinances, and the guidelines found in the Fire Protection and Fire Prevention Plan, as well as the Safety Plan, both of which are elements of the General Plan of the City of Los Angeles.

Two first-aid stations would be located on the upper concourse levels. These first aid rooms would likely handle most injury and first aid treatment cases. The emergency services elevator would provide nearby access to the yard level from each of the concourse level first aid rooms in order to facilitate direct access to waiting ambulances for more serious cases requiring off-site treatment and/or hospitalization. In addition, a medical examination and x-ray room will be located on the field level for team physicians to treat game-related injuries.

Development of the proposed project would not be expected to alter the existing administrative fire protection procedures currently in place at the Coliseum and the immediately surrounding area. In the renovated Coliseum, no LAFD personnel would typically be located on site during football games. However, the City of Los Angeles Public Assemblage Inspector (Safety Watch Officer) would continue to be able to inspect the site at any time. During concerts, off-road vehicle, and other special events, there would continue to be as many as six on-duty Fire Department Safety Watch Officers located at the stadium. The Coliseum would continue to reimburse the LAFD for the costs of such services on a per-event basis.

Exiting system components, including many of the access routes connecting the stadium to the yard level concourse, would be altered to varying degrees. Some of these alterations would allow for improved exiting by creating more options for possible emergency evacuation, in the event of a fire, earthquake, or other disaster (see also Section V.G.2, Police Protection). In the event of such an emergency, the Fire Department would work, in conjunction with the Police Department, to coordinate an emergency response. During such a disaster, the City of Los Angeles Police Department Chief of Police, as designated by the Mayor of the City of Los Angeles, would be in charge of coordinating any emergency response effort in conjunction with the Fire Department.

According to the LAFD, the proposed project would not require any changes to the existing fire-flow conditions. Since the Coliseum is an existing use, the required fire flow is currently maintained at an acceptable level. Nevertheless, appropriate hydrologic pressure testing will be required to confirm the adequacy of the fire lines prior to construction. Based on the response distance from existing fire stations, the closest truck company would continue to be located within the ¾ mile recommended radius for adequate service capability. As a result, the Fire Department's service response distance to the site would continue to be considered adequate, and would not result in a significant impact.

Additionally, the LAFD considers intersections that operate in excess of capacity as decreasing the level of fire protection and emergency services that can be provided by the Department (see Section V.I Traffic, Access, and Parking, for a complete discussion of traffic impacts). Traffic on the roadways and intersections in the vicinity of the Coliseum would continue to stress the local network during Coliseum events to the point where most intersections in the vicinity would be operating in excess of capacity. As a result, the quality of Fire Department response would continue to be considered compromised by the difficulty which would be experienced in reaching the Coliseum with response vehicles due to severe traffic congestion prior to and following Coliseum events. However, development of the proposed project would not exacerbate existing adverse conditions with respect to traffic congestion during Coliseum events. The installation of sprinklers in enclosed areas, if required, may help reduce concerns of delayed response times.

CUMULATIVE IMPACTS

The development of other related projects in the immediate area, as well as the proposed project, may result in the need for increased staffing for existing facilities, additional fire protection facilities, and the relocation or expansion of present fire protection facilities, which could produce some areawide cumulative impacts on Fire Department resources. However, no immediate needs or plans have been identified to increase Fire Department staffing or resources in those areas which serve the proposed project. All of the identified related projects will be subject to review and approval by the Fire Department and/or other responsible agencies on a case-by-case basis. The extent of cumulative impacts is therefore considered to be less than significant.

MITIGATION MEASURES

As no significant impacts upon fire protection services are anticipated to occur as a result of the proposed project, no mitigation measures are required.

V. ENVIRONMENTAL IMPACT ANALYSIS
G. PUBLIC SERVICES
2. POLICE PROTECTION

ENVIRONMENTAL SETTING

Police protection is provided to the Project Site by the City of Los Angeles Police Department (LAPD). The site is located within LAPD Reporting District (RD) 378, which consists entirely of Exposition Park. The boundaries of RD 378 are Exposition Boulevard to the north, Figueroa Street to the east, Martin Luther King Jr. Boulevard to the south, and Vermont Avenue to the west. RD 378 is located within the Southwest Area, one of the LAPD's 18 area divisions within the City. The Southwest Area is bounded by the Santa Monica Freeway (Interstate 10) to the north, the Harbor Freeway (Interstate 110) to the east, Vernon Avenue to the South, and La Brea Avenue to the west.

As shown in Figure V.G.2-1, Police Station Location Map, the Southwest Area police station is located at 1546 W. Martin Luther King Jr. Boulevard, approximately 1.2 miles west of the site. The current average response time to emergency calls in the Southwest Area is 11.1 minutes, compared to the 2002 average citywide response time of 10.2 minutes.[1] The Southwest Area currently staffs 327 sworn officers and 26 civilian support staff deployed over three watches.[2] The Project Site is routinely patrolled at all times by officers assigned to the Southwest Area.

Past annual crime statistics for the Southwest Area indicate a crime rate above the citywide average of 49 crimes per 1,000 persons, with the occurrence of approximately 79 crimes for each 1,000 persons during 2002. The predominant crimes most often committed in RD 378 consist of aggravated assault, other theft, and burglary from vehicles. Table V.G.2-1 presents crime statistics for RD 378 from 2002. Specific data for crimes occurring inside the Coliseum during events is not maintained by the LAPD.

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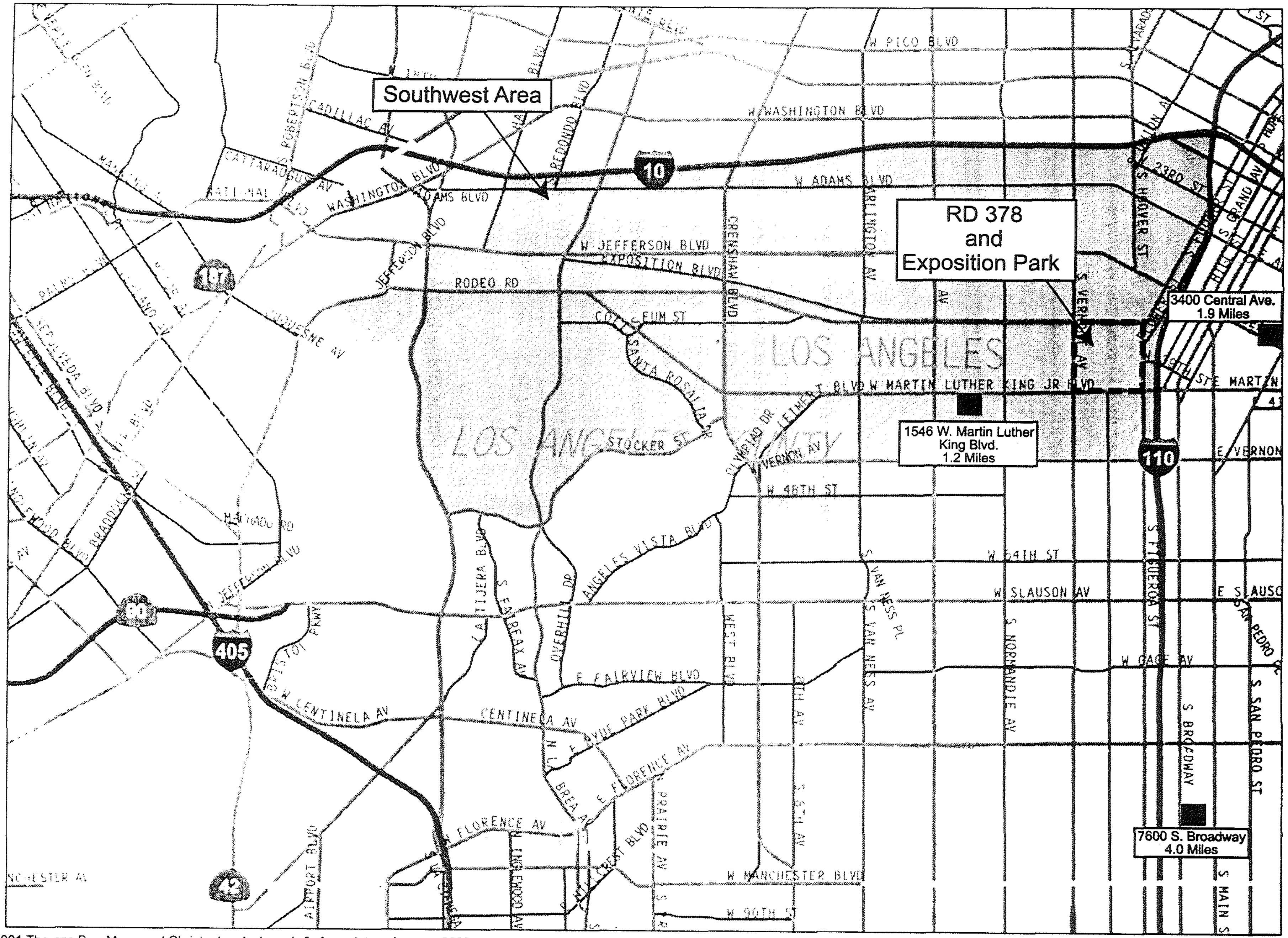
[1] *Correspondence from Lieutenant Fred Booker, Officer in Charge of Community Relations Section, Office of the Chief of Police, July 8, 2003.*

[2] *Ibid.*



Source: 2001 Thomas Bro. Maps and Christopher A. Joseph & Associates, January 2003.

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Figure V.G.2-1
Police Station Location Map

Table V.G.2-1
2002 Crime Statistics for RD 378, Southwest Area and Citywide

Crime Type	Number Of Crimes Committed		
	RD 378	**Southwest Area**	**Citywide**
Burglary from Business	1	171	5,407
Burglary from Residence	1	1,108	15,155
Burglary Other	1	229	4,758
Street Robbery	9	956	11,259
Other Robbery	2	491	5,998
Murder	0	56	655
Rape	0	109	1,400
Aggravated Assault	10	2,667	32,491
Burglary from Vehicle	24	2,136	29,135
Theft from Vehicle	8	833	13,467
Grand Theft	7	640	12,408
Theft from Person	5	95	1,006
Purse Snatch	0	53	348
Other Theft	21	2,269	22,890
Bicycle Theft	0	10	306
Vehicle Theft	13	1,998	34,123
Bunco	0	2	133
Total	**102**	**13,823**	**190,939**

Source: Lieutenant Fred Booker, Officer in Charge of Community Relations Section, Office of the Chief of Police, Los Angeles Police Department, July 8, 2003.

All spectator events at the Coliseum generate the need for additional police service in the area. During events, an additional complement of police personnel is provided and coordinated by the LAPD's Operations-South Bureau Special Events staff. Police protection during Coliseum events is provided through the use of patrol and footbeat units, motorcycle units, air units, horse patrols, mobile command posts, and a holding tank. During Coliseum events, the LAPD maintains a substation located at the west end of the stadium.

Supplementary police protection during Coliseum events is provided by the combined efforts of the following entities:

- On-Duty Detail - composed of a maximum of approximately 50 uniformed on-duty LAPD officers from the Operations-South Bureau Special Events staff, whose primary duty is to police areas outside of the Coliseum.
- Off-Duty Detail - composed of a maximum of approximately 160 uniformed off-duty LAPD officers hired by the Coliseum and/or event management, whose primary duty is to patrol the inside of the Coliseum.
- Civilian Security Personnel - composed of a maximum of approximately 600 unarmed civilian personnel, divided between security staff wearing yellow jackets whose primary duties involve searching patrons as they enter specified events and providing crowd control inside the Coliseum, and crowd management personnel acting as ushers and ticket takers. These personnel are provided by Contemporary Services Corporation (CSC) and are also hired by the Coliseum or event management.

During events at the Coliseum, representatives from LAPD on-duty detail and off-duty detail as well as civilian security personnel are present in the command post, which is currently located on the roof of the press box. In the event of a major crowd control problem, the field commander of the on-duty detail assumes control of both on- and off-duty details. In addition, LAPD helicopters are occasionally utilized for observation purposes during events at the Coliseum.

To ensure that adequate safety measures are undertaken, event coordinators typically meet with the involved security entities prior to each event. Plans and estimates are made to properly deploy officers and security personnel throughout the Coliseum. These plans and estimates are made based on the estimated size of attendance, type of event, and the type of crowd the event draws. The number of security personnel from each of the categories listed above varies according to the above factors. Historically, approximately 160 off-duty police personnel have been retained to manage professional football games, approximately 100 are needed for an average concert, and approximately 60 are used for collegiate football games. Other events require the hiring of a lesser number of off-duty police personnel, depending primarily on the size of the expected crowd. Approximately 600 civilian security personnel would be assigned during a maximum crowd event, such as a concert, with approximately 300 retained for a professional football game. Approximately 250 civilian security personnel are typically utilized for a collegiate football game.[3] As with the off-duty police personnel, the number of civilian security staff

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[3] *All civilian security personnel figures include crowd management personnel acting as ushers and ticket takers.*

utilized during other Coliseum events depends primarily upon expected attendance and the nature of the event.

Many of the incidents requiring police attention during Coliseum events are alcohol-related. In response to the frequency of such incidents, the Coliseum Commission and event management have in the past instituted regulations concerning the sale of alcohol during football games on a trial basis in order to reduce potential problems. Such regulations have included stopping alcohol sales after the end of the third quarter and limiting patrons to a two-beer-per-person limit at all Coliseum concessions. Additionally, alcohol consumption at informal "tailgate" events in parking areas utilized for events prior to, during, and following professional football games is closely monitored by on-duty LAPD personnel.

In the event of an emergency situation at the Coliseum the LAPD would utilize the public address system to calm and instruct the crowd. At the same time, the field commander would assign uniformed police personnel to perform an orderly evacuation of the Coliseum. All emergency plans for the Coliseum are flexible, and would be carried out according to the particularities of the situation. In extreme cases, in what is called a tactical alert, the field commander could choose to call on additional police personnel who are on-duty in adjacent divisions.

Portions of Exposition Park adjacent to the Project Site, except the Sports Arena, are under the jurisdiction of the California State Police. In recent years, the LAPD has coordinated events with the help of the State Police in Exposition Park approximately twice a year. The State Police has utilized one or two patrol cars to monitor the area. During special events in Exposition Park, outside of the Coliseum itself, the State Police has typically designated a detail of up to 12 police personnel to assist the LAPD in police protection with both footbeat units and patrol cars. Recently, however, the California Museum of Science and Industry, under the auspices of the California State Police, has commissioned the formation of an Exposition Park State Police force. This force is responsible for the patrol and protection of Exposition Park with particular emphasis on the Park's museums and other public facilities. It is expected that this force will act as a support unit to existing on-duty LAPD personnel when necessary during Coliseum events.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

Impacts on police protection services would be significant if an increase in population and building area would result in a substantial need for additional police services or equipment. The adequacy of police protection is based on a number of factors, including officer-to-population ratio, land use type, response time, crime rate, and LAPD's judgment of project needs (anticipated crime rate and required police activity level) in the area.

Project Impacts

The Proposed Project would reduce the Coliseum's existing maximum seating capacity from approximately 92,500 persons for all events to approximately 78,000 persons. The project would include the reconfiguration of the Coliseum's seating to provide for the addition of approximately 200 private luxury suites to be contained in three levels, and a separate level containing club seats. In addition, expanded locker rooms, and new offices and press/media facilities would be developed as part of the project. Project uses, building sizes and locations, designs, and building heights for the renovated Coliseum are discussed in detail in Section II.C, Project Characteristics.

The project would also include a security command center at the press level for both private security forces and Los Angeles Police Department personnel. Security offices would be located on the field level of the west end of the stadium. The primary functions served by the security command center office would be the staging of event personnel and the viewing of security monitors receiving feeds from cameras positioned around the perimeter of the stadium. The command post would be shared by LAPD and private security personnel. In addition, several small (approximately 100 square feet each) security holding rooms would be located in the renovated Coliseum on various levels at locations in proximity to the emergency services elevator, which connects the field level with each concourse level. The remainder of the security personnel would be positioned around the various levels and sections of the Coliseum. Parking and/or access for police vehicles would be provided at the main service ramp/tunnel from Menlo Avenue in the southwest corner of the field.

The Proposed Project would retain 26 of the 28 existing tunnels connecting the yard level concourse with the seating area of the Coliseum. Although detailed emergency evacuation plans would be created by the LAPD prior to the opening of the renovated Coliseum, it is anticipated that such evacuations would be somewhat easier to accomplish in the renovated stadium. Factors for this anticipated improvement in potential evacuation procedures include the development of generally separate means of access between each level and the yard level concourse, the decreasing of the distance between landings on the exit stairs, and the decreasing of the maximum number of seats between aisles, with the result being that the renovated Coliseum would be in closer compliance with the applicable State and/or City codes than the existing stadium. As a result of these alterations, the efficiency of an emergency evacuation would be expected to improve slightly over existing conditions.

The number and type of events to be held in the Coliseum following project implementation are anticipated to remain similar to existing levels of use, with the addition of the NFL as a permanent tenant. Therefore, development of the Proposed Project is not expected to place an increased burden on police services in the Southwest Area. The maximum possible attendance at most events (excluding concerts) would be reduced from the existing capacity by approximately 14,500 persons, depending on the event. As a result, the maximum number of supplemental police and security personnel needed for any single Coliseum event would not be expected to increase upon project development. Similarly, the Proposed

Project is not anticipated to have any adverse impact on the ability of officers to respond to calls at the Coliseum. The current level of service will continue to be adequate assuming continued use of off-duty police officers and private civilian security personnel. Overall, the Proposed Project is not expected to result in the alteration of the existing police protection personnel arrangement in place at the Coliseum. However, the LAPD has indicated that a project of this size would have a significant impact upon police services in the Southwest Area.

Security Plan

As part of the Proposed Project, a Security Plan would be developed and implemented by the Applicant to minimize the potential for on-site crime and the need for LAPD services. The plan would outline the security services and features to be implemented, as determined in consultation with the LAPD. The following would be included as part of the plan:

- Provision of an on-site security force which would monitor and patrol the Coliseum site (including the Coliseum and surrounding areas in and adjacent to Exposition Park), prior to, during and after Coliseum events. Security officers shall perform the following duties:
    - Pedestrian, vehicular, and/or bicycle patrols by uniformed security officers;
    - Circulation of plainclothes security officers during events;
    - Implementation of a video camera surveillance system and/or a closed-circuit television system.
- Additional security features shall be incorporated into on-site parking lots, including the following:
    - "Spotters" for parking areas, positioned to be able to view entire lots;
    - Clear public views of all parking areas;
- Security lighting shall incorporate the following:
    - Design of entryways, seating areas, lobbies, elevators, locker rooms, service areas, and other areas within and adjacent to the Coliseum with good illumination and minimum dead space to eliminate areas of concealment;
    - Full cutoff fixtures which minimize glare from the light source and provide light downward and inward to structures to maximize visibility.
- Provision of lockable doors to all entryways, locker rooms, practice facilities, offices, the press box, and concessions;

- Installation of alarms at all entryways and ancillary structures;

- Maximum accessibility for emergency service personnel and vehicles into each structure, and provision to the Southwest Area Commanding Officer of detailed diagram(s) of the site, including access routes, unit numbers, and any information that would facilitate police response.

In addition, security procedures regarding initial response, investigation, detainment of crime suspects, LAPD notification, crowd and traffic control, and general public assistance shall be outlined in the Security Plan. The plan would be subject to review by the LAPD, and any provisions pertaining to access would be subject to approval by the LADOT.

CUMULATIVE IMPACTS

The development of the identified related projects may create additional demands for police services in the study area, which could result in an adverse cumulative impact. The development of commercial and retail-related projects may also create an additional demand on staffing within the LAPD's Southwest, Newton, and Rampart Areas through an increase in the number of police-related problems due to corresponding increases in area traffic, parking demand, and daytime population. All of the identified related projects will be subject to review and approval by the Police Department and/or other responsible agencies on a case-by-case basis. NFL games would also likely be played on only one or two weekday games per year, occurring either on Monday or Thursday nights. Thus, the added demands of the Proposed Project would be limited in nature, as opposed to other commercial and retail development which generate constant demands for such services. The extent of cumulative impacts is therefore considered to be less than significant.

MITIGATION MEASURES

The following mitigation measures are recommended to ensure that an adequate level of police protection continues to be provided on the Project Site during Coliseum events:

1. Plot plans for the proposed renovation shall be submitted to the Los Angeles Police Department's Crime Prevention Section for review and comment. Security features subsequently recommended by the LAPD shall be implemented to the extent feasible.

2. Building plans shall be filed with the LAPD Southwest Area Commanding Officer. Plans shall include access routes, floor plans, evacuation routes, and any additional information that might facilitate prompt and efficient police response.

3. Security features shall be provided on the construction site(s), such as guards, fencing, and locked entrances.

4. Landscaping shall not be planted in a way that could provide cover for persons tampering with doors or windows of commercial facilities, or for persons lying in wait for pedestrians or parking lot users.

5. Additional lighting shall be installed where appropriate as determined in consultation with the LAPD.

6. Safety features shall be incorporated into Proposed Project to assure pedestrian safety, assist in controlling pedestrian traffic flows, and avoid pedestrian/vehicular conflicts on-site. Safety measures may include provision of security and traffic control personnel; clearly designated, well-lighted pedestrian walkways on-site; special street and pedestrian-level lighting; physical barriers (e.g., low walls, landscaping), particularly around the perimeter of the Coliseum, to direct pedestrians to specific exit locations that correspond to designated crosswalk locations on adjacent streets.

7. A Security Plan shall be developed and implemented by the Applicant, in consultation with the LAPD, outlining the security services and features to be provided in conjunction with the Proposed Project. Security features may include but are not limited to the provision of a private on-site security force, implementation of a surveillance system, installation of locks and alarms on entryways where appropriate, security and parking lot lighting, "spotters" to survey parking lots, and maximum accessibility for emergency service personnel. The plan shall be reviewed by the LAPD, and any provisions pertaining to access shall be subject to review by the LADOT. A copy of the Plan shall be provided to the LAPD Southwest Area Commanding Officer.

8. An Emergency Procedures Plan shall be established and implemented by the Applicant outlining guidelines and procedures in the event of civil disturbance, evacuation, and other types of emergencies. The plan shall be subject to review by the LAPD, and any provisions pertaining to access shall be subject to review by the LADOT. A copy of the Plan shall be provided to the LAPD Southwest Area Commanding Officer.

9. Traffic control personnel may be provided on adjacent roadways and in parking areas during Coliseum events and immediately preceding and following events to help prevent vehicles and pedestrians from obstructing emergency access.

In addition to the foregoing recommendations and requirements, measures recommended and/or required under Section V.I, Traffic, Access, and Parking shall be implemented as appropriate.

LEVEL OF IMPACT AFTER MITIGATION

The LAPD has indicated that the Proposed Project would significantly impact the services rendered by the Los Angeles Police Department. However, it is expected that supplemental police personnel would continue to be requested and funded by the Coliseum or the NFL, as needed during Coliseum events. With implementation of the required mitigation measures identified above, including the implementation of the proposed Security Plan, and continued deployment of supplemental police personnel during Coliseum events, impacts to LAPD services would be reduced to less than significant levels.

V. ENVIRONMENTAL IMPACT ANALYSIS
H. UTILITIES
1. ENERGY CONSERVATION

ENVIRONMENTAL SETTING

The Project Site is currently developed with the Los Angeles Memorial Coliseum, a multi-purpose outdoor stadium with a maximum seating capacity of 92,500 persons. Several ancillary structures are located adjacent to and surrounding the Coliseum on the Project Site. These structures include ticket booths, restroom facilities, and concession-related service buildings. The Project Site is situated within Exposition Park, which is developed with several other publicly oriented facilities, including the Los Angeles Memorial Sports Arena, the California Science Center, and the County Museum of Natural History, among others. The Project Site is served by existing infrastructure.

The majority of the Coliseum's energy demands are generated by major events. The Coliseum has hosted an average of 34 events per year over the past four calendar years (1999 through 2002) with a total average annual attendance of 837,071 persons.[1] Full spectator capacity at the Coliseum (92,500 persons) was not reached on any occasion during the aforementioned four-year study period, and has only been reached on infrequent occasions throughout the history of the stadium. In addition to event-related energy demands the Coliseum operates ancillary offices for day-to-day management and grounds maintenance uses. For a more detailed discussion of the parameters of the time period and attendance data utilized in this study, see Section IV.B of this report, Analytical Assumptions.

Electricity

Electrical utility service is currently provided to both the Project Site and the surrounding locale by the City of Los Angeles Department of Water and Power (DWP). The DWP distributes electricity to this area of the City of Los Angeles from the following facilities:

- Century Receiving Station B, located near the intersection of Central Avenue and Century Boulevard, approximately 5.0 miles southeast of the Project Site;
- Distributing Station (DS) 13, located near the intersection of Normandie Avenue and Jefferson Boulevard, approximately 0.7 miles northwest of the Project Site;

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[1] *These 34 average annual events do not include non-ticketed events.*

- Distributing Station (DS) 19, located near the intersection of San Pedro Street and Jefferson Boulevard, approximately 1.25 miles east of the Project Site; and
- Distributing Station (DS) 32, located near the intersection of Woodlawn Avenue and Vernon Avenue, approximately 1.0 miles southeast of the Project Site.

Existing electrical service facilities on the Project Site consist of two Customer Stations (CS-47 and CS-66), which are supplied from the DWP's 4.8 kilovolt (kV) distribution system, and three Industrial Stations (IS-1632, IS-1649, and IS-1946), which are supplied from the DWP's 34.5 kV distribution system. These five facilities are situated at various locations around the Coliseum. Four of these five facilities are exclusively for on-site electricity consumption, while the fifth (IS-1946) also serves other electricity loads within Exposition Park. Each facility is owned and maintained by the DWP.

During major events, electricity is consumed for a variety of uses, the most significant of these being field lighting and scoreboard and videoboard operation. Other less intensive event-associated uses of electricity on-site include public address/sound system operation, television and radio transmission equipment, internal stadium lighting (locker rooms, press box, etc.), stadium and field maintenance equipment, and food preparation. The primary electricity-consumptive on-site use not associated with Coliseum events is the daily lighting of the Coliseum Commission offices, continual security and maintenance lighting, and the operation of office equipment. It should be noted that the majority of annual on-site electricity consumption occurs during Coliseum events, an average of 34 days per year. Electricity usage on-site is reduced substantially during periods when no stadium events are being held.

Table V.H.1-1 presents total and average electricity consumption data for the Project Site over a four-year period from 1999-2002. As shown in Table V.H.1-1, an average total of approximately 2,152,982 kilowatt hours (kWh) of electricity are consumed annually on the Project Site by the existing Coliseum and its related facilities, an average of approximately 63,323 kWh per event.[2] As previously stated, the majority of the electricity consumed on-site is for the purpose of field lighting and scoreboard/videoboard operation.

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[2] *Represents average annual energy consumption for both events and non-event periods divided by the average annual number of events at the Coliseum.*

Table V.H.1-1
Existing Electricity Consumption

Fiscal Years	Average Number of Events	Average Annual Electricity Consumption (kWh)	Average Electricity Consumption per Event (kWh)
1999-2002	34	2,152,982	63,323
Source: Los Angeles Memorial Coliseum Commission, 2003.			

Natural Gas

The Southern California Gas Company (SCG) provides natural gas to the City of Los Angeles through existing gas mains located under the streets and public right-of-ways. Natural gas service is provided in accordance with the Gas Company's policies and extension rules on file with the California Public Utilities Commission (PUC) at the time contractual agreements are made.

The State of California produces about 16 percent of the natural gas it uses. The remaining 84 percent is obtained from sources outside of the state: 46 percent from the Southwest, 28 percent from Canada, and 10 percent from the Rocky Mountain area. In the last ten years three new interstate gas pipelines were built to serve California, expanding the over one million miles of existing pipelines.[3] However, the availability of natural gas is based upon present conditions of gas supply and regulatory policies. As a public utility, SGC is under the jurisdiction of the California Public Utilities Commission (PUC), but can also be affected by actions of federal regulatory agencies. Should these agencies take any action that affects gas supply or the conditions under which service is available, gas service would be provided in accordance with those revised conditions.

Natural gas service is currently provided to the site by the Southern California Gas Company from an existing four-inch main under Menlo Avenue and an existing three-inch main under Hoover Street. Individual service lines run from each of these gas mains to the Coliseum structure. Other lines serve the off-site portions of Exposition Park, including the Sports Arena, from main lines under Figueroa Street and Martin Luther King Jr. Boulevard. Natural gas is currently consumed at the Coliseum for water heating; space heating in the Coliseum Commission offices, locker rooms, and press box; operation of the Olympic torch; and boiler operation. It should be noted that the majority of natural gas consumption on-site occurs during Coliseum events. Natural gas usage on-site is reduced substantially during periods when no events are scheduled. Table V.H.1-2 presents total and average natural gas consumption data for the Project Site over the four-year period from 1999-2002. As shown in Table V.H.1-2, an approximate average of 1,048,390 cubic feet (cf) of natural gas is consumed annually on the Project Site by the

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[3] *California Home Page: www.energy.ca.gov/html/calif_energy_facts.html, March 8, 2002.*

Table V.H.1-2
Existing Natural Gas Consumption

Fiscal Years	Average Number of Events	Average Annual Natural Gas Consumption (cf)	Average Natural Gas Consumption per Event (cf)
2000-2002	34	1,048,390	30,835
Source: Los Angeles Memorial Coliseum Commission, 2003.			

Coliseum. This total represents an average of 30,835 cf of natural gas consumed by the stadium per Coliseum event.[4]

ENVIRONMENTAL IMPACTS

Thresholds of Significance

Implementation of a project would create a significant impact upon electricity or natural gas resources if its demand for electricity or natural gas cannot be served by existing infrastructure and/or supply.

Project Impacts

Short-Term Energy Consumption

Energy would be consumed during the demolition, excavation and site preparation, and construction phases of the Proposed Project for grading and materials transfer by heavy-duty equipment, which is usually diesel powered. At this time, it is expected that the heavy equipment involved in the demolition, excavation and site preparation, and construction phases of the Project would include crawler-excavators, loaders, bulldozers, graders, water trucks, street sweepers, tractors, cranes, and fork lifts. In addition, dump trucks would be used to haul excavated earth and building material to disposal sites throughout the construction period. It is estimated that the majority of heavy equipment use on the site would occur during the first six months of the approximately 18- to 20-month construction period. The construction contractor is currently evaluating the feasibility of recycling existing concrete building materials to be

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[4] *Represents average total natural gas consumption for both events and non-event periods divided by the average annual number of events at the Coliseum.*

removed for use in the Proposed Project. Recycling efforts, if employed, would be accomplished on-site and may require additional equipment not presented in Table V.H.1-3, including a concrete recycling facility and a batch plant.

It is estimated that the Proposed Project will require the export of approximately 250,000 cubic yards of soil and debris. The demolition and excavation phases of the project are anticipated to last approximately 6 months. Assuming the use of tandem bottom dump trucks with a hauling capacity of 15 cubic yards per truck, the demolition/excavation phase of the renovation project would generate approximately 118 haul trips per day.[5] As shown in Table V.H.1-3, an approximate total of 58,331 gallons of diesel fuel would be consumed by heavy equipment during the construction period. In addition, it is estimated that approximately 75,000 cubic yards of new concrete would be needed on-site from local and regional suppliers. Assuming a truck capacity of 9.5 cubic yards, a round haul trip of 25 miles, and a fuel consumption rate of ten miles per gallon, it is estimated that a total of 7,895 truck trips consuming a total of 19,738 gallons of diesel fuel would be consumed, as shown in Table V.H.1-3. It is further estimated that approximately 150,000 gallons of diesel fuel will be consumed by construction equipment operating on site. Therefore, a total of 228,069 gallons of diesel fuel are estimated to be consumed during the excavation, grading, and construction process.

Additional energy usage would be associated with the construction of the Project itself, including any on-site electrical power usage for tools and other heavy equipment. Construction worker travel to and from the Project Site would also result in the additional consumption of approximately 967,648 gallons of vehicular unleaded fuel during the approximately 18- to 20-month construction period.[6] In addition to approximately 228,069 gallons of diesel fuel and 967,648 gallons of vehicular fuel, and an unquantifiable amount of electricity and natural gas would be consumed as a result of short-term (20-month) construction-related activities.

Long-Term Energy Consumption - Electricity

The Proposed Project would consist of renovating the Coliseum, reducing its maximum seating capacity from the current level of 92,500 persons to 78,000 persons. The Proposed Project would include the reconfiguration of the Coliseum's seating to provide for the addition of approximately 200 private suites

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[5] *Based on a total of 16,666 haul truck trips during a 6-month period with approximately 23.5 working days per month. Fuel consumption rates were based on a haul trip length of approximately 35 miles round trip and a fuel consumption rate of 10 miles per gallon.*

[6] *Based upon an average work day with 1,000 construction workers on-site each day over a 20-month construction period (23.5 working days per month) and a round trip commuting distance of 35 miles at an average consumption rate of 17 miles per gallon.*

Table V.H.1-3
Construction Equipment Fuel Consumption

Phase/Equipment	Number Of Pieces/Total Fuel Consumed (Gallons)
Demolition Phase	
Crawler-Excavators	3
Loaders	3
Bulldozers	2
Excavation Phase	
Crawler-Excavators	2
Loaders	4
Bulldozers	2
Graders	1
Water Trucks	2
Street Sweepers	2
Construction Phase (Concrete)	
Tractors	4
Loaders	2
Cranes	3
Fork Lifts	3
Total From Heavy Equipment:[a]	**150,000 gallons**
Dump Trucks (Excavation Phase)[b]	58,331 gallons
Concrete Trucks (Construction Phase)[c]	19,738 gallons
Total Project Diesel Fuel Consumption:	**228,069 gallons**

[a] *Assumes 10 pieces of equipment operating continuously on the site for six months (141 days) at a fuel consumption rate of 125 gallons per day per equipment piece.*

Source: Christopher A. Joseph & Associates, 2003.

to be located in three levels. Additionally, expanded locker rooms, and new offices and press/media facilities would be developed as part of the Project. The Proposed Project would remove all but one of the existing outbuildings surrounding the Coliseum structure and would include the construction of two new ancillary structures, each 20,000 square feet, for retail or office use. Both ancillary structures would be operable on a day-to-day basis throughout the year.

Electrical service to the renovated Coliseum would continue to be provided by the DWP's 34.5 kV distribution system with transformation to the Coliseum's utilization voltage to take place on the Project Site. To accomplish this, a new Industrial Station and approximately eight new Customer Stations would be located within or adjacent to the Coliseum. The Proposed Project would include the replacement and/or updating of most of the existing Coliseum's electricity-consuming facilities.

While reducing the maximum attendance capacity for any one event, the Proposed Project would increase the total number of electricity-consumptive facilities located on-site through the replacement of existing restroom and concession facilities with a greater number of new facilities, the expansion of the existing home and visiting team locker rooms, the construction of the new food service/maintenance building, the development of separate club level concession counters and lounges, the construction of approximately 200 private suites with wet bar and bathroom facilities, and more expansive press box and communication facilities. The addition of closed circuit television monitors to all concession areas, suites, and lounges; new lighting to all interior and exterior portions of the Coliseum; additional elevators located throughout the stadium; and a new sound system with auxiliary speakers in restrooms, offices, and locker rooms would also add to the existing number of electricity-consuming uses on the site. All food preparation centers in the Proposed Project would be equipped with electrical service, as would all private suites. Air conditioning would likely be provided throughout many of the enclosed portions of the Coliseum, including the private suites, concession stands, club level common areas, press box, and outlying ticket offices. In addition, ventilation of many of the semi-enclosed portions of the stadium would be provided. All of these improvements and additions would increase the number of electricity-using facilities on the site, thereby increasing the site's total electricity consumption by a corresponding amount.

Electricity consumption for the Proposed Project was estimated using the amount of electricity currently consumed on the Project Site. As seen in Table V.H.1-4, electricity consumed by the Proposed Project would be approximately 63,323 kWh per event. On event and non-event days the Proposed ancillary uses are expected to consume approximately 1,419 kWh per day. Annually, the Proposed Project will consume approximately 3.4 million kWh (based on 46 events per year and ancillary use daily throughout the year). This represents an increase of approximately 1.2 million kWh per year over existing conditions.

Table V.H.1-4
Proposed Project Electricity Consumption

Development	**Average Number of Events per Year**	**Consumption Rate**	**Total Annual Consumption (kWh)**
Stadium	46	63,323 (kWh/event)[a]	2,912,858
Ancillary Office/Retail	40,000 sf	12.95 (kWh/sf/year)[b]	518,000
		Subtotal Proposed Project	**3,430,858**
		Less Existing Electricity Consumption	**2,152,982**
		Net Increase in Annual Electricity Consumption	**1,277,876**

[a] *Based on average electricity consumption rate per event (for 34 annual events averaged over a four year period) provided by the Los Angeles Memorial Coliseum Commission, 2003.*

[b] *Based on a usage of 365 days per year.*

In general, electricity consumption on event days at the Coliseum is not nor would it be a direct function of attendance levels, as many of the primary electricity-consumptive facilities on the site, such as lighting, scoreboard and videoboards, and air conditioning would be utilized during most events regardless of the size of the crowd present. However, it should be noted that many of these electricity-consuming uses would only be in full operation during events with sufficient attendance levels to warrant their use. For example, the number of concession stands and restrooms utilized during an event would be dependent on the attendance at that event. For the purposes of this analysis, it has been assumed that the electricity currently consumed on-site would continue to be utilized for the same purposes in the renovated stadium on event days and that the two new ancillary structures proposed would consume electricity independently, on a daily basis regardless of event days or characteristics. It is also likely that the electrical infrastructure in the renovated Coliseum would exhibit an increase in energy efficiency when compared to the existing facilities. This assumption is based upon the development of energy conservation standards established by the California Energy Commission under Title 24; standards which were not in place when the Coliseum was constructed. As stated previously, however, it is likely that the additional number of electricity-consumptive uses to be contained within the Proposed Project would more than offset any reduction in electricity use associated with improved infrastructure. The increase in electricity consumption on the site resulting from the Proposed Project would be primarily associated with the increased number of visitor facilities, such as private suites, more concessions, and the overall increase in the amount of enclosed square footage within the Coliseum, as well as the operation of a new field lighting system.

Following implementation of the Proposed Project, the majority of the peak electricity consumption periods on the site would continue to occur during Coliseum event days, which are largely confined to weekends and weekday evenings. These time periods are also off-peak periods for the areawide consumption of electricity. As a result, the ability of the DWP's regional infrastructure to deliver the peak electrical requirement to the site would not be expected to be severely affected by implementation of the Proposed Project. However, the precise number, size, and locations of any new necessary transformer stations, as well as details concerning the DWP's planned distribution system cannot be determined until the DWP has evaluated the electrical load estimates and service requirements for the Proposed Project. Additional power facilities could be required in order to serve the load growth associated with the Proposed Project. Construction of these facilities may result in some temporary secondary impacts in the forms of noise, air pollution, and traffic congestion during construction.[7]

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[7] *Source: Letter from Edward Karapetian, Manager of Environmental and Governmental Affairs, City of Los Angeles Department of Water and Power, December 19, 1990.*

Development of the Proposed Project would continue existing uses of local and regional energy resources on the Project Site. Upon completion and operation, the Proposed Project would be estimated to consume approximately 3.4 million kWh of electricity per year, an increase of 1.2 million kWh when compared to the existing Coliseum. It has not yet been determined whether the local off-site electricity infrastructure would be able to handle the anticipated increase in yearly power consumption on the Project Site associated with implementation of the Proposed Project, but since the increase in electricity consumption will only occur approximately 46 days per year, and will be low on non-event days, the impact is expected to be less than significant. If improvements to the local distribution system are determined to be necessary by the DWP in order to serve the Project, they would be required to be implemented prior to Project completion. Such improvements however, could be made with minimal impact upon the surrounding land uses, and all property owners would be notified in advance if temporary electricity outages are expected. Impacts to electricity infrastructure and supply would be less than significant.

Long-Term Energy Consumption - Natural Gas

With the development of the Proposed Project, natural gas would continue to be provided to the Project Site by the Southern California Gas Company from existing facilities in the vicinity of the site. While reducing the maximum attendance capacity for most events, the Proposed Project would increase the total number of gas-consumptive facilities located on-site through the replacement of existing concession facilities with a greater number of new facilities, the expansion of the existing home and visiting team locker rooms, the construction of the new food service/maintenance building, the development of separate club level concession counters and lounges, the construction of approximately 200 private suites with wet bar facilities, and more expansive press box facilities. All food preparation centers in the Proposed Project would be equipped with gas service. The Proposed Project would also include the construction of two new buildings, each approximately 20,000 square feet, to accommodate ancillary office or retail uses. Both ancillary structures would be operable on a day-to-day basis throughout the year. All of these improvements and additions would increase the number of gas-using facilities on the site, thereby increasing the site's total natural gas consumption by a corresponding amount. In general, gas consumption at the Coliseum is not a direct function of attendance levels, as many of the primary gas-consumptive facilities on the site, such as those associated with food preparation and water heating, would be utilized during most events regardless of the size of the crowd present. However, it should be noted that many of these gas-consuming uses would only be in full operation during events with sufficient attendance levels to warrant their use. For example, the number of concession stands and restrooms utilized during an event would be dependent on the attendance at that event.

For the purposes of this analysis, it has been assumed that the natural gas currently consumed on-site would continue to be used for the same purposes under the Proposed Project. The additional ancillary structures would slightly increase the use of natural gas on the site. Since development of the Project would include the replacement and/or modernization of much of the gas delivery infrastructure, as well as of the gas-utilizing fixtures within the Coliseum, it has been assumed that the natural gas infrastructure in the renovated Coliseum would exhibit an increase in energy efficiency when compared to the existing facilities. This assumption is based upon the development of energy conservation standards established by the California Energy Commission under Title 24; standards which were not in place when the Coliseum was constructed. However, it is likely that the additional number of gas-consumptive uses to be contained within the Proposed Project would more than offset any reduction in the use of natural gas to be associated with the installation of improved infrastructure.

Natural gas consumption by the Proposed Project was estimated using the amount of electricity currently consumed on the Project Site and projecting an increase in up to 12 additional football games per year. As seen in Table V.H.1-5, natural gas consumed by the Proposed Project would be approximately 33,835 cf per event. The proposed ancillary uses would consume approximately 2,630 cf of natural gas per day. Annually, the Proposed Project would be anticipated to consume approximately 2.3 million cf (based on stadium consumption during 46 events per year and ancillary use daily throughout the year). This represents an increase of approximately 1.3 million cf of natural gas per year over existing conditions.

Table V.H.1-5
Proposed Project Natural Gas Consumption

Development	Average Number of Events per Year	Consumption Rate	Total Annual Consumption (cf)
Stadium	46	30,835 (cf/event) [a]	1,418,410
Ancillary Office/Retail	40,000 sf	2 (cf/sf/month)	960,000
		Proposed Natural Gas Consumption	**2,378,410**
		Less Existing Natural Gas Consumption	**1,048,390**
		Net Increase in Annual Natural Gas Consumption	**1,330,020**

[a] *Based on average natural gas consumption rate per event provided by the Los Angeles Memorial Coliseum Commission, 2003.*

Source: Christopher A. Joseph & Associates, 2003.

Following implementation of the Proposed Project, the majority of the natural gas consumption on the site would continue to occur during Coliseum event days, which are largely confined to weekends and weekday evenings. These time periods are also off-peak periods for the areawide consumption of natural gas. As a result of off-peak hour use, the ability of the Southern California Gas Company's regional infrastructure to deliver the peak natural gas requirement to the site would not be expected to be severely affected by implementation of the Proposed Project. If it is determined that off-site gas delivery system improvements are necessary to serve the anticipated Project peak load of 33,835 cf per event, they would be required to be implemented prior to Project completion.

CUMULATIVE IMPACTS

Development and implementation of the related projects within the study area would result in the consumption of approximately 405,713 kWh of electricity and approximately 1,110387 cf of natural gas per day (based on stadium consumption during 46 days per year and related project and ancillary structures consumption daily throughout the year), as shown in Tables V.H.1-6 and V.H.1-7. Although the cumulative impact of the identified related projects may require the installation of additional electrical and/or natural gas distribution facilities, service availability, and thus the extent of any potential locally occurring cumulative impacts on utility service, would necessarily be determined through the environmental review process for each individual project. The construction of any power distribution facilities required in association with any related project may cause limited local short-term impacts in the forms of unavoidable noise, air pollution, and traffic congestion during construction. Even so, it is not expected that the development of these projects would represent a level of use of regional energy resources that could result in a significantly adverse cumulative impact.

MITIGATION MEASURES

No significant impacts upon electricity or natural gas resources or infrastructure systems have been identified, thus no mitigation measures are required. Nevertheless, the LADWP recommends the following measures be incorporated into the final design as feasible, to reduce the Project's demands for energy resources.

1. During the design process, the applicant should consult with the Los Angeles Department of Water and Power, Efficiency Solutions Business Group, regarding possible energy efficiency measures. The applicant shall incorporate measures to meet or, if possible, exceed minimum efficiency standards for Title XXIV of the California Code of Regulations.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

While the Proposed Project's impact upon electricity and natural gas resources and infrastructure would be less than significant prior to mitigation, implementation of the mitigation measure listed above would serve to further reduce the Project's demand for energy resources.

Table V.H.1-6
Estimated Electricity Consumption by Related Projects

Land Use	Size	Consumption Rate (kilowatt hours/year) [a]	Total (kilowatt hours/day)
Apartment	179 du	5,172/du	2,536
Community Facility/Clinic	78,840 sf	17,100/1,000 sf	3,694
Elementary/Junior High School	1,211,403 sf	12,200/1,000 sf	203
High School	1,815,581 sf	12,200/1,000 sf	232
Light Industrial	700,000 sf	12,200/1,000 sf	23,397
Market/Grocery	8,720 sf	55,200/1,000 sf	1,319
Multi-Use Development	6,914,165 sf	15,300/1,000 sf	289,827
Museum	1,128,000 sf	12,200/1,000 sf	37,703
Office	447,500 sf	17,100/1,000 sf	20,965
Parking Facility	2,400 spaces	--	0
Restaurant	17,443 sf	47,600/1,000sf	2,275
Retail	107,370 sf	15,300/1,000 sf	4,501
Storage	7,910 sf	5,300/1,000 sf	115
Theater[b]	33,420 sf	12,200/1,000 sf	1,117
University	440,000 sf	12,200/1,000 sf	14,707
Wholesale Trade Space	215,000 sf	5,300/1,000 sf	3,122
		Cumulative Total	**405,713**

[a] *Based on rates provided by the SCAQMD, CEQA Air Quality Handbook, 1993.*

[b] *Used Pacific Theaters Seat Rate (1 seat=20 sf).*

Notes:

du = dwelling unit
sf = square feet
Source: Christopher A. Joseph & Associates, 2003.

Table V.H.1-7
Estimated Natural Gas Consumption by Related Projects

Land Use	Size	Consumption Rate (cubic feet/month) [a]	Total (cubic feet/day)
Apartment	179 du	4,011.5/du	23,935
Community Facility/Clinic	78,840 sf	2,000/1,000 sf	5,256
Elementary/Junior High School	1,211,403 sf	2,000/1,000 sf	80,760
High School	1,815,581 sf	2,000/1,000 sf	121,038
Light Industrial	700,000 sf	2,000/1,000 sf	46,667
Market/Grocery	8,720 sf	2,900/1,000 sf	843
Multi-Use Development	6,914,165 sf	2,900/1,000 sf	668,369
Museum	1,128,000 sf	2,000/1,000 sf	75,200
Office	447,500 sf	2,000/1,000 sf	29,833
Parking Facility	2,400 spaces	--	0
Restaurant	17,443 sf	2,900/1,000sf	1,686
Retail	107,370 sf	2,900/1,000 sf	10,379
Storage	7,910 sf	2,000/1,000 sf	527
Theater[b]	33,420 sf	2,000/1,000 sf	2,228
University	440,000 sf	2,000/1,000 sf	29,333
Wholesale Trade Space	215,000 sf	2,000/1,000 sf	14,333
		Cumulative Total	**1,110,387**

[a] *Based on rates provided by the SCAQMD, CEQA Air Quality Handbook, 1993.*

[b] *Used Pacific Theaters Seat Rate (1 seat=20 sf).*

Notes:

du = dwelling unit
sf = square feet
Source: Christopher A. Joseph & Associates, 2003.

V. ENVIRONMENTAL IMPACT ANALYSIS
H. UTILITIES
2. WATER CONSERVATION

ENVIRONMENTAL SETTING

Water service is provided to both the Project Site and the surrounding locale by the City of Los Angeles Department of Water and Power (DWP). Existing water lines serving the Project Site include a 16-inch main under Figueroa Street, a 12-inch main under Martin Luther King Jr. Boulevard, and a four-inch main under Menlo Avenue. Additional nearby lines include a 61-inch main under the Figueroa Street easement and an eight-inch main under Menlo Avenue.

The Coliseum is serviced by DWP water mains via two main feeder (lateral) lines which merge inside the stadium. These feeder lines enter the Coliseum along the north and south exteriors of the structure. The Coliseum's internal water delivery infrastructure has been upgraded and, in parts, replaced at various intervals throughout the stadium's nearly 80 year history. The most recent major overhaul occurred in 1973 when many of the deteriorating internal lines required upgrading and, in some cases, complete replacement. During the 1984 Olympic Games, water pressure and leakage problems were experienced in the yard and concourse levels of the Coliseum. In response, a new pump station was installed and some water lines were replaced and upgraded. In the years since these improvements were made, water system leakages and/or pressure problems have continued to occur within the Coliseum, due primarily to the age of the stadium's interior infrastructure. Low-flow showerheads and toilet flush valve water conservation devices were installed throughout the Coliseum during and following the 1984 Olympic Games. Trough-type urinals, which generally use a greater quantity of water than individual urinals and/or toilets, are currently installed in several of the restroom facilities in the Coliseum. The Coliseum's grass field is irrigated by sprinkler heads percolating through a gravity drain system. The water used for field irrigation drains into a sump located under the west end of the field, from which it is ejected to the storm drain system.

In terms of the City's overall water supply, in addition to local groundwater sources, the DWP operates and receives water via the Los Angeles-Owens River aqueduct and is a member of the Metropolitan Water District of Southern California (MWD). According to DWP projections, these three sources will supply the City's water needs beyond the year 2020. According to recent projections, the City's water demand for 2020 is estimated at 900 cubic feet per second (cfs). The City of Los Angeles Department of Water and Power (DWP) is responsible for ensuring that water demand within the City is met and that State and federal water quality standards are achieved. For the fiscal year of 2001-2002, City water supplies were derived from the following sources: (1) the Los Angeles Aqueduct, approximately 34 percent; (2) groundwater, approximately 11 percent; and (3) purchases from the Metropolitan Water

District (MWD), approximately 55 percent.[1] Although, the amount of water obtained from these sources varies from year to year and is primarily dependent on weather conditions and demand.

Water storage is essential for the DWP to supply water during high demand conditions and provide for firefighting and emergencies. The City water system includes 104 tanks and reservoirs ranging in size from 10,000 to 60 billion gallons with a total capacity of 109 billion gallons.[2] Water is currently being consumed on the Project Site for a variety of event-related uses, primarily field irrigation, landscaping, public restrooms, locker rooms, concession uses, concourse washdowns, and public drinking fountains. In addition to these uses, the daily operation of the Coliseum Commission staff offices and ticket offices consumes a smaller amount of water. Water consumption on-site is reduced during periods when no stadium events are being held, with landscaping and field irrigation being the primary uses.

The Coliseum has hosted an average of 34 events per year over the past three calendar years (1999 through 2002) with a total average annual attendance of 259,087 persons, or 32,386 per event.[3] Full spectator capacity at the Coliseum (92,500 persons) was not reached on any occasion during the aforementioned three-year study period, and has only been reached on infrequent occasions throughout the history of the stadium. For a more detailed discussion of the parameters of time period and attendance data utilized in this study, see Section IV.A of this report, Analytical Assumptions. As shown in Table V.H.2-1, an average of approximately 444,000 gallons of water are consumed per event on the Project Site by the existing Coliseum and its related facilities, an average of approximately 15 million gallons per year.[4]

Table V.H.2-1

Existing Water Consumption

Development	**Size (seats)**	**Consumption Rate[a] (gallons/day/seat)[b]**	**Total Consumption (gallons/day)**
Coliseum Seats	92,500	4.8	444,000
		Total Existing Water Consumption per Event	**444,000**
		Total Existing Water Consumption per Year	**15,096,000**

[a] *Water consumption rate is 120% of wastewater generation rate provided by the City of Los Angeles Department of Public Works, Bureau of Sanitation, July 29, 2003.*

[b] *Gallons per day are for event days only.*

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[1] *City of Los Angeles Department of Water and Power, Urban Water Management Plan, Fiscal Year 2001-2002 Annual Update.*

[2] *City of Los Angeles, Draft L.A. CEQA Thresholds Guide, May 1998.*

[3] *These 34 average annual events do not include non-ticketed events. Source: Los Angeles Coliseum Commission, July 2003.*

[4] *Based on a 34-event year.*

ENVIRONMENTAL IMPACTS

Thresholds of Significance

Implementation of a project would result in a significant impact on water service if either of the following occurs: 1) demand by the project exceeds the ability of the DWP to service the area based on anticipated water supplies; or 2) water demand generated by the project exceeds the capacity of existing or planned water distribution systems, resulting in an unmet need for additional infrastructure in order to provide adequate levels of service.

Project Impacts

Project implementation would consist of the renovation of the Los Angeles Memorial Coliseum, reducing its maximum seating capacity from the current level of 92,500 persons to levels of 78,000 persons. Renovation would include the reconfiguration of the Coliseum's seating to provide for the addition of approximately 200 private suites. Additionally, expanded locker rooms, and new offices and press/media facilities would be developed as part of the Project. The Proposed Project would remove all of the existing outbuildings surrounding the Coliseum structure and would include the construction of two new ancillary buildings, each 20,000 square feet, to be used for office or retail structures. Both ancillary uses would be operable on a day-to-day basis throughout the year. For a more detailed discussion of Project uses, building locations, and designs for the renovated Coliseum, see Section III.C, Project Characteristics.

While reducing the maximum attendance capacity for all events, the Proposed Project would increase the total number of water consumptive facilities located on-site through the renovation of existing restroom and concession facilities with a greater number of new facilities, the expansion of the existing home and visiting team locker rooms, the construction of the new food service/maintenance areas, the development of separate club level concession counters and lounges, the construction of approximately 200 private suites with wet bar and bathroom facilities, and more expansive press box facilities.

It is been assumed that all the water delivery infrastructure and fixtures used within the renovated Coliseum would exhibit an increase in efficiency when compared to the existing facilities, requiring the use of less water to perform the same function. The new system would eliminate existing leakages and pressure problems associated with the existing infrastructure, and would conform to current standards not in place at the time of the Coliseum's original construction or subsequent upgrades.

As shown in Tables V.H.2-2 and V.H.2-3, water consumption on the site is estimated to be approximately 468,000 gallons per event with the development of the Proposed Project, assuming maximum levels of attendance at all events, and 7,200 gallons of water per day on non-event days. This results in a total of approximately 24 million gallons of water consumed by the Project per year, based on a rate of 46 events per year and daily use of the ancillary structures. This is a per-event increase in water consumption of 24,000 gallons per event, and a non-event day increase of 7,200 gallons of water per day. It should be noted that the maximum possible water consumption for any Coliseum event could be reduced below projected levels upon implementation of the Proposed Project through the installation of more water-efficient infrastructure and fixtures, as described above. Additionally, because events are not anticipated to achieve maximum capacity frequently, it can be assumed that water consumption will be below the projected rates for most events.[5]

Table V.H.2-2

Proposed Project Water Consumption on Event Days

Development	Size	Consumption Rate[a, b]	Total Consumption (gallons/day)
Coliseum Seats	78,000 seats	4.8 (gallons/seat/day)	374,400
Luxury Suites[c]	4,000 seats	21.6 (gallons/seat/day)	86,400
Ancillary Office/Retail	40,000 sf	180 (gallons/1,000 sf/day)	7,200
Proposed Project Water Consumption per Event			**468,000**
Less Existing Water Consumption			**444,000**
Total Project Net Increase			**24,000**
Proposed Project Water Consumption per Year			**21,528,000**

[a] *Water consumption rate is 120% of wastewater generation rate provided by the City of Los Angeles Department of Public Works, Bureau of Sanitation, July 29, 2003.*

[b] *Gallons per day are for event days only.*

[c] *The Proposed Project includes 200 suites for a total of approximately 4,000 seats.*

Table V.H.2-3

Proposed Project Water Consumption on Non-Event Days

Development	Size	Consumption Rate[a]	Total Consumption (gallons/day)
Ancillary Office/Retail	40,000 sf	180 (gallons/1,000 sf/day)	7,200
Proposed Project Water Consumption on Non-Event Days			**7,200**
Proposed Project Water Consumption per Year			**2,628,000**

[a] *Water consumption rate is 120% of wastewater generation rate provided by the City of Los Angeles Department of Public Works, Bureau of Sanitation, July 29, 2003.*

Water service for the Coliseum would continue to be provided by the City of Los Angeles Department of Water and Power from the existing 16-inch main under Figueroa Street, 12-inch main under Martin Luther King Jr. Boulevard, and four-inch main under Menlo Avenue. As discussed in Section V.G.1 of this report, Fire Protection, the Proposed Project is estimated to continue to require a fire-flow of approximately 9,000 gallons per minute from six fire hydrants flowing simultaneously, the same as the existing Coliseum.

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[5] *With development of the proposed project, concerts and/or special public speaking events would be the only types of events at which the maximum current capacity could feasibly be retained. The maximum potential capacity of the Coliseum would be reduced for all other types of events.*

It has not been determined at this time whether adequate capacity to meet the site's anticipated future water demand currently exists in the water mains serving the site. The Project Site's peak flow water demand would be anticipated to increase with Project implementation corresponding to increases in water consumptive fixtures and a higher number of events per year. As such, impacts to water services are may be adverse and significant.

At this time, the adequacy of existing water infrastructure to serve the Project Site has not been determined. If, upon formal assessment, water capacity and service is determined to be inadequate, and the local water delivery system requires upgrading, the resulting construction may cause a temporary impact on the surrounding communities due to noise, increased air/dust pollution, and traffic congestion throughout the duration of the necessary construction activities. A determination regarding the need for off-site water system improvements would need to be made prior to the commencement of Project construction activities, with any corresponding improvements to be completed prior to Project completion.

CUMULATIVE IMPACTS

Development of the Proposed Project would result in a consumption rate of approximately 460,800 gallons per event, assuming maximum attendance at all Coliseum events, and a non-event average of approximately 7,200 gallons per day, resulting in a total annual water consumption of approximately 24 million gallons per year (based on an average of 46 events per year and daily operation of ancillary structures). This results in a net increase of 24,000 gallons on event days, and an increase of 7,200 gallons per day on non-event days.

Related projects in the vicinity of the Project Site would be estimated to consume a total of approximately 993,637 gallons of water per day upon completion, as shown in Table V.H.2-4. Annual water consumption expected to be associated with the proposed and related projects is estimated at approximately 394 million gallons of water per year (based on related projects and ancillary uses consuming 365 days a year and Proposed Project consuming 46 days per year). As with the Proposed Project, all related projects will be subject to the City-mandated water conservation program as long as the program remains in effect. As the adequacy of existing water infrastructure has not been determined, the Proposed Project, in conjunction with the related projects, may cause a significant adverse impact to water services. Assuming related projects are in full compliance with the program, however, and the Proposed Project implements the mitigation measures listed below, any impact to water services can be reduced to a less than significant level. Ultimately, the service availability for each individual project can only be determined on a project-by-project basis.

Table V.H.2-4
Estimated Water Consumption by Related Projects

Land Use	Size	Consumption Rate (gallons/day) [a]	Total (gallons/day)
Apartment	179 du	176/du	31,504
Community Facility/Clinic	78,840 sf	275/1,000 sf	21,681
Elementary/Junior High School	6,062 students	10/student	60,620
High School	6,954 students	14/student	97,356
Light Industrial	700 employees	13/employee	9,100
Market/Grocery	8,720 sf	88/1,000 sf	767
Multi-Use Development	6,914,165 sf	88/1,000 sf	608,447
Museum	1,128,000 sf	22/1,000 sf	24,816
Office	447,500 sf	165/1,000 sf	73,838
Parking Facility	2,400 spaces	--	--
Restaurant	17,443 sf	330/1,000sf	5,756
Retail	107,370 sf	88/1,000 sf	9,449
Storage	7,910 sf	22/1,000 sf	174
Theater	1,670 seats	4/seat	6,680
University[b]	440,000 sf	88/1,000 sf	38,720
Wholesale Trade Space	215,000 sf	22/1,000 sf	4,730
Subtotal			993,637
Stadium			***460,800***
Ancillary Museum and Retail			***7,200***
Cumulative Total			**1,461,637**

Notes:
du: dwelling unit.
sf: Square feet.

[a] Based on 120% of wastewater generation rates provided by the City of Los Angeles Public Works Bureau of Sanitation, March 2002.

[b] Based on rates for Library/Public Area provided by the City of Los Angeles Public Works Bureau of Sanitation, March 2002.

Source: Christopher A. Joseph & Associates, 2002.

MITIGATION MEASURES

To reduce impacts to less than significant levels, the following mitigation measures are required:

1. The Project Applicant shall be required to comply with any improvements necessary to meet Los Angeles Fire Department fire-flow requirements for the Proposed Project.

2. The Proposed Project shall incorporate water saving techniques as required by the City of Los Angeles' mandatory water conservation program (Ordinance Nos. 166,080 and 163,532). Water conservation measures described in the ordinance include, but are not limited to, the following:

- As necessary, the Project Site shall be landscaped with drought-tolerant/indigenous species (xeriscape).
- Low flow flush valves and shower head water-conservation devices shall be installed in all restroom and/or locker room facilities.

In addition, the City of Los Angeles Department of Water and Power recommends the following water conservation measures:

3. Automatic sprinkler systems should be set to irrigate landscaping during early morning hours or during the evening to reduce water losses from evaporation. However, care must be taken to reset sprinklers to water less often in cooler months and during the rainfall season so that water is not wasted by excessive landscape irrigation.
4. Reclaimed water should be investigated as a source to irrigate large landscaped areas, including the grass playing field.
5. On-site recycling of drainage from water used for playing field irrigation should be investigated.
6. Recirculating hot water systems which can reduce water waste in long piping systems where water must be run for considerable periods before hot water is received at the outlet should be investigated.
7. Plumbing fixtures should be selected which reduce potential water loss from leakage due to excessive wear of washers.

LEVEL OF IMPACT AFTER MITIGATION

The Proposed Project's impacts to water service are expected to be less than significant after the implementation of the above mitigation measures.

V. ENVIRONMENTAL IMPACT ANALYSIS
H. UTILITIES
3. SANITARY SEWERS

ENVIRONMENTAL SETTING

The City of Los Angeles Department of Public Works, Bureau of Sanitation Division provides sewer conveyance infrastructure and wastewater treatment services to the Project area. The Hyperion Treatment Plant (HTP), located directly west of the Los Angeles International Airport in Playa Del Rey, provides treatment capacity for all wastewater flows generated within the Central Business District Redevelopment Project Area. In December of 1998, the HTP was upgraded to provide full secondary treatment for all influent based on an average dry weather flow of 450 million gallons per day (mgd). The HTP currently processes average wastewater flows of approximately 350 mgd.[1]

The Hyperion Service Area (HSA) encompasses approximately 328,000 acres, or approximately 515 square miles, of the greater Los Angeles area. The HSA also serves 53,000 acres outside the jurisdiction of the City of Los Angeles on a contract basis. The HSA includes approximately 96 percent of the total area served by the LADWP.

Local Infrastructure

Existing sewer lines serving the Project Site include a network of six-, eight-, and ten-, twelve-, and 18-inch lines surrounding the Project Site and Exposition Park. These lines feed into a 44-inch pipe under Exposition Boulevard and a 75-inch pipe in Rodeo Road.

In 1998, several communities in South Los Angeles suffered severe sewage spills during the unusually heavy rainstorms of El Niño because of the failure of the main sewer, the North Outfall Sewer (NOS). The NOS is over 70 years old and is lined with holes and cracks from normal wear and tear, and it is filled nearly to capacity even in dry weather. The sewage overflows were caused by a combination of the age, size, and condition of NOS along with the heavy rains. In September 1998, the Regional Water Quality Control Board (RWQCB) issued a cease and desist order requiring the City of Los Angeles to complete construction of several new sewers throughout the City in approximately seven years, including the East Central Interceptor Sewer (ECIS).

The North Outfall Sewer - East Central Interceptor Sewer (NOS-ECIS) is a new sewer line currently under construction that will allow wastewater to be diverted from the middle portion of the existing NOS so that NOS can be rehabilitated and to provide additional capacity for projected wastewater

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[1] *City of Los Angeles, Department of Public Works, Bureau of Sanitation, July 29, 2003.*

flows. ECIS will extend from the north part of Baldwin Hills in Culver City to just east of the Los Angeles river near Mission Road making it approximately eleven miles long. The first phase of ECIS construction began in April 2001 and will be completed by December 1, 2003. Unit 3W of the ECIS project line runs east/west through Exposition Boulevard between Grand Avenue and Arlington Avenue. This extension runs north of and adjacent to Exposition Park.

The Project Site is currently developed with the Los Angeles Memorial Coliseum, a multi-purpose outdoor stadium with a maximum seating capacity of 92,500 persons. Several ancillary structures are located on-site adjacent to and surrounding the Coliseum. These structures include a museum, retail shop, ticket booths, restroom facilities, and concession-related buildings. The site is situated within Exposition Park, which is developed with several other publicly-oriented facilities, including the Los Angeles Memorial Sports Arena, the California Science Center, and the County Museum of Natural History, among others.

The Coliseum has hosted an average of 34 events per year over the past three calendar years (1999 through 2002) with a total average annual attendance of 259,087 persons, or 32,386 per event.[2] Full spectator capacity at the Coliseum (92,500 persons) was not reached on any occasion during the aforementioned three-year study period, and has only been reached on infrequent occasions throughout the history of the stadium. However, the existing sewer system infrastructure at the Coliseum is designed to accommodate its maximum seating capacity at any one time. For a more detailed discussion of the parameters of time period and attendance data utilized in this study, see Section IV.B of this report, Analytical Assumptions.

Sewage is currently being generated on the Project Site from a variety of uses, the most significant of these being public restrooms, showers in the locker rooms, and concession stand/food preparation uses. In addition to these event-specific uses, the daily operation of the Coliseum Commission staff offices and ticket offices generate a comparatively small amount of sewage. It should be noted that the majority of annual on-site sewage generation occurs during Coliseum events. Sewage generation on-site is reduced during periods when no stadium events are being held. Table V.H.3-1 indicates the estimated total amount of sewage generated on the Project Site under existing conditions based on maximum capacity on an event day. It should be noted that maximum capacity at the Coliseum never occurred over the three-year study period analyzed to determine average events per year. Correspondingly, maximum capacity has only been reached on infrequent occasions throughout the history of the Coliseum. As shown, at maximum capacity an estimated 370,000 gallons of sewage is generated per event on the Project Site by the existing Coliseum and its related facilities. Based on the average rate of 34 events per year, this results in an annual average of approximately 12.6 million gallons per year.

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[2] *These 34 average annual events do not include non-ticketed events.*

Table V.H.3-1
Existing Wastewater Generation

Development	Size (seats)	Generation Rate[a] (gallons/day/seat)[b]	Total Generation (gpd)
Coliseum Seats	92,500	4	370,000
Total Existing Wastewater Generation per Event			**370,00**
Total Existing Wastewater Generation per Year			**12,580,000**
[a] *City of Los Angeles Department of Public Works, Bureau of Sanitation, July 29, 2003.* [b] *Gallons per day are for event days.*			

ENVIRONMENTAL IMPACTS

Thresholds of Significance

A project would have a significant impact on sanitary sewer systems if its implementation would result in a measurable increase in wastewater generation to a point where it would cause a sewer line to become constrained, or if the project's wastewater flows would substantially or incrementally exceed the capacity of existing or planned wastewater conveyance systems or treatment facilities that serve the area.

Project Impacts

Temporary Construction Impacts

Project construction would involve excavation and grading activities in the immediate vicinity of the Coliseum structure. Utility infrastructure, including existing sewer lines would be upgraded as necessary to accommodate new connections. Such improvements would be limited to the feeder lines connecting the Coliseum to the main sewer system and would not require disruption of the existing main lines. Therefore, construction activities would not result in a significant impact upon the existing sewer system infrastructure.

Operational Impacts

Wastewater generation associated with the Proposed Project was calculated using generation factors based on land use, as provided by the City of Los Angeles.[3] The estimated net increase was analyzed relative to infrastructure and treatment plant capacity. While reducing the maximum attendance capacity

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[3] *City of Los Angeles, Department of Public Works, Bureau of Sanitation, July 29, 2003.*

for all events, the Proposed Project would increase the total number of sewage generators on the site through the replacement of existing restroom and concession facilities with a greater number of new facilities, the expansion of the existing home and visiting team locker rooms, the construction of the new food service/maintenance building, the development of separate club level concession counters and lounges, the construction of approximately 200 private suites with wet bar and bathroom facilities, and more expansive press box facilities. However, it should be noted that event-related sewage generation would remain a direct function of attendance levels, with only as many restrooms and concession stands operating as necessary to meet the need at any given event. As a result, a net increase in the number of such sewage generating facilities would not necessarily result in a corresponding increase in on-site sewage generation.

For the purposes of this analysis, it has been assumed that all existing sewage generating uses would continue in the renovated Coliseum. Projected on-site sewage generation with implementation of the Proposed Project is presented in Tables V.H.3-2 and V.H.3-3. These estimates assume maximum capacity and that the renovated Coliseum would host 64 events per year. The estimates also assume that the ancillary structures will be operable daily throughout the year. As stated above, maximum capacity at the Coliseum has occurred infrequently over its history, and not once in the years between 1999 and 2002.

As shown in Table V.H.3-2 above, the Proposed Project would be estimated to generate approximately 390,000 gallons of sewage per event, assuming maximum attendance at all Coliseum events. Table V.H.3-3 shows that ancillary structures will generate approximately 6,000 gallons of wastewater per day, or almost 2.2 million gallons per year, unrelated to the number of events held. This represents an increase of approximately 20,000 gallons per event over existing sewage generation on event days at the Coliseum and an increase of 6,000 gallons daily on non-event days. Assuming the per-event generation of 384,000 gallons of sewage, and 46 events per year, all at maximum capacity, Project sewage generation would be approximately 18 million gallons per year. It should be noted that the maximum possible sewage consumption from the site experienced during any Coliseum event could be reduced from projected levels upon implementation of the Proposed Project. This reduction would be accomplished through the installation of a more water-efficient infrastructure and fixtures which could result in a reduction in the average per-person per-event sewage generation. Additionally, it is unlikely that this maximum sewage generation situation would occur in the future.

The estimated existing and Proposed Project sewer generation rates are based on a sold-out scenario, where the stadium is at maximum capacity. The City of Los Angeles Department of Public Works, Bureau of Sanitation has determined that impacts on City of Los Angeles sewer services by the Proposed Project will be less than significant, assuming maximum capacity conditions.[4] Additionally, the HTP has on average 100 million gpd of remaining capacity daily. The Proposed Project is anticipated to contribute approximately 6,000 gallons per day on a daily basis and approximately 384,000 gallons of wastewater per event day to the average daily intake of 350 million gallons at the HTP. This represents an

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[4] *City of Los Angeles, Department of Public Works, Bureau of Sanitation, July 29, 2003.*

Table V.H.3-2
Proposed Project Wastewater Generation on Event Days

Development	Size	Generation Rate [a, b]	Total Generation (gpd)
Coliseum Seats	74,000 seats	4 (gallons/seat/day)	296,000
Luxury Suites [c]	4,000 seats	18 (gallons/seat/day)	72,000
Ancillary Office/Retail	40,000 sf	150 (gallons/1,000 sf/day)	6,000
Proposed Project Wastewater Generation on Event Days			**374,000**
Less Existing Wastewater Generation on Event Days			**370,000**
Total Project Net Increase on Event Days[d]			**20,000**
Proposed Project Wastewater Generation per Year			**17,940,000**

[a] *City of Los Angeles Department of Public Works, Bureau of Sanitation, July 29, 2003.*
[b] *Gallons per day are for event days only.*
[c] *The Proposed Project includes approx. 200 suites for a total of 4,000 seats.*
[d] *Includes wastewater generation by ancillary structures, as illustrated in Table V.H.3-3.*

insignificant daily contribution to the HTP's daily capacity and an event-day contribution of approximately 0.38 percent of the remaining daily capacity at the facility. This 0.38 percent increase is expected to occur on approximately 46 days per year and is not considered a significant impact to the HTP's capacity or infrastructure.

CUMULATIVE IMPACTS

As shown in Table V.H.3-4, related projects in the vicinity of the Project Site are estimated to generate approximately 896,202 gallons of sewage per day, or approximately 327 million gallons per year. Related project sewage generation would account for less than 0.2 percent of the maximum daily sewage flow currently allowed by the HTS system. The Proposed Project and related projects are estimated to generate a total of approximately 1.3 million gallons of sewage on event days at the Coliseum, or approximately 354 million gallons of wastewater per year (based on 365 days of related project and ancillary structure generation and 46 events per year of stadium generation). On event days, sewage generated by the proposed and related projects would account for approximately 1.3 percent of the remaining daily sewage capacity currently available at the HTP. On non-event days, related projects and the museum and retail uses would contribute approximately 0.9 percent of the remaining daily capacity at the HTP. Those related projects not yet under construction would be subject to interim and future ordinances which restrict the issuance of building permits based upon the availability of allotted monthly sewer capacity. The extent of each project's impact will depend on the availability of allotted sewer capacity at the time each project application is considered by the City.

Table V.H.3-3
Proposed Project Wastewater Generation on Non-Event Days

Development	Size	Generation Rate [a]	Total Generation (gpd)
Ancillary Office/Retail	40,000 sf	150 (gallons/1,000 sf/day)	6,000
Proposed Project Wastewater Generation on Non-Event Days			**6,000**
Proposed Project Wastewater Generation on per Year			**2,190,000**

[a] *City of Los Angeles Department of Public Works, Bureau of Sanitation, July 29, 2003.*

Table V.H.3-4
Estimated Wastewater Generation by Related Projects

Land Use	Size	Consumption Rate (gpd) [a]	Total (gpd)
Apartment	179 du	160/du	32,041
Community Facility/Clinic	78,840 sf	250/1,000 sf	19,710
Elementary/Junior High School	6,062 students	8/student	48,496
High School	6,954 students	12/student	83,448
Light Industrial	700 employees	12/employee	8,400
Market/Grocery	8,720 sf	80/1,000 sf	698
Multi-Use Development	6,914,165 sf	80/1,000 sf	553,133
Museum	1,128,000 sf	20/1,000 sf	22,560
Office	447,500 sf	150/1,000 sf	67,125
Parking Facility	2,400 spaces	--	0
Restaurant	17,443 sf	300/1,000sf	5,233
Retail	107,370 sf	80/1,000 sf	8,590
Storage	7,910 sf	20/1,000 sf	158
Theater[b]	1,670 seats	4/seat	6,680
University[c]	440,000 sf	80/1,000 sf	35,200
Wholesale Trade Space	215,000 sf	20/1,000 sf	4,730
Subtotal			896,202
Stadium			*384,000*
Ancillary Museum and Retail			***6,000***
Cumulative Total			**1,286,202**

[a] *Based on 120% of wastewater generation rates provided by the City of Los Angeles Public Works Bureau of Engineering, March 2002.*

[b] *Used Pacific Theaters Seat Rate (1 seat=20 sf).*

[c] *Based on rates for Library/Public Area provided by the City of Los Angeles Public Works Bureau of Engineering, March 2002.*

[d] Event days only.

Notes:
du = dwelling unit
sf = square feet
Source: Christopher A. Joseph & Associates, 2002.

MITIGATION MEASURES

Project impacts to sewer services will be less than significant; therefore no mitigation measures are required.

V. ENVIRONMENTAL IMPACT ANALYSIS
H. UTILITIES
4. SOLID WASTE AND DISPOSAL

ENVIRONMENTAL SETTING

Within the City of Los Angeles, solid waste management, including collection and disposal services and landfill operation, is administered by various public agencies and private companies. Single-family residential and limited multiple-family residential refuse is collected by the City of Los Angeles Bureau of Sanitation; waste generated by most multi-family residential sources and all commercial and industrial sources is collected by private contractors. Waste disposal sites are operated by both the City and County of Los Angeles, as well as by private companies. In addition, transfer stations are utilized to store debris temporarily until larger hauling trucks are available to transport the materials directly to the landfills. Landfill availability is limited by several factors, some of which include the following: 1) restrictions to accepting waste generated only within a landfill's particular jurisdiction and/or wastershed boundary; 2) tonnage permit limitations; 3) operational constraints; and 4) corporate objectives of landfill owners and operators.

The California Integrated Waste Management Act of 1989 (AB 939) was enacted to reduce, recycle, and reuse solid waste generated in the State to the maximum amount feasible. Specifically, the Act required city and county jurisdictions to identify an implementation schedule to divert 50 percent of the total waste stream from landfill disposal by the year 2000 and 70 percent by the year 2020.[1] The Act also requires each city and county to promote source reduction, recycling, and safe disposal or transformation.

AB 939 further requires each city to conduct a Solid Waste Generation Study and to prepare a Source Reduction and Recycling Element (SRRE) to describe how it would reach the goals. The SRRE contains programs and policies for fulfillment of the goals of the Act, including the above-noted diversion goals and must be updated annually to account for changing market and infrastructure conditions. As projects and programs are implemented, the characteristics of the waste stream, the capacities of the current solid waste disposal facilities, and the operational status of those facilities are upgraded, as appropriate. California cities and counties are required to submit annual reports to the California Integrated Waste Management Board to update the Board on the city's progress toward the AB 939 goals. To date, implementation of AB 939 has proven to be a successful method of reducing landfill waste.

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[1] *Correspondence from Los Angeles Office of the Board of Public Works, Karen Coca, January 30, 2002.*

Given the multitude of haulers solid waste is likely disposed of at a variety of landfills, potentially including the Bradley Landfill or Sunshine Canyon Landfill. The Bradley Landfill is currently permitted to intake 10,000 tons per day of solid waste and receives approximately 2,250 tons per day. This indicates that the Bradley Landfill is currently permitted to receive an additional 7,750 tons per day of solid waste. In addition, the City is exploring plans to construct or purchase other solid waste facilities, including a materials recovery facility and a transfer station, the details of which are currently unavailable.[2] The Sunshine Canyon Landfill Facility, located in Sylmar, has approximately 9.72 million tons of capacity remaining with an average daily intake of 6,515 tons per day.[3]

Facility expansions and new landfills are continuously being sought as existing facility capacity diminishes. Mandatory City waste reduction and recycling programs (in compliance with the September 1989 California Integrated Solid Waste Management Act, SB AB 939) are greatly reducing the amount of waste that would otherwise have entered area landfills. In addition, Orange County accepts solid waste from Los Angeles County.

The Project Site is currently developed with the Los Angeles Memorial Coliseum, a multi-purpose outdoor stadium with a maximum seating capacity of 92,500 persons. In addition, several ancillary structures are located on-site adjacent to and surrounding the Coliseum. These structures include ticket booths, restroom facilities, and concession-related buildings. The site is situated within Exposition Park, which is developed with several other publicly-oriented facilities, including the Los Angeles Memorial Sports Arena, the California Science Center, and the Los Angeles County Museum of Natural History, among others.

Throughout the City of Los Angeles, solid waste generated by commercial land uses is gathered by private collectors contracted directly by the individual property owners. A private solid waste collector is currently retained by the Coliseum Commission to collect solid waste from the site on an "on-call" basis for all spectator events. In addition to the solid waste generated by Coliseum events, a small amount of solid waste is generated on a year-round basis by the operation of the Coliseum Commission administrative offices. This solid waste is taken to dumpsters located adjacent to the Los Angeles Memorial Sports Arena, which adjoins the site on the southeast, from which it is picked up by a private collector on a regular basis.

The Coliseum has hosted an average of 34 events per year over the past three calendar years (1999 through 2002) with a total estimated annual attendance of 837,071 persons.[4] Full spectator capacity at

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[2] *California Integrated Waste Management Board, Board Meeting May 13-14, 2003, "Agenda Item 7 (Revised)."*

[3] *County of Los Angeles, Department of Public Works, November 7, 2002.*

[4] *These 34 average annual events do not include non-ticketed events, like those used in the utility rate tables, Los Angeles Coliseum Commission, July 2003.*

the Coliseum (92,500 persons) was not reached on any occasion during the aforementioned three-year study period, and has only been reached on infrequent occasions throughout the history of the stadium. For a more detailed discussion of the parameters of time period and attendance data utilized in this study, see Section IV.B of this report, Analytical Assumptions. As shown in Table V.H.4-1, the Coliseum currently generates approximately 837,071 pounds of solid waste on annual basis, or approximately 419 tons per year.

Table V.H.4-1
Existing Solid Waste Generation

Existing Development/Event Types	**Average Annual Attendance**[a]	**Generation Rate**[b] **(pounds/person/event)**	**Total Generation (lbs/day)**
Coliseum (92,500 Seats)	--	--	
Misc. Sports (H.S. Football)	17,622	1	17,622
Motorsports	31,886	1	31,886
Religious Events	45,000	1	45,000
Misc. Cultural Events	44,751	1	44,751
Concerts	67,517	1	67,517
Soccer	196,820	1	196,820
USC Football	341,425	1	341,425
XFL Football	92,050	1	92,050
Total Existing Solid Waste Generation per Year			**837,071**

[a] *Based on an average of 34 events per year. The estimate of the total annual attendance for exiting Coliseum events was based on the cumulative total of the average recorded attendance levels (averaged over the past 4 years) for each event type multiplied by the number of events held each year for each type of event.*

[b] *Based on the City of Los Angeles Bureau of Sanitation's "cafeteria" generation rate of one pound of solid waste generated per person per event, determined to be the most accurate and conservative available rate.*

Source: Christopher A. Joseph & Associates, 2003.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

Implementation of a project would result in a significant impact on solid waste if the existing landfill facilities could not adequately handle the project's waste; if the disposal of project-related solid waste would result in a premature exhaustion of a landfill's capacity; or if the project conflicts with local, state, and federal laws and regulations pertaining to solid waste management.

Project Impacts

The Proposed Project would result in the removal of much of the existing building material on-site, including all of the concession and restroom buildings outlying the Coliseum on the site, as well as some of the interior of the existing stadium. Additional grading and excavation of earth materials would add to the total amount of material estimated to be removed from the site during the construction period, an estimated total of approximately 250,000 cubic yards. It has not yet been determined whether or not landfills would be utilized as receptor sites for all or part of this material. Preliminary plans call for the disposal of materials generated during the excavation and construction period at another development site needing imported fill material, with the use of landfills being considered only as a last resort. If landfills are utilized, an undeterminable amount of landfill capacity would be required to accommodate non-hazardous debris removed from the site during the construction phase.

Assuming the existing average annual attendance levels for all current event types at the Coliseum remain relatively constant, and up to 12 additional NFL events are held per year (assuming maximum capacity for all 12 events), the Proposed Project would be anticipated to generate approximately 1,860,671 pounds or approximately 930 tons of solid waste per year (See Table V.H.4-2). Existing uses on the site generate approximately 837,071 pounds (or approximately 419 tons) of solid waste per year. Therefore, implementation of the Proposed Project would generate a net increase of approximately 1,023,600 pounds (or approximately 512 tons) per event. Development of the Proposed Project could potentially result in an approximate 23 % increase in the volume of solid waste generated by the Coliseum. Since the Proposed Project represents a relatively low increase in annual solid waste generation at the Project Site as compared to existing conditions, and regional landfill capacity is currently adequate to accommodate the regional solid waste demands for the City of Los Angeles, impacts associated with the Proposed Project would be considered less than significant.

Table V.H.4-2
Proposed Project Solid Waste Generation

Development	Average Annual Attendance	Generation Rate	Total Generation (lbs/yr)
Existing Uses (Ave. 34 events)	837,071	1 lb./person/event)	837,071
NFL Football (12 events @ 78,000 seats max.)	--	--	--
General and Club Seats (74,000)	888,000	1 lb./person/event))[a]	888,000
Luxury Suite Seats (4,000)[b]	48,000	1 lb./person/event)	48,000
Ancillary Office/Retail (40,000 sf)[c]	--	6 (lbs./1,000 sf/day)	87,600
		Proposed Project Solid Waste Generation	**1,860,671**
		Less Existing Solid Waste Generation	**(837,071)**
		Net Increase in Solid Waste Generation per Year	**1,023,600**

[a] *Based on the City of Los Angeles Bureau of Sanitation's "cafeteria" generation rate of one pound of solid waste generated per person per event, determined to be the most accurate and conservative available rate.*

[b] *Based on approximately 20 seats per suite, with approximately 200 suite.*

[c] *Assumes this is a new use operating 365 days per year.*

Source: Christopher A. Joseph & Associates, 2003.

CUMULATIVE IMPACTS

Development and implementation of the related projects within the study area would result in the generation of approximately 76,171 pounds (or approximately 38 tons) of solid waste per day. This equates to approximately 27.8 million pounds (or approximately 13,901) tons annually (See Table V.H.4-3). Implementation of the Proposed Project with the related projects would generate an average of approximately 28.8 million pounds (or approximately 14,413 tons) of solid waste per year. This results in an average solid waste generation of approximately 39.4 tons per day.

The Proposed Project would not contribute to a cumulative adverse impact to solid waste as there is currently adequate capacity at the regional landfills to accommodate the proposed project and the cumulative related projects identified herein. As discussed above, the Sunshine Canyon Landfill is permitted to receive up to 5,500 tons of solid waste each day from the City. The Sunshine Canyon Landfill currently receives approximately 3,500 tons of solid waste daily from the City and has a remaining daily capacity of 2,000 tons. Assuming that all of the cumulative solid waste is sent to the Sunshine Canyon Landfill with no waste stream diversion, the additional 39.4 tons of cumulative solid waste per day would not cause the Sunshine Canyon Landfill to exceed its permitted daily capacity from the City. As previously discussed, additional capacity to accommodate the cumulative disposal needs of the Proposed Project and related projects may become available as the City develops solutions to meet the future disposal needs at a regional level (e.g., expanding existing landfills, transporting waste to other landfills, converting waste to energy, recycling and waste reduction). Furthermore, similar to the Proposed Project, the related projects would be subject to the requirements of AB 939 (i.e., divert 50 percent of the solid waste generated from landfills through waste reduction, recycling and composting). Consequently, the cumulative solid waste impact is considered to be less than significant.

MITIGATION MEASURES

The Proposed Project is not anticipated to result in any significant adverse impacts relating to the disposal of solid waste, therefore, no mitigation measures are required for incorporation into the Proposed Project.

Table V.H.4-3
Estimated Solid Waste Generation by Related Projects

Land Use	Size	Generation Rate[a] (lbs/day)	Total (lbs/day)
Apartment	179 du	4/du	716
Community Facility/Clinic	78,840 sf	7/1,000 sf	552
Elementary/Junior High School	1,211,403 sf	7/1,000 sf	8,480
High School	1,815,581 sf	7/1,000 sf	12,709
Light Industrial	700,000 sf	5/1,000 sf	3,500
Market/Grocery	8,720 sf	5/1,000 sf	44
Multi-Use Development	6,914,165 sf	5/1,000 sf	34,571
Museum	1,128,000 sf	5/1,000 sf	5,640
Office	447,500 sf	6/1,000 sf	2,685
Parking Facility	2,400 spaces	--	
Restaurant	17,443 sf	50/1,000sf	872
Retail	107,370 sf	5/1,000 sf	537
Storage	7,910 sf	5/1,000 sf	40
Theater[b]	1,670 seats	1/seat	1,670
University[c]	440,000 sf	7/1,000 sf	3,080
Wholesale Trade Space	215,000 sf	5/1,000 sf	1,075
		Subtotal (Daily)	76,171
		Cumulative Total (Annual)	**27,802,415**

[a] *Based on land use type, provided by the City of Los Angeles Bureau of Sanitation, "Solid Waste Generation," 1981.*

[b] *Used Pacific Theaters Seat Rate (1 seat=20 sf).*

[c] *Based on rates for Library/Public Area land use, provided by the City of Los Angeles Public Works Bureau of Engineering, March 2002.*

Notes:
du = dwelling unit
sf = square feet

Source: Christopher A. Joseph & Associates, 2002.

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

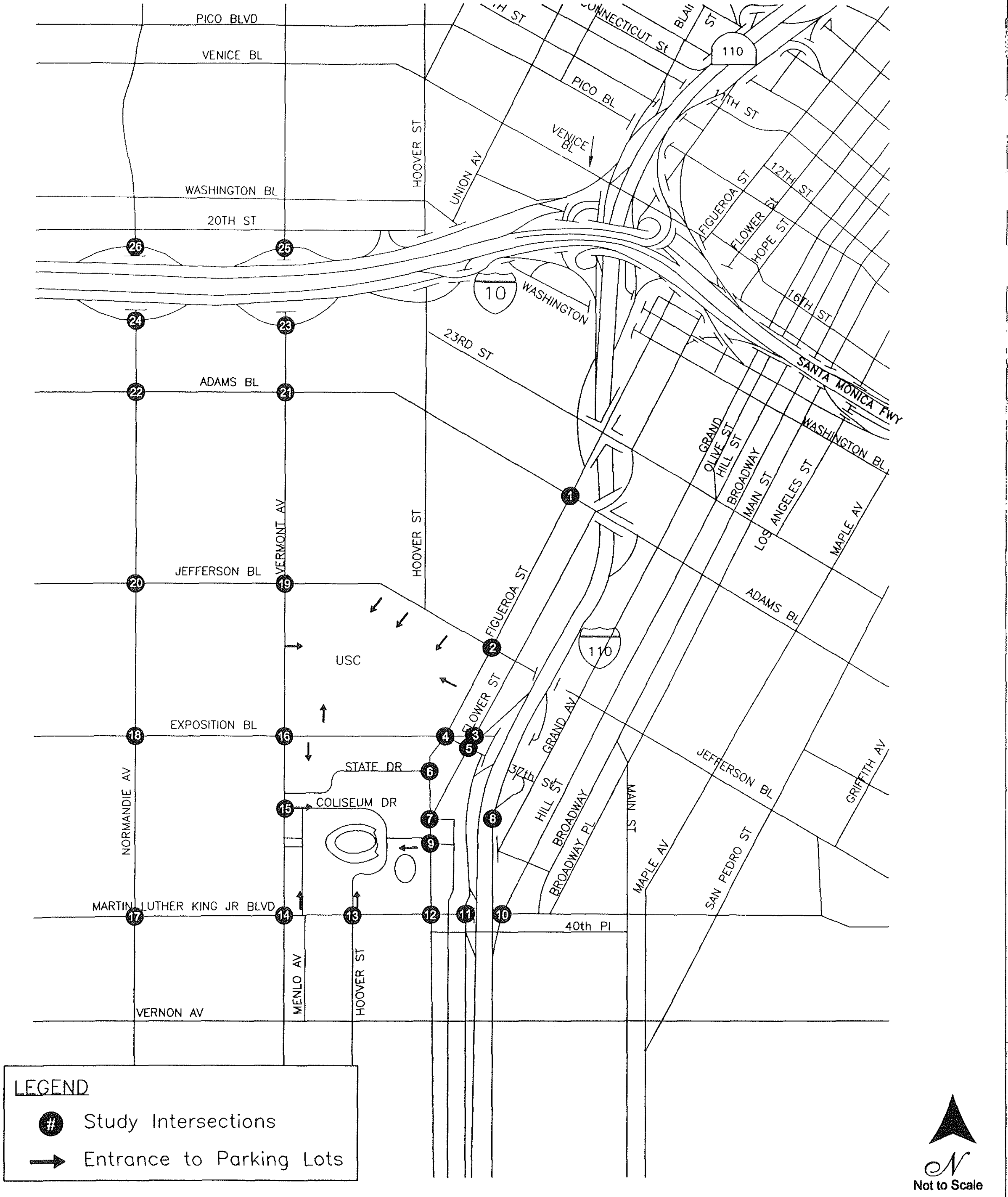
ENVIRONMENTAL SETTING

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.



Source: Kaku Associates, August 2003.

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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.

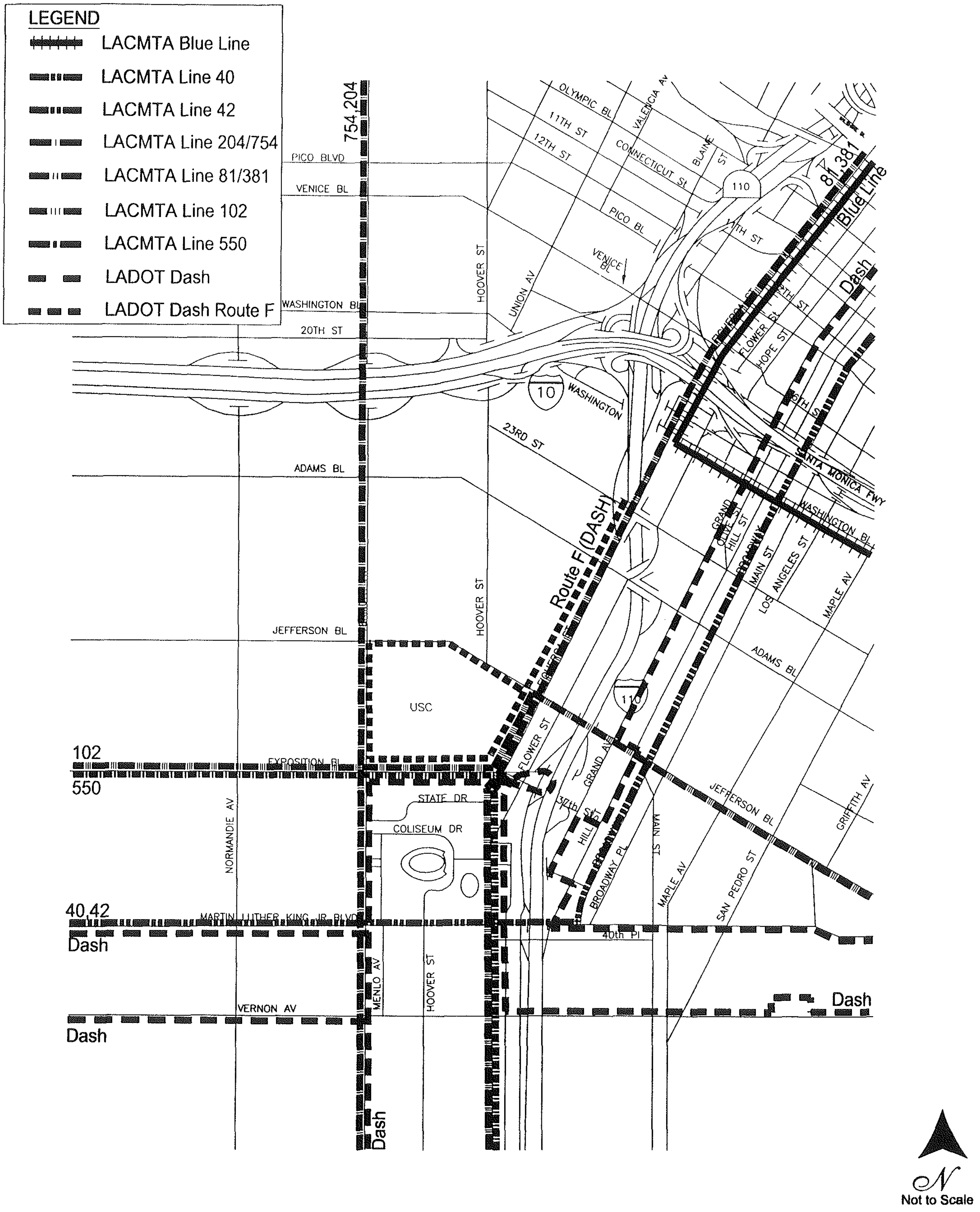
Adams Boulevard -- Adams Boulevard provides four travel lanes between Maple Avenue and Normandie Avenue. The travel lanes are separated by a double yellow centerline for the majority of the street except between Hill Street and I-110 ramps and Hoover Street and Magnolia Avenue, where a dual left turn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



Source: Kaku Associates, August 2003.

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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

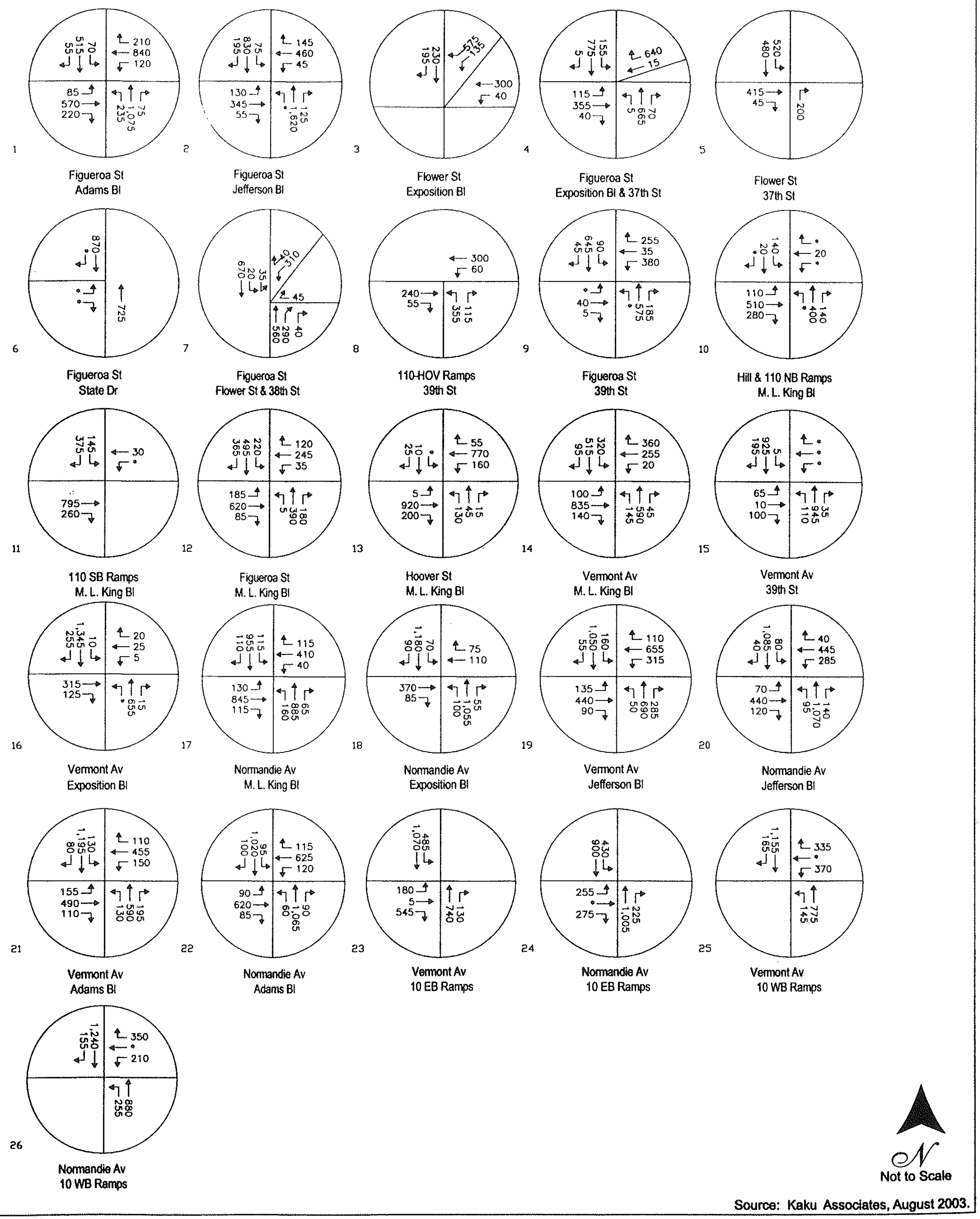
Weekday intersection turning movement counts were conducted during the afternoon (4:00 p.m. to 7:00 p.m.) peak periods on Tuesday, Wednesday, and Thursday, April 22-24, 2003, at the 26 analyzed intersections. These counts are considered representative for a Monday or Thursday night game, when weekday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



Source: Kaku Associates, August 2003.

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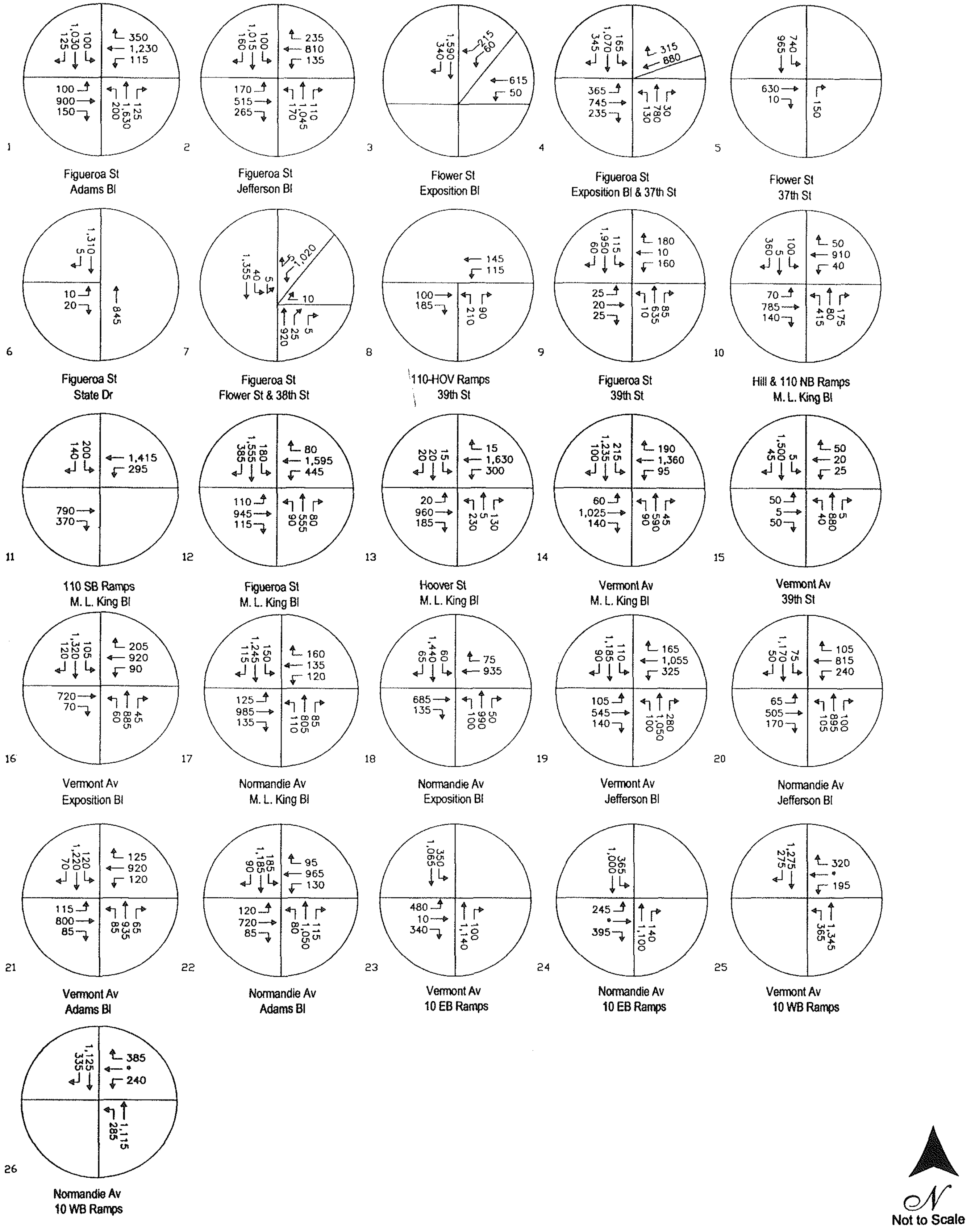
Figure V.I.1-3
Existing Weekend Traffic Volumes
Without Project

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

#2

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



Source: Kaku Associates, 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.

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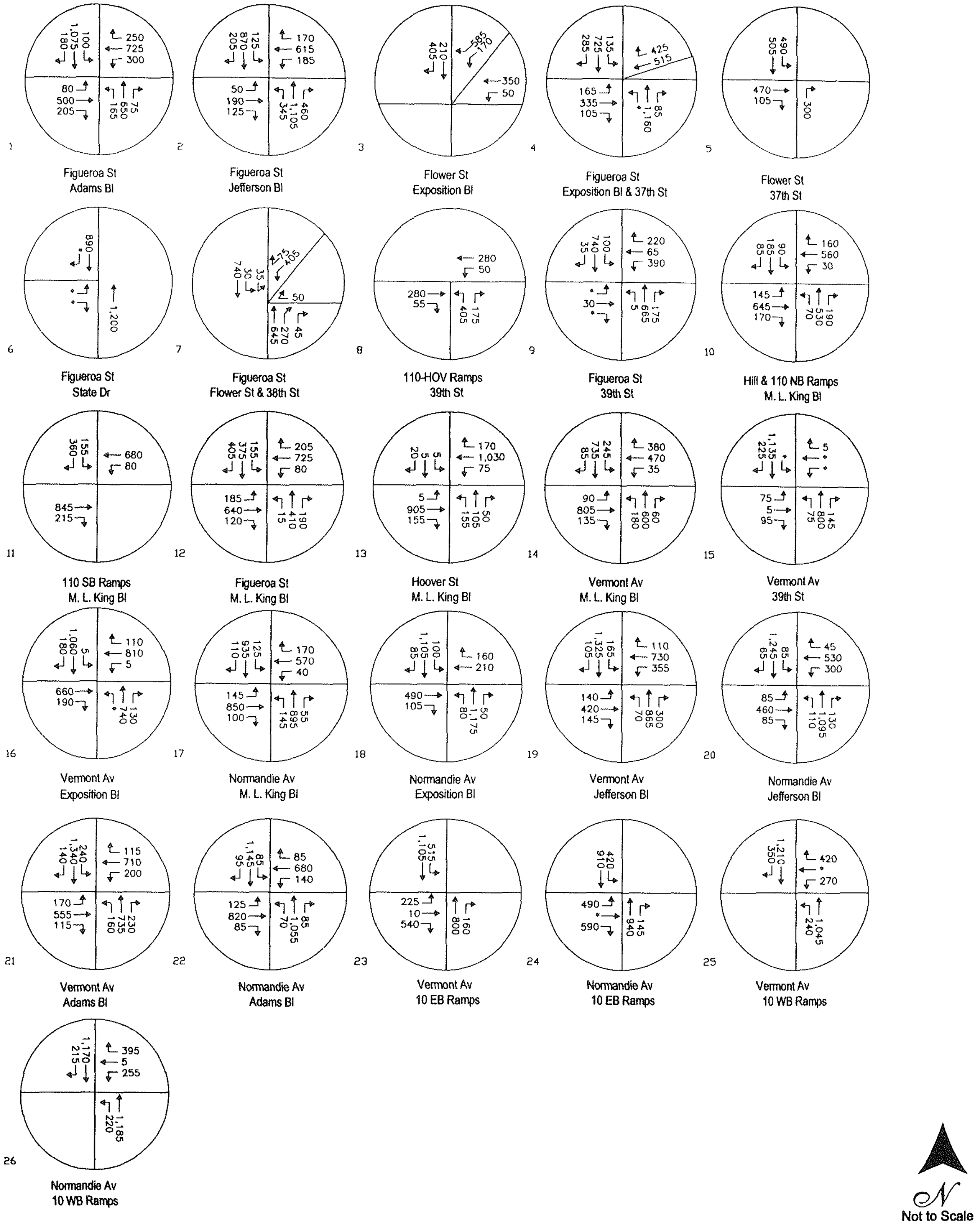
[1] *Los Angeles County Metropolitan Transportation Authority, June 2002.*



Source: Kaku Associates, August 2003.

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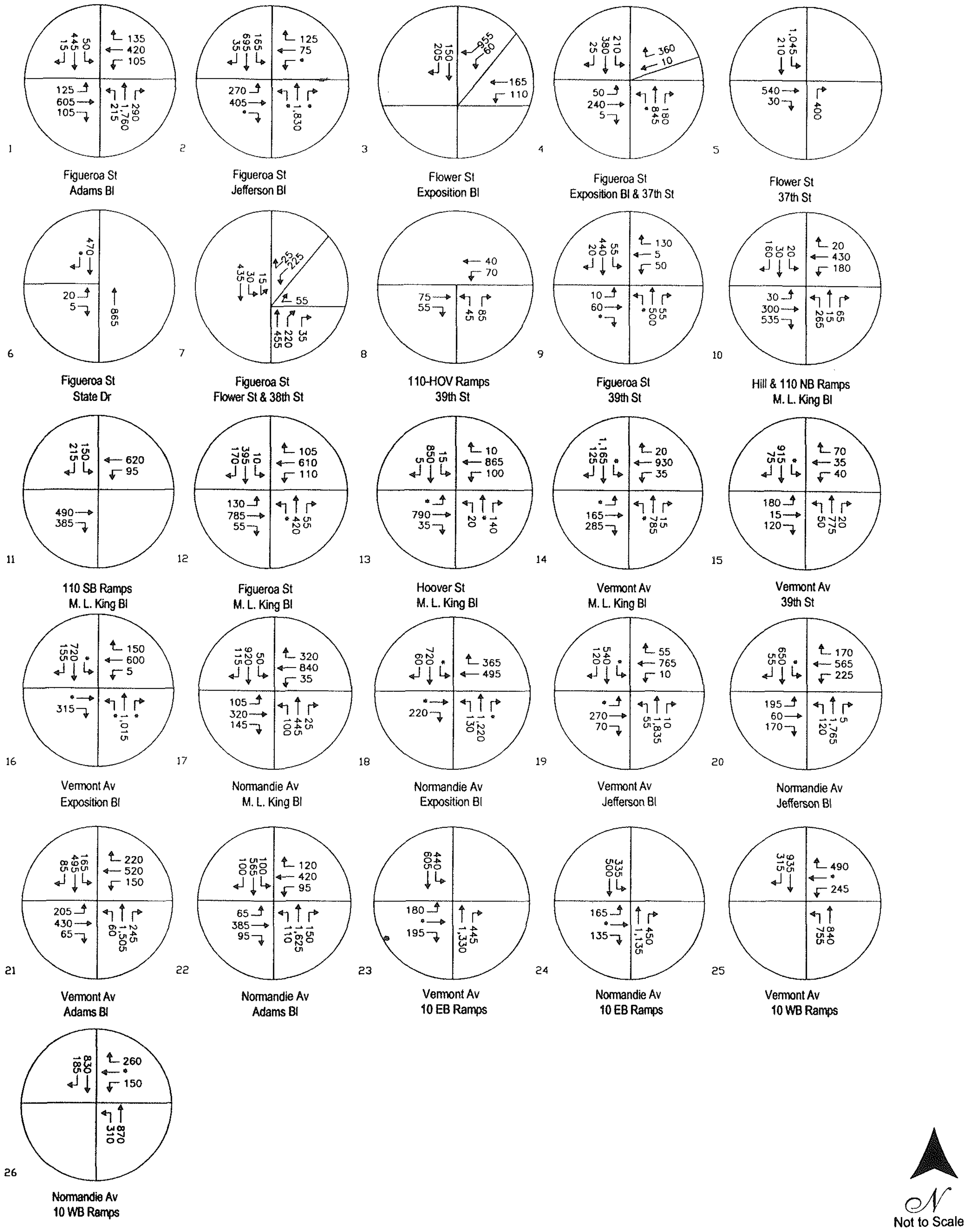
Figure V.I.1-5
Pre Event Weekend Traffic Volumes With Project



Source: Kaku Associates, July 23, 2003.

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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

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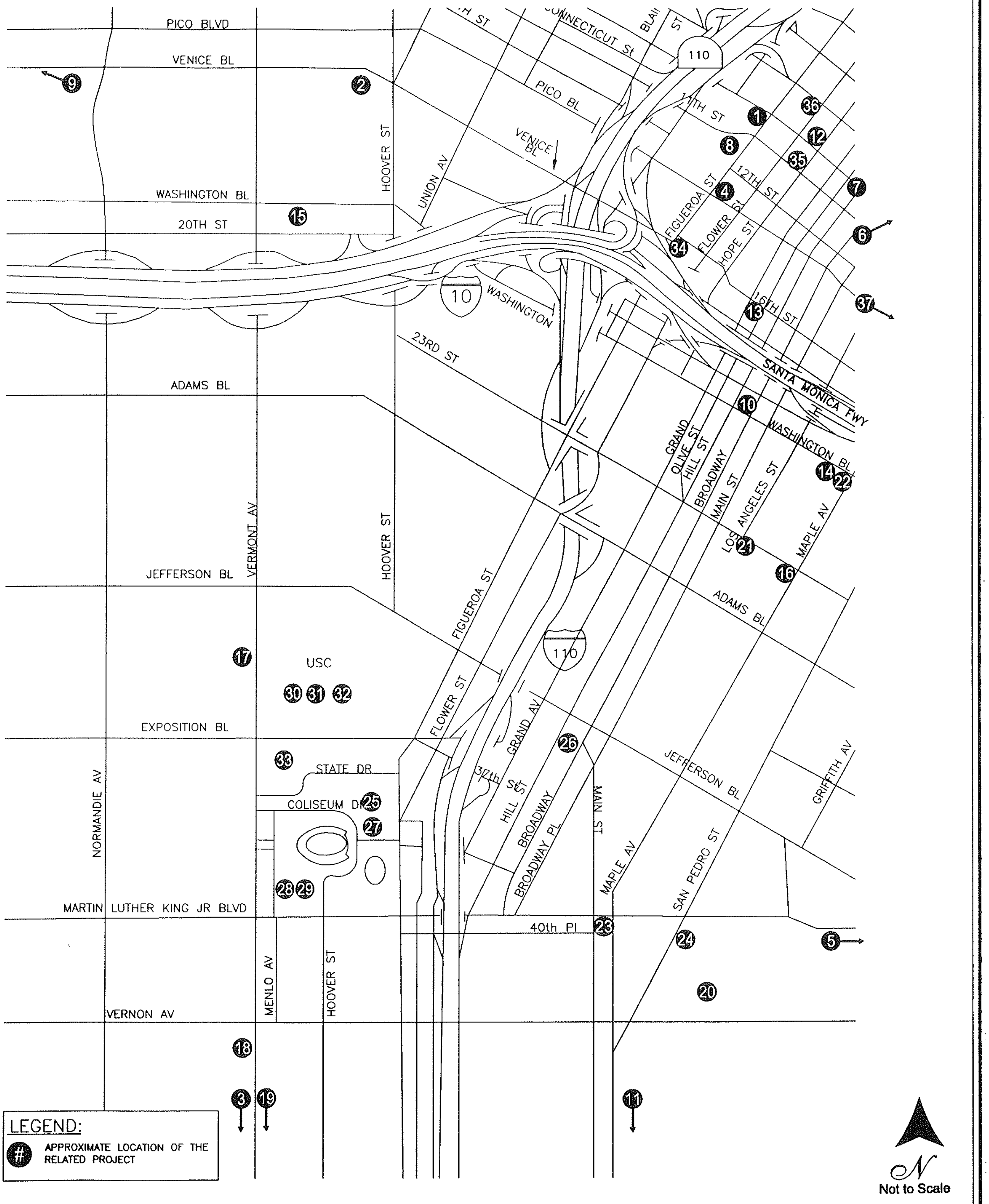
[2] *Institute of Transportation Engineers, 1997.*



Source: Kaku Associates, August 2003.

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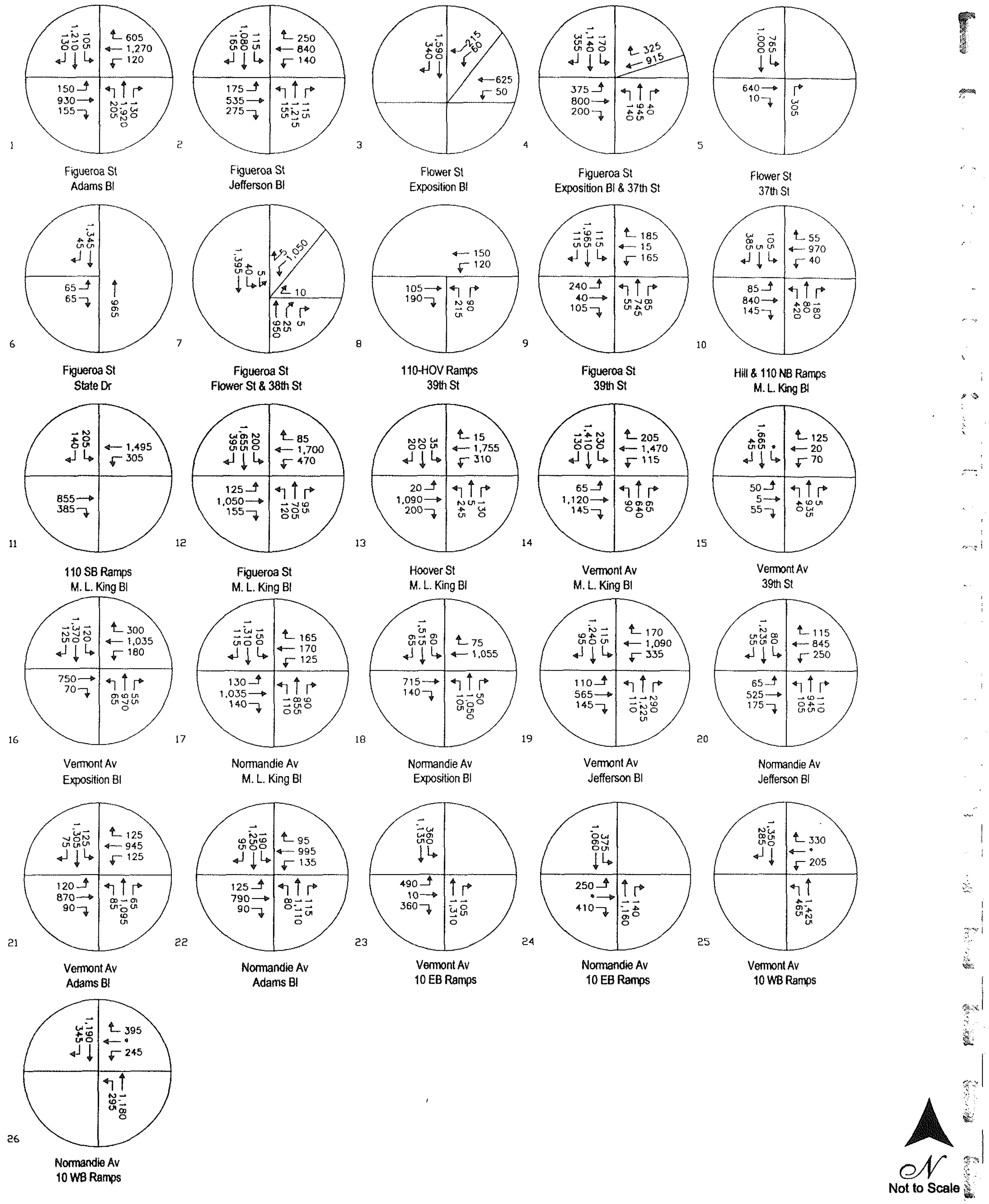
Figure V.I.1-7
Cumulative Development Projects



Source: Kaku Associates, August 2003.

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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:

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

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

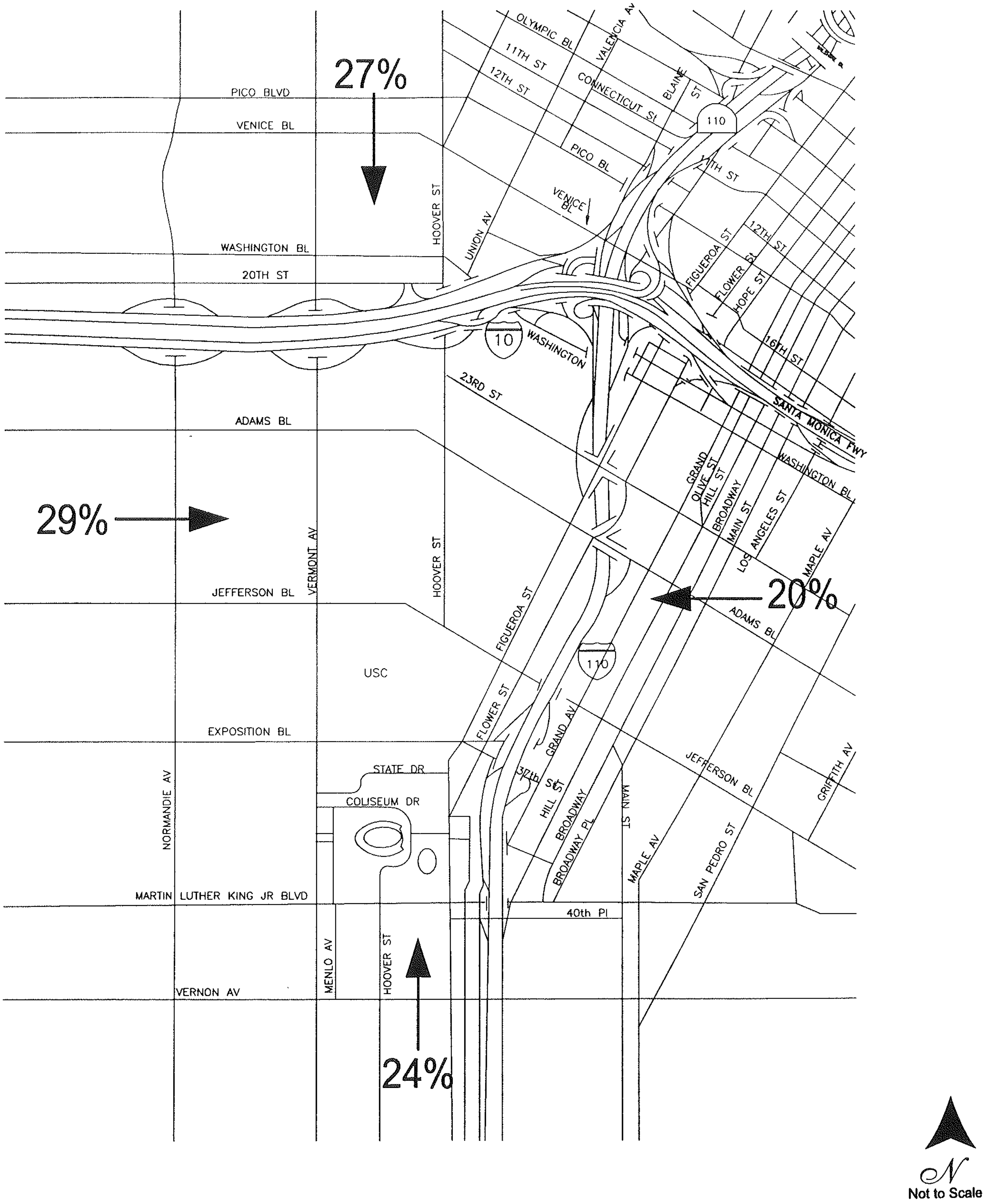
Source: Kaku Associates, Traffic Study for the Los Angeles Memorial Coliseum Renovation Project, August, 2003.

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.



Source: Kaku Associates, August 2003.

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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

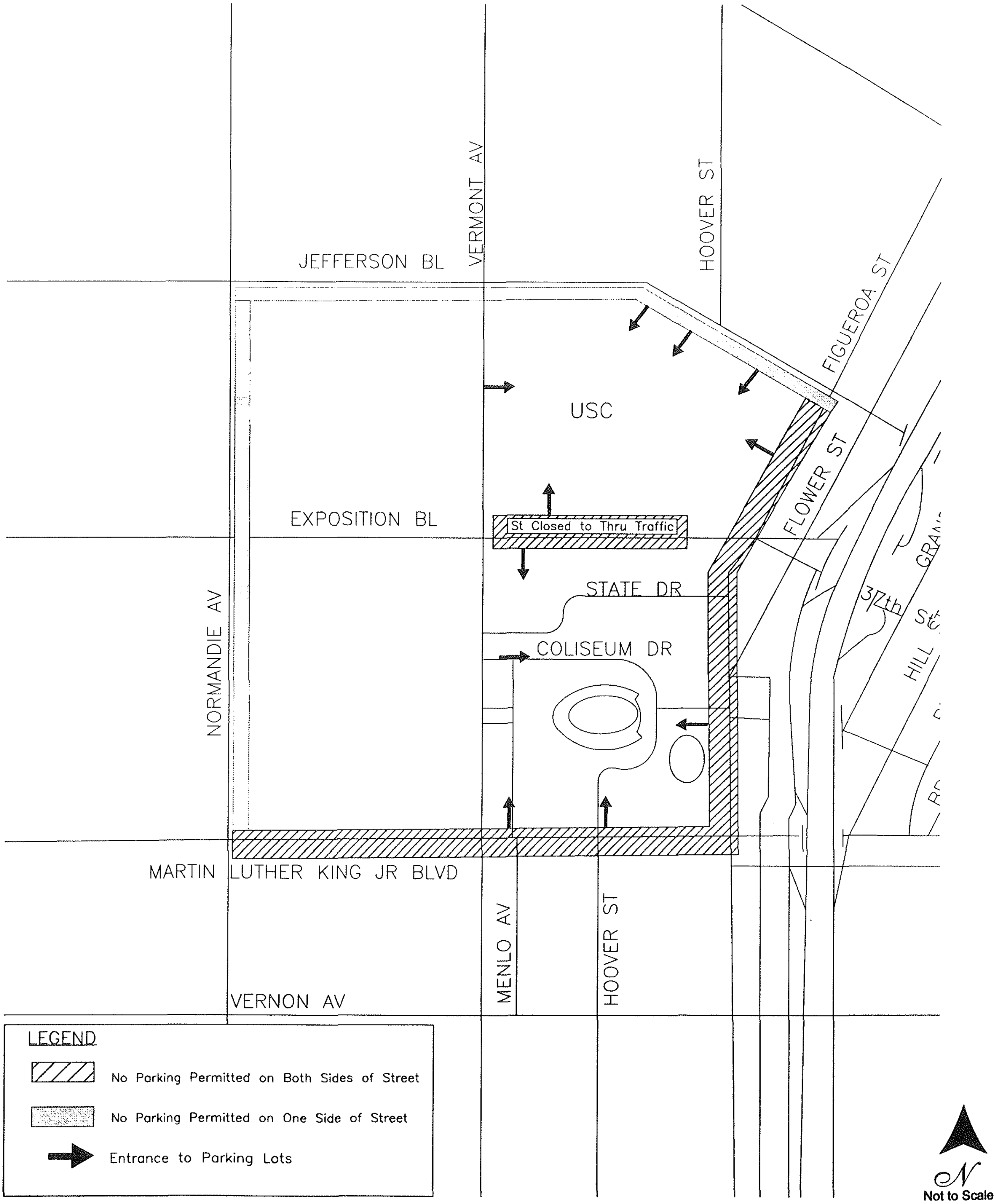
Thresholds of Significance

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.



Source: Kaku Associates, August 2003.

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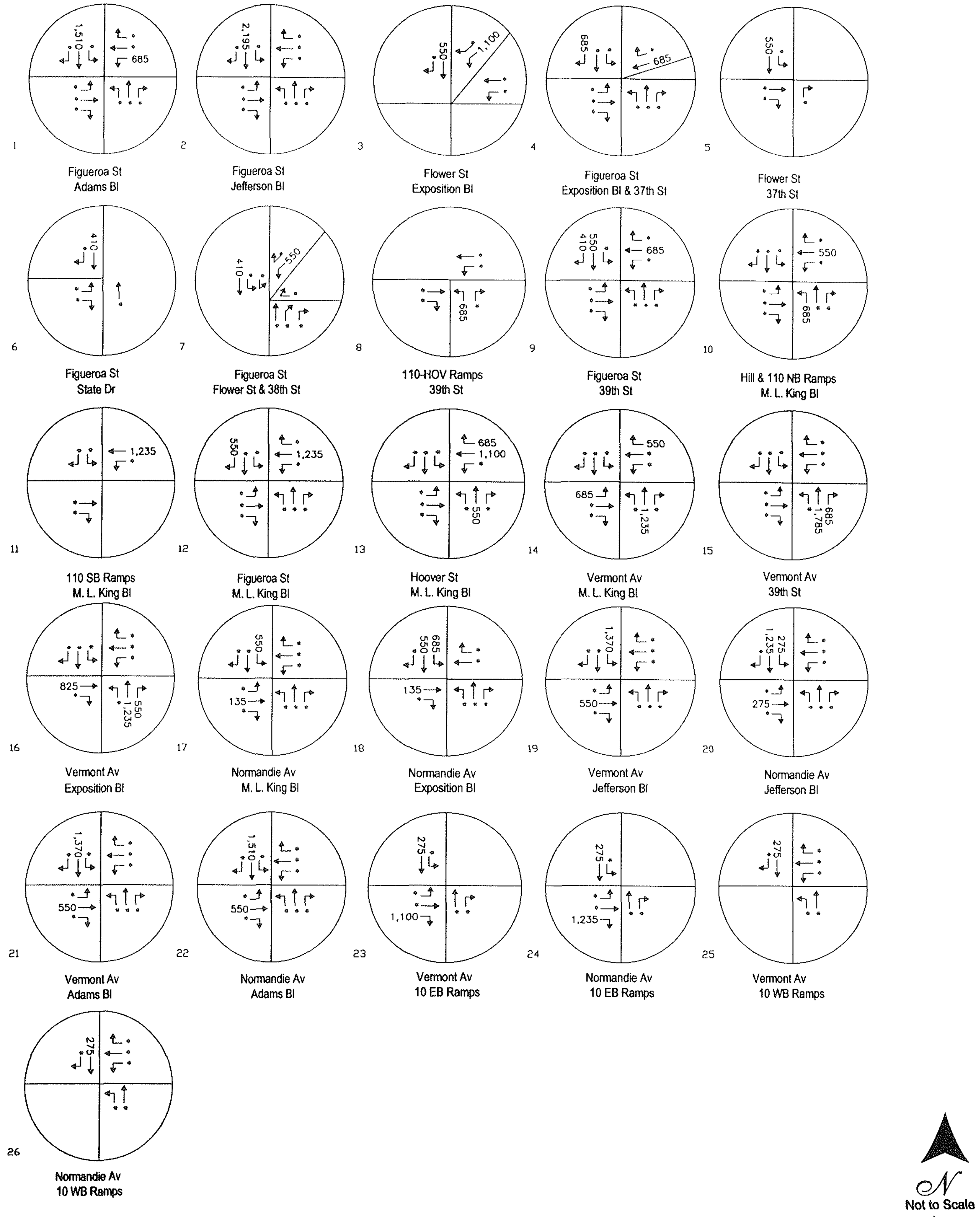
Figure V.I.1-10
Pre-Event Parking Entrances and Restrictions



Source: Kaku Associates, August 2003.

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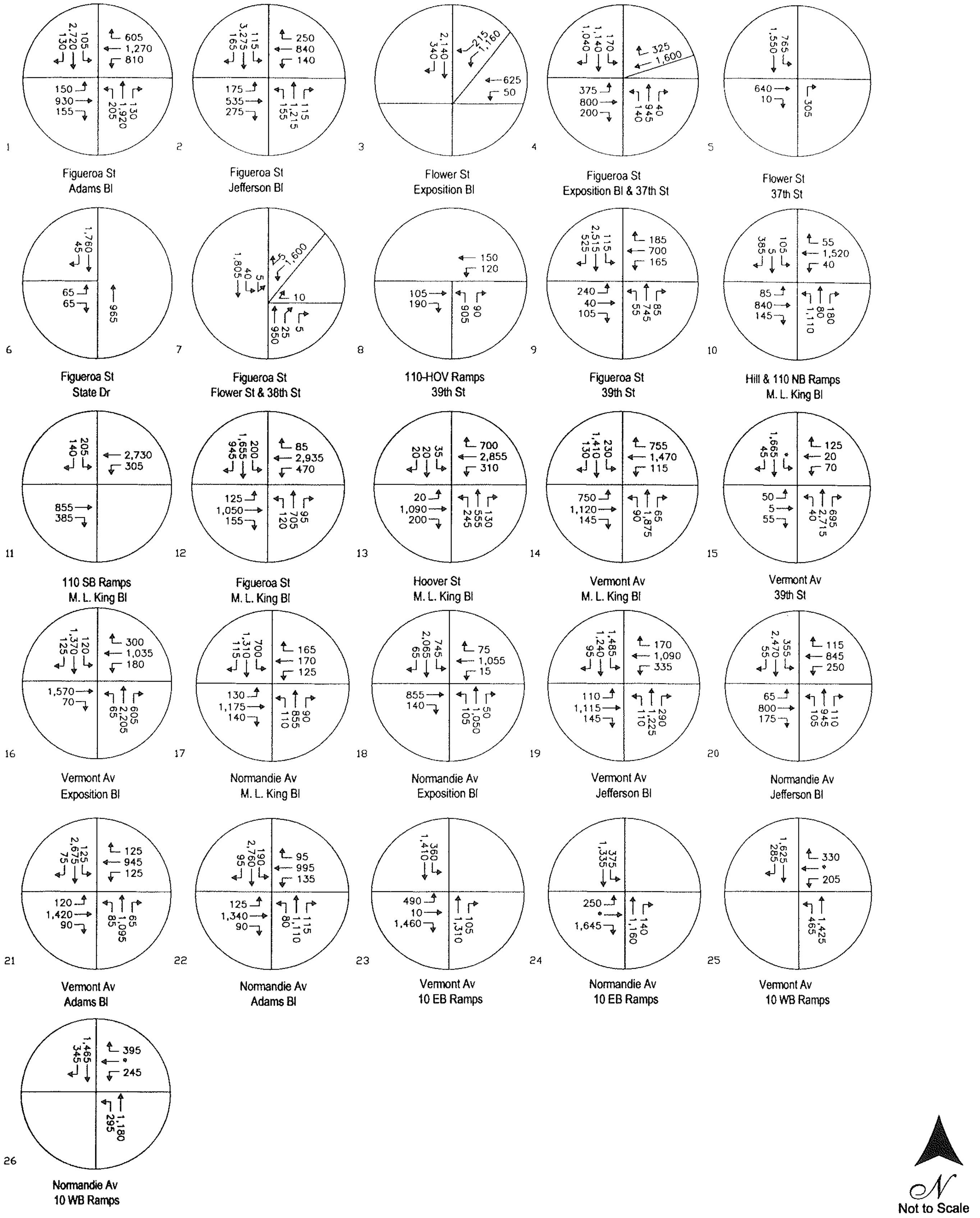
Figure V.I.1-11
Project Only Weekday Traffic Volumes



Source: Kaku Associates, August 2003.

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

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

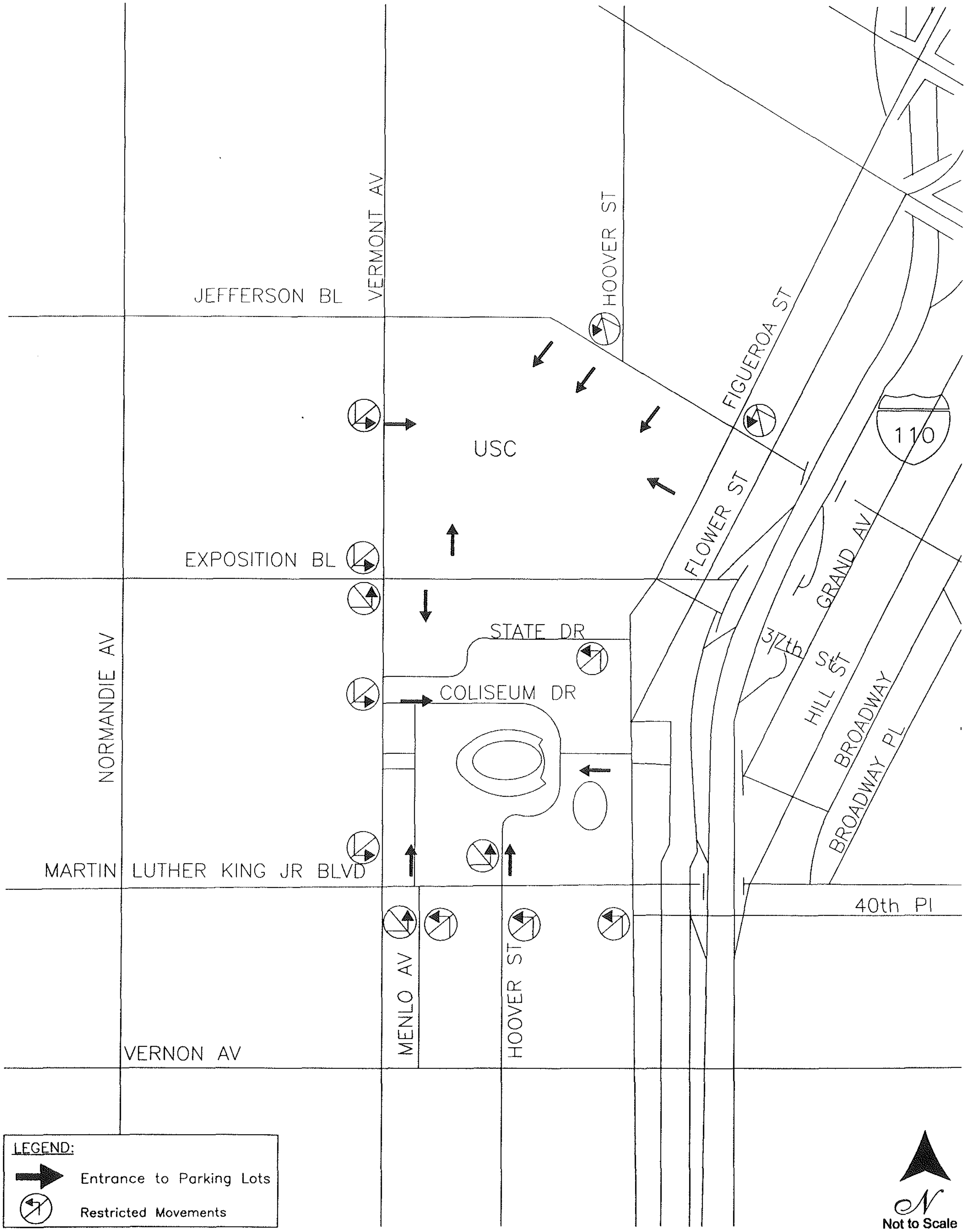
Intersections

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.



Source: Kaku Associates, August 2003.

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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.

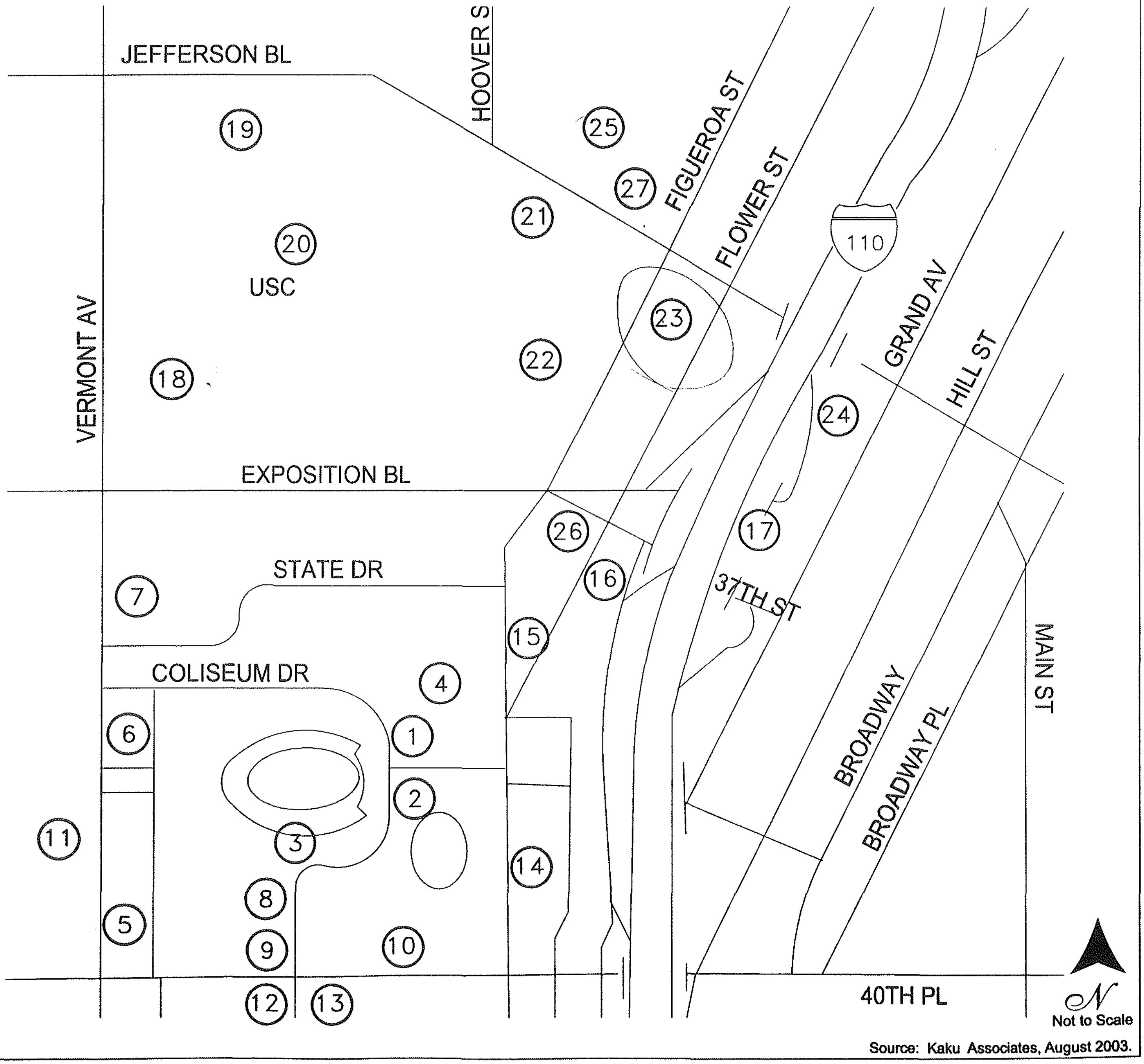
Compared with USC football games and other events currently held at the Coliseum, the impact of the reduced seating capacity at the Coliseum would reduce demands for off-site parking, on-street parking in residential areas or in private lots. The reduction in parking demands would also reduce the amount 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.

①	North Coliseum Drive	250 Spaces*
②	South Coliseum Drive	210 Spaces
③	Coliseum Service Lot	60 Spaces
④	California Science Center Garage	2,160 Spaces*
⑤	Lot 1, 1A, 1B	930 Spaces*
⑥	Lot 2	880 Spaces
⑦	Lot 3	950 Spaces
⑧	Lot 4	450 Spaces
⑨	Lot 5 – Surface	350 Spaces
⑩	Lot 6 – Surface	1,100 Spaces
⑪	County	180 Spaces
⑫	Private	120 Spaces
⑬	Private	110 Spaces
⑭	Private	300 Spaces
⑮	Private	200 Spaces
⑯	Private	150 Spaces
⑰	DMV	250 Spaces
⑱	USC – A	1,700 Spaces
⑲	USC – B	1,150 Spaces
⑳	USC- Surface	2,000 Spaces
㉑	USC – D	1,350 Spaces
㉒	USC – X	1,050 Spaces
㉓	USC – T	600 Spaces
㉔	USC Parking Center	1,800 Spaces
㉕	Shrine Auditorium	1,000 Spaces
㉖	USC – C	200 Spaces
㉗	Private	320 Spaces

* – Construction zone at the time of survey



Source: Kaku Associates, August 2003.

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.

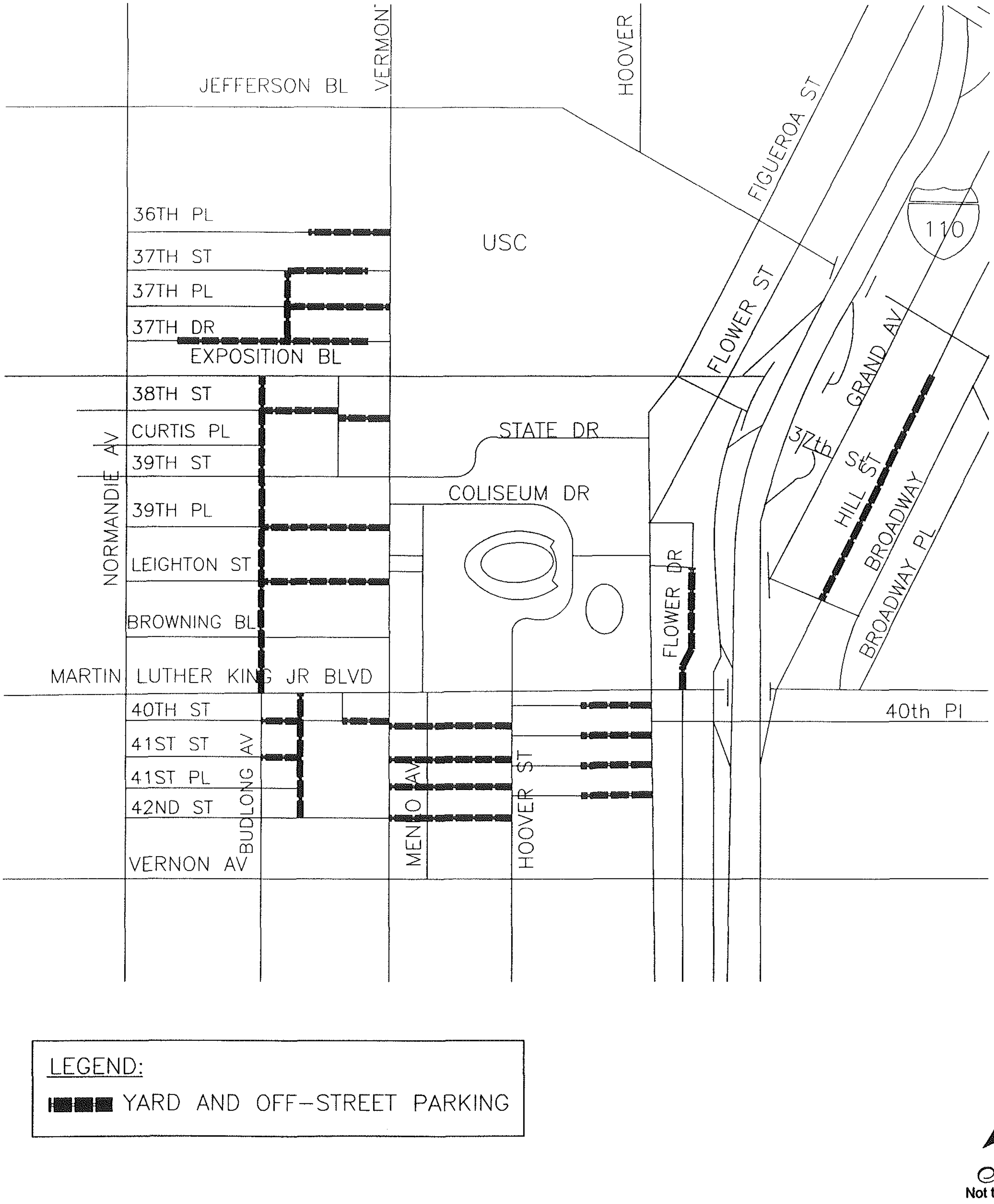
As the Proposed Project would reduce maximum capacity at the project site from existing conditions, impacts to parking are expected to be less than significant.

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.



Source: Kaku Associates, August 2003.

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

VI. GENERAL IMPACT CATEGORIES

A. SUMMARY OF SIGNIFICANT UNAVOIDABLE IMPACTS

AIR QUALITY

Short-term air quality impacts would result during the Proposed Project's 18-20 months of construction. As shown in Table VI-1, 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 VI-1

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.

CULTURAL AND HISTORIC RESOURCES

The Proposed Project meets all of the Standards except for the removal of the seating at some locations. The removal of some of the existing seating, considered to be part of the historic fabric of the Coliseum, is a significant impact on the environment and cannot be feasibly mitigated. Much of the seating, as well as the form of the bowl, will remain and be clearly visible around the entire Coliseum for the interior. The exterior of the Coliseum will be returned to its former appearance and the Peristyle will be restored enhanced with the removal of the large electronic scoreboards.

It should also be noted that the Coliseum is listed as a National Historic Landmark because of the events that have occurred there and that the stadium itself has been a backdrop to these events. Its historic use is largely why it has been designated a National and State landmark, and this rehabilitation will guarantee that historic use can continue into the future by making the Coliseum an economically viable facility for sporting events.

TRAFFIC AND ACCESS

In consultation with the City of Los Angeles Department of Transportation, the Project Traffic Study evaluated 26 intersections in the vicinity of the Coliseum. The study evaluated the Proposed Project's traffic impacts using the City's established significance criteria and applied to three separate scenarios (1) Weekend Pre-Event Peak Hour, (2) Weekend Post-vent Peak Hour, and (3) weeknight Pre-Event Week Hour. The weekend traffic scenarios were based on actual traffic counts taken at a weekend Coliseum event with an attendance of approximately 87,944 persons. The Proposed Project will reduce the maximum seating capacity of the Coliseum to approximately 78,000 persons, thus the impacts projected in this analysis represent a worst-case scenario. The results of the Traffic Impact Study are summarized as follows concluded that during the Weekend Pre-Event Peak Hour, eight of the 26 study intersections would be significantly impacted. These intersections include:

- 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

During the Weekend Post-Event Peak Hour, 6 of the 26 intersections would suffer significant impacts. These intersections include:

- 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

The weeknight Coliseum event scenario was evaluated to consider the occurrence of a Monday or Thursday nigh NFL game. It should be prefaced, however, that the occurrence of a weeknight NFL game would occur at most only once in any given season. A weekday game would not likely occur each and every season. The Traffic Impact Study concluded that the weeknight event scenario would result in significant traffic impacts at 23 of the 26 study intersections, including:

- 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 Junior Boulevard
- Figueroa Street and Martin Luther King Junior Boulevard
- Hoover Street and Martin Luther King Junior Boulevard
- Vermont Avenue and Martin Luther King Junior Boulevard
- Vermont Avenue and 39th Street
- Vermont Avenue and Exposition Boulevard
- Normandie Avenue and Martin Luther King Junior 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

In addition to the 26 study intersections discussed above, the Project Traffic Study evaluated the Project's impact with respect to the regional Congestion Management Plan (CMP). Based on the threshold criteria of the CMP, it was determined that the Proposed Project would impact both of the CMP monitoring stations: the I-10 freeway monitoring station at Budlong Avenue and the I-110 freeway monitoring station at Slauson Avenue. This impact would be significant and unavoidable.

Mitigation Measures

In order to mitigate the traffic and access impacts created by the Proposed Project, it was determined that the relative frequency of the project's impact does not justify physical roadway improvements. The Proposed Project would increase the Coliseum's existing event profile by adding up to 12 professional football games per year. The Proposed Project impacts the surrounding traffic and circulation patterns for approximately 2 hours per day on days when major events are scheduled: one hour before the event and one hour after the event. Currently the Coliseum hosts an average of 34 events per year. With the Proposed Project, the average number of events would likely reach 46 events per year. Nearly all events would occur during the weekends, with relatively few, if any impacting the weekday evening commute period. In consultation with the LADOT, it was therefore recommended that the Project Applicant collaborate with LADOT, LAPD, California Department of Transportation, and California Highway Patrol in implementing a comprehensive traffic management plan. Notwithstanding the implementation of an effective traffic management plan, project traffic impacts are anticipated to be significant and unavoidable during the hours preceding and following each major event.

VI. GENERAL IMPACT CATEGORIES
B. GROWTH-INDUCING IMPACTS

Section 15126.2(d) of the State CEQA Guidelines requires a discussion of the ways in which a proposed project would be growth-inducing. This discussion would include ways in which the project would foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Section 15126.2(d) requires an EIR to:

> *"Discuss the ways in which the proposed project could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects that would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may further tax existing community service facilities so consideration must be given to this impact. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed growth in any area is beneficial, detrimental, or of little significance to the environment."*

The Proposed Project is intended to bring professional football back to Los Angeles and make the 1920s-era Coliseum a premier venue for an NFL franchise. Such activity would foster long-term economic growth by adding new employees and customers to the Project Site, who could, in turn, also patronize local businesses and services in the area. Both short-term and long-term employment opportunities would be provided by the construction and operation of the Proposed Project. However, the Proposed Project does not include housing and therefore would not include (direct) permanent population growth. No significant unavoidable population or housing impacts would be created by the Proposed Project. In addition, as discussed below, the Proposed Project would not induce growth in an area that is not already developed with infrastructure to accommodate such growth.

The Proposed Project would redevelop a project site within a densely developed urban environment. Thus, if (indirect) growth were to occur, the Proposed Project would not induce growth in an area that is not already developed with infrastructure to accommodate such growth. Development of the Proposed Project would not require the construction of new infrastructure that would promote growth in an inappropriate location. Any infrastructure improvements would be localized in nature and would be implemented on an as-needed basis to upgrade outdated infrastructure and improve energy efficiency. It is anticipated that existing water mains, fire mains, and sewer utility lines could adequately service the Proposed Project. Thus, the Proposed Project would not induce substantial growth with respect to utility infrastructure.

VI. GENERAL IMPACT CATEGORIES
C. EFFECTS FOUND NOT TO BE SIGNIFICANT

As a part of the EIR scoping process, it was determined that development and operation of the Proposed Project would not result in potentially significant impacts to the environmental impact topics listed below. Section 15128 of the CEQA Guidelines states:

> *"An EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR. "*

It has been determined that there is no evidence that the Proposed Project would cause significant environmental effects in the following areas and that no further environmental review of these issues is necessary for the reasons described below.

1. Agricultural Resources

The Project Site is leased from the Sixth District Agricultural Association of the State of California and is currently developed with the Los Angeles Memorial Coliseum. There have been no agricultural uses on the Project Site since before 1921, when construction of the Coliseum began, and the Project Site has been developed as a stadium since 1923, and has hosted events since then. The Proposed Project would not involve any changes to the use of the Project Site, and the Coliseum would continue hosting the same type of events as it currently does. As no agricultural uses are located on the Project Site nor have been since prior to 1921, the Proposed Project would not be converting an agricultural use to a non-agricultural use, and would not impact potential future agricultural uses on the site. Therefore, the Proposed Project would not result in any potentially significant impacts to agricultural resources and no further analysis of this issue is warranted.

2. Biological Resources

The Project Site is a developed parcel, with urban development surrounding it in a highly urbanized area and does not contain any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game (Fish and Game), or the U. S. Fish and Wildlife Service. In addition, there are no known locally designated natural communities on the site or in the project vicinity.

The Proposed Project would not result in the direct removal, filling or hydrological interruption of a federally protected wetland as defined by Section 404 of the Clean Water Act. Due to the highly urbanized surroundings, there are no wildlife corridors or native wildlife nursery sites in the project vicinity. The Proposed Project would not interfere with the movement of any resident or migratory fish or wildlife species. Because there are no known locally designated natural communities on the Project Site or in the project vicinity, the Proposed Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan.

Vegetation within the Project Site consists primarily of various forms of landscaping including several native trees such as eucalyptus, deodar, yucca, agave, and palm trees. These species will not be affected by the development of the Proposed Project. No State or Federally protected plant species are currently known to exist on the immediate Project Site. The Proposed Project will not adversely impact biological resources on or around the Project Site.

3. Hazards and Hazardous Materials

The Project Site has been developed as a stadium since 1923. The Proposed Project would not alter existing land use on the site, and would not use, store or transport significant amounts of hazardous materials. The Coliseum was retrofitted in 1994 following the Northridge earthquake. Nearly all asbestos-containing materials (ACMs) were removed at that time; however, if ACMs or lead are present in the structures, the materials must be removed by licensed contractors using control methods prescribed in SCAQMD Rule 1403. This is a potentially significant impact that can be mitigated to a less than significant level via mandatory compliance with SCAQMD Rule 1403, which would insure safe exposure for both abatement workers as well as the general public. Additionally, minor amounts of hazardous materials may be used including motor oil, grease, paints, solvents, pesticides, herbicides, and fertilizers. However, the use and disposal of such materials would be required to be in compliance with the State Health and Safety Code, the City of Los Angeles Municipal Code, and the Uniform Fire Code (UFC). Therefore, the Proposed Project would not result in any potentially significant impacts to hazards or hazardous materials.

4. Mineral Resources

A portion of Exposition Park has been designated by the Los Angeles City Planning Department as an area containing significant mineral deposits. However, the area containing such deposits is located at a southeast portion of Exposition Park, which is not occupied by the Project Site. As the Proposed Project is not located on the designated land, and would not alter existing uses, no impacts to these identified mineral resources will occur. Additionally, the Project Site is not in an area of potential petroleum resources. Therefore, the Proposed Project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. The Proposed Project would not result in the loss of availability of a locally important mineral resource recovery site, as no recovery site exists on the Project Site. The Proposed Project would not result in any potentially significant impacts to mineral resources and no further analysis of this issue is warranted.

5. Population and Housing

The Proposed Project is a renovation of the existing Coliseum and would not alter the type of use on the Project Site. There are no residential properties on the Project Site and none are planned as part of the development of the Proposed Project. As the Proposed Project is not proposing any alterations to existing housing nor proposing the addition of new housing, implementation of the Proposed Project would not result in a permanent population increase nor would it displace any existing housing in the area.

Construction of the Proposed Project would result in an increase of employment opportunities in the construction field, which could potentially result in an increased permanent population and a demand for housing in the vicinity of the Project Site. However, the employment patterns of the construction workers in Southern California are such that construction workers would not likely, to any significant degree, to relocate their households as a consequence of the construction employment associated with the Proposed Project.

Implementation of the Proposed Project may also provide employment after project completion in the form of Coliseum operation personnel. However, since the Project Site is currently developed with the same use as the Proposed Project, increases in employment will be minor; more staff members may be added, and more working days and hours may be created by the addition of an NFL team. As the Proposed Project is not introducing a new use to the area, it would not have a significant impact on employment levels in the City of Los Angeles. It is also acknowledged that the addition of an NFL team would increase the population of the region. However, players and their families would not be expected to locate solely in the project area, and therefore would be creating a regional rather than local impact to the greater Los Angeles area. Without the Proposed Project, an NFL team can be still expected to relocate to somewhere in the Southern California area, creating this population impact regardless of the implementation of the Proposed Project. The exact location of the team, therefore, would not create a specific local impact or a regional impact of significance.

The additional employment opportunities created by the Proposed Project will not significantly affect housing in the area, as the area surrounding the project is developed and urban, and it is therefore expected that many of the Proposed Project's new employees will be drawn from the local labor force in the nearby communities. No additional housing would be needed in the area to serve the Proposed Project's employees and demands for housing will not be affected by the project. Therefore, the Proposed Project would not have a potentially significant impact on population and housing levels in the City of Los Angeles. No further analysis of this issue is warranted.

VII. ALTERNATIVES TO THE PROPOSED PROJECT
A. INTRODUCTION

INTRODUCTION

As stated in the State CEQA Guidelines (Public Resources Code, Section 21002.1(a)):

> *"the purpose of an environmental impact report is to identify the significant effects on the environment of a project,* ***to identify alternatives to the project****, and to indicate the manner in which those significant effects can be mitigated or avoided (emphasis added)."*

Section 15126.6 of the State CEQA Guidelines requires that EIRs include a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. The discussion of alternatives, however, need not be exhaustive, but rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation. An EIR is not required to consider alternatives which are infeasible.

CEQA requires that the alternatives analysis include a No Project Alternative. The purpose of analyzing a No Project Alternative is to allow decision-makers to compare the impacts of approving the Proposed Project with the likely environmental consequences of not approving the Proposed Project (State CEQA Guidelines Section 15126.6(e)(1)). The No Project Alternative should be based on the reasonably foreseeable future if the project is not approved, based on current plans and consistent with available infrastructure and community services. Additionally, in accordance with the Guidelines, the No Project analysis shall discuss existing conditions at the time the Notice of Preparation is published, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved. The discussion of the No Project Alternative is provided in Section VII.B, below.

Based on the findings of the alternatives analysis, an environmentally superior alternative must be identified from among the alternatives evaluated. If the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives (Guidelines Section 15126.6(e)(2)). The analysis of the environmentally superior alternative is provided in Section VII.E, below.

PROPOSED PROJECT OBJECTIVES

An important consideration in the analysis of alternatives to the Proposed Project is the degree to which such alternatives would achieve the objectives of the Proposed Project. To facilitate this comparison, the objectives of the Proposed Project contained in Section III.B, Project Objectives, are re-stated below.

The overall objectives of the Proposed Project are:

- To renovate the Coliseum in conformance with the generally accepted standards of design for National Football League (NFL) stadiums, thus enabling the Coliseum Commission to acquire and maintain an NFL franchise in the City of Los Angeles.
- To extend the useful life of the Coliseum so as to assure that the stadium will continue to provide to the public a facility capable of hosting a wide variety of athletic, cultural, political, and community events.
- To renovate the Coliseum in conformance with the generally accepted standards of design for collegiate football, thus enabling the Coliseum Commission to continue its landlord/tenant relationship with the University of Southern California football team.
- To provide spectators and users of the Coliseum with the amenities and conveniences which are consistent with a state-of-the-art facility, including improved restrooms, concession, and press facilities; improved spectator viewing; luxury suites and club seating; improved locker and dressing facilities; additional circulation space; and better accessibility to seating, concessions, and restroom facilities.
- To assure that stadium operations generate enough revenue to enable the Coliseum Commission to preserve and maintain the Coliseum in a self-sufficient manner.
- To preserve, where feasible, the historic character of the Coliseum in a manner compatible with the other objectives of the Proposed Project.
- To finance the renovation of the Coliseum without expending money from the General Fund.

ALTERNATIVES CONSIDERED

In addition to the No Project Alternative, the range of alternatives was structured to (1) analyze alternatives which would meet the project objectives of creating the highest possible level of management, operation, and maintenance of the Coliseum as a world class, "state-of-the-art" public assembly facility of the first magnitude, and (2) provide a reasonable analysis of environmental impacts associated with the NFL relocating a franchise team to a site within the greater Los Angeles region, but not at the Coliseum. For purposes of this Alternatives analysis, the Alternatives evaluated in this EIR include:

1. No Project Alternative;
2. Alternative Design Without Roof Structure;
3. Evaluation of Alternative Site(s).

Alternative 2, the Alternative Design Without Roof Structure, considers a development alternative that is within the control of the Coliseum Commission. Alternative 3, Evaluation of Alternative Site(s), considers the environmental consequences of an alternative that is outside the control of the Coliseum Commission. The Alternative sites include the potential for the NFL to relocate a franchise team to the City of Pasadena (at the Rose Bowl) or the City of Carson (at a 157-acre site of a former landfill adjacent to the Home Depot Center), both of which have been publicly announced as potential development opportunities. While these alternative sites are outside the control of the Lead Agency, they were considered because they are representative of the Project's environmental consequences that are regional in nature (i.e., traffic and air quality, consumption of natural resources). In effect, the environmental consequences associated with either of these alternative sites would be in addition to those outlined below in the evaluation of the No Project Alternative. These alternatives are evaluated in greater detail in Sections VII.C and VII-D, respectively.

OTHER ALTERNATIVE SITES CONSIDERED BUT REJECTED

In a collaborative effort to evaluate potential locations for a new state-of-the-art NFL stadium to be built or remodeled to support an NFL team, the City of Los Angeles Community Redevelopment Agency (CRA) prepared an analysis to evaluate the feasibility of the best possible location to facilitate the NFL's goal of relocating a team to the Southern California region.[1] Within this study, the CRA evaluated nine locations within the Los Angeles City limits as possible development sites as having goals and objectives consistent with the development of an NFL stadium. Of those nine locations, three potential sites were selected for further detailed analysis. These sites included Adelante Eastside Site, City Center Site and the Hoover Site, otherwise known as the Los Angeles Memorial Coliseum. (See Figure VII-1. A summary of the development potential for developing the Adelante Eastside Site and the City Center Site with a football stadium is provided below.

Adelante EastSide Site

The Adelante Eastside Site is a 46-acre site located on the north side of Cesar E. Chavez Avenue at Mission Road, east of the Los Angeles River and north of the San Bernardino Freeway (I-10) (See Figure VII-1). The site consists of approximately 57 parcels that are

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[1] *Report to the Ad Hoc Sports Franchise Assessment Committee of the Los Angeles City Council, submitted by the Community Redevelopment Agency of the City of Los Angeles, January 2003.*

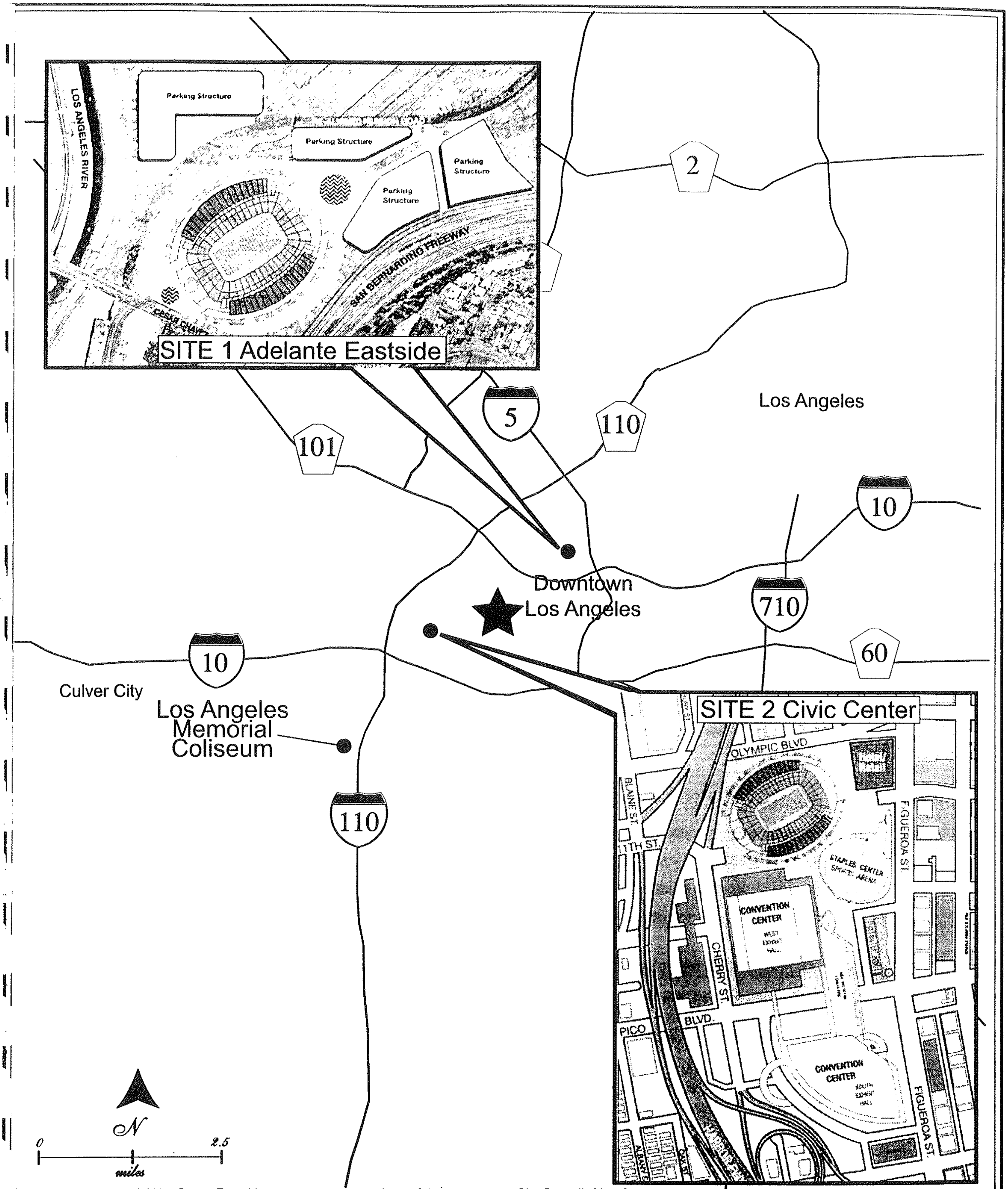
currently used for a variety of industrial uses, primarily automobile wrecking and dismantling, several small office buildings, along with a portion of an adjacent railroad yard and truck-to-train transfer facility. Approximately 49 businesses operate on the site. The site is designated for industrial use in the Boyle Heights Community Plan and the Adelante Eastside Redevelopment Plan, and is zoned for industrial use.

The proposed site is accessible by existing regional transportation corridors and by both local streets and public transportation, including the Hollywood/Ventura (US-101), San Bernardino (I-10) and Golden State (I-5) Freeways. The site is also within one-half mile of Union Station, with access to the regional Metrolink commuter rail system, numerous regional bus lines and the MetroRail Red Line subway. The San Bernardino and Golden State Freeways physically separate the site from the residential communities of Boyle Heights to the south and Lincoln Heights to the northeast. The site offers the potential for numerous community benefits, including on-site employment opportunities and the ability to attract additional retail and supporting services to the area surrounding the site. From the City's perspective, the development of a stadium at this location could have substantial long-term benefits as it would encourage investment and reinvestment in upgrading nearby business and residential areas, thus contributing to an improved physical environment and an expanded tax base.

Redevelopment of the site with a stadium could also eliminate blighting conditions on the site itself and facilitate upgrading public improvements in the surrounding area and along key corridors linking the site to Downtown Los Angeles, Boyle Heights, Lincoln Heights and other nearby communities. Moreover, development of this site could contribute to facilitating revitalization of nearby portions of the Los Angeles River corridor with attractive recreational and open space uses compatible with a stadium.

There are 22 affected property owners, seven of whom own four or more parcels. There are no residential uses on the site. There are approximately 49 businesses on the site. The industrial uses may be difficult to relocate, especially those involved in automotive salvage, which may result in the need to buy them out. In addition, Mission Road would need to be relocated westward to consolidate the site. The relocation of Mission Road would, however, have the beneficial impact of substantially improving its now offset intersection with Cesar E. Chavez Avenue. In addition, the Environmental Impact Report for the Adelante Eastside Redevelopment Plan identified eleven contaminated parcels on this site. The contamination is believed to result from the industrial uses and remediation will be needed. Remediation could require nine to twelve months depending on the specific nature of the contamination.

The site can accommodate approximately 12,000 parking spaces, in structures that would be constructed around the stadium. It may be necessary to bridge one existing active railroad line.



Source: Report to the Ad Hoc Sports Franchise Assessment Committee of the Los Angeles City Council, City of Los Angeles CRA, January 2003.

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Figure VII-1
Alternative Sites Evaluated by the City of Los Angeles, CRA

However, the high level of transit access may allow for the on-site parking to be reduced. In addition, there are several off-site locations where parking can be provided. Within three quarters of a mile are approximately 10,546 parking stalls, including those at USC/LA County Medical Center (3,240), White Memorial Hospital (2,446), the Metropolitan Transportation Authority Headquarters (2,407), Terminal Annex (1,703) and the Metropolitan Water District Building (750). With a comprehensive parking plan and shuttle system, these facilities could potentially provide a substantial portion of the desired parking, with a corresponding reduction in the cost of constructing on-site parking structures. In addition, existing school and university facilities in the vicinity may have the potential to provide additional off-site parking resources.

City Center Site

The City Center Site includes a 16.2-acre superblock bounded by the Harbor Freeway, Olympic Boulevard, Figueroa Street and Eleventh Street (See Figure VII-1).[2] This site consists of three parcels currently paved and used for off-street parking for the Staples Center Arena. The parcels contain approximately 3,160 parking spaces and are master-planned as part of the LA Arena Company's Los Angeles Sports and Entertainment District (LASED).

The site is accessible by major regional transportation systems, including the Harbor (CA-110), Santa Monica (I-10), Hollywood (US-101) and Golden State (I-5) Freeways; Metro Rail Blue and Red Lines; several LACMTA bus lines; and LADOT downtown DASH service. The major north-south streets serving the site include Figueroa Street, Flower Street, Hope Street and Grand Avenue. The major east-west streets are Ninth Street, Olympic Boulevard, Eleventh Street, Pico Boulevard, and Venice Boulevard.

The most prominent land uses in the area are Staples Center and the Los Angeles Convention Center, both of which are located to the south of this site. Other land uses in the vicinity include community-serving and regional commercial and hotel uses to the north and a mixture of predominantly low-density residential, commercial and light industrial uses to the east. Approximately 1,300 housing units are located within three blocks of the Project Site. The high-rise downtown core begins approximately two blocks north of the site.

Proposed uses included in the Los Angeles Sports and Entertainment District (LASED) Master Plan for the site include retail and entertainment space, a convention center headquarters hotel,

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[2] *This is not the site that was identified by Anschutz Entertainment Group as a potential National Football League stadium in May 2002. That site was rejected because of its designated use as a key part of the emerging South Park residential district in the City Center Redevelopment Plan and the Central City Community Plan, the loss of potential housing sites and difficulty in achieving a "critical mass" without the ability to develop that site with mixed-use, predominantly residential development, and the disruption associated with the number of streets that would need to be closed or rerouted.*

a theater, a plaza, expansion space for the Los Angeles Convention Center and parking for LASED. The site can be developed with a stadium and some amount of on-site parking, and could accommodate the proposed convention center headquarters hotel and a limited amount of retail and entertainment space. If the site is developed with a stadium, however, the remaining proposed uses for the parcels, including the proposed expansion of the Convention Center, would be displaced.

Positive attributes of the site include the established infrastructure - both physical and socio-economic - already in place, which could readily serve a proposed stadium. Although some modifications may be needed to nearby freeway ramps, transportation and other infrastructural systems are already in place, and a substantial amount of parking exists in nearby office and other buildings. Major visitor and sports-related facilities (e.g., Convention Center, hotels, Staples Center) are located either adjacent to or within walking distance of the site. Established restaurants and other businesses are already in the neighborhood, ready to serve the spectators expected at the proposed stadium. Other areas of interest (e.g., Little Tokyo and Chinatown) that could serve the stadium are in close proximity and can be easily reached by either automobile or public transportation.

The most serious site attribute, however, is the site's designation for development of a substantial portion of the proposed Los Angeles Sports and Entertainment District (LASED). The District also includes other surface parking lots assembled by CRA/LA currently used for surface parking for the Staples Center Arena. The total LASED development, which has received its entitlements from the City, includes a long-sought Convention Center headquarters hotel (which could still be accommodated on the block), a second downtown hotel, an expansion site for the Los Angeles Convention and Exhibition Center, 800 units of housing, a 7,000-seat theater, and a substantial amount of retail and entertainment-related space, to complement the existing Convention Center and Staples Center and to provide a high-quality, pedestrian-oriented link between the Convention Center/Staples Center campus and the rest of Downtown Los Angeles.

The anticipated economic benefits of this proposed development were extensively spelled out in the approval process for the LASED entitlements, and there is general agreement that development of the LASED program will generate substantial economic and community benefits. While the use of a portion of the site for a stadium could allow the development of the Convention Center headquarters hotel and a portion of the retail-entertainment complex, the remaining components of the LASED development would not be accommodated. This would be a serious trade-off for a stadium, which, as noted elsewhere in the CRA's Report to the Ad Hoc Sports Franchise Assessment Committee, could be located effectively in either the Adelante-Eastside or Hoover Redevelopment Projects on a highly competitive basis. Thus, while the City Center Redevelopment Plan does have goals that could support the placement of a National Football League stadium there, and while there are marketing advantages to a downtown location, a site within the City Center Redevelopment Project is seriously problematic.

Environmental Considerations

In developing a reasonable range of project alternatives, CEQA directs lead agencies to focus on alternatives that are capable of avoiding or substantially lessening any significant effects of the project. Developing a new stadium at either of these alternative sites would clearly be more intensive than renovating an existing venue such as the Coliseum. While these sites were considered in the CRA Report to the Ad Hoc Sports Franchise Assessment Committee, they were not considered as potential alternative sites within the scope of this EIR because the potential for the sites to result in increased significant environmental impacts would exceed those generated by renovating the Coliseum.

With regard to construction impacts, development of either the Civic Center or Adelante Site would necessitate building a new stadium from the ground up. This would consume a greater amount of natural resources and land than renovating the Coliseum for the same purpose. Additionally, development of a stadium at both locations would displace existing land uses and/or conflict with planned land uses. Both locations would need to be developed with the appropriate infrastructure, including parking structures, which would generate additional construction-related impacts. Air pollution and increased noise are two notable environmental impacts that would be obviously increased as compared to the Proposed Project.

From an operational standpoint, developing a new stadium at either of the alternative locations would not preclude future renovation, improvements or use of the Coliseum. More importantly, the Coliseum would continue to operate as a major venue whether or not either of these sites are developed with a new stadium. Operational-related environmental impacts would increase two-fold on a regional basis as the operation of two major sports venues would increase the number of major events in the region (e.g., traffic congestion, parking, air quality pollution, and event-related noise). In addition, these alternative sites would not be capable of meeting any of the project's stated objectives relative to improving the outdated and deteriorating Coliseum. As such, both of these alternative sites were rejected from further consideration.

VII. ALTERNATIVES TO THE PROPOSED PROJECT

B. NO PROJECT

As required by CEQA, this Section analyzes a "No Project" Alternative. Under the No Project Alternative, the proposed renovation and seating alterations within the Coliseum would not be implemented. The No Project Alternative assumes the continuation of existing conditions and would include continuation of the Coliseum's landlord/tenant relationship with the University of Southern California (USC) football team, in addition to the Coliseum's continued utilization for a wide variety of public assembly and sporting events.

While the No Project Alternative would not include a renovation of the Coliseum of the magnitude described for the Proposed Project, the No Project Alternative would include minor repair and improvements to concessions to maintain the Coliseum in good condition. Many elements of the Coliseum are in need of notable repairs, which would likely be made with or without a complete redesign of the Coliseum's structure. Such minor improvements may include but would not be limited to upgraded restrooms and concession facilities and other associated infrastructure. The No Project Alternative would not include any modification to the existing seating bowl within the interior of the Coliseum. It would also not include any structural modifications to the Coliseum's exterior façade. The current seating capacity of 92,500 seats would remain unchanged.

Demolition of the existing outbuildings would not occur. These existing facilities would continue to remain operational, with minor repairs or renovations occurring on an as-needed-basis only. This alternative would not include any additional development on the Proposed Project Site. The existing landscaped grounds and perimeter fence will remain unaltered.

Future events at the Coliseum under this Alternative would remain unchanged as compared to existing conditions. The Coliseum currently hosts, on average, 34 major events per year. Such events include USC football games, political events, international soccer matches, music concerts and other cultural events. These activities would continue to be operated at the Coliseum for the foreseeable future. This alternative does not assume that the NFL will relocate to the Coliseum, as it has been expressed that the Coliseum, as it currently stands, does not meet the NFL's needs for a modern, state-of-the-art sports facility.

The NFL has verbally stated its intent to bring a football team franchise back to the Los Angeles market. However, the location of a host stadium is still uncertain. Without the proper renovations to the Coliseum as proposed, the Coliseum would be precluded from providing a modern state-of-the-art sports venue that the NFL is seeking. Under the No Project Alternative the NFL would be compelled to find an alternative stadium to host an NFL franchise team, build a new stadium outside of the Los Angeles City limits, or construct a stadium on undeveloped land. As such, the environmental consequences of developing a new

NFL stadium at the alternative sites within the region should be considered in conjunction with the No Project Alternative.

Aesthetics

Visual Impacts

Visual impacts to the Coliseum and surrounding area would not change under the No Project Alternative. No improvements or physical modifications would occur and the Coliseum would remain in its current condition. Views of the site and surrounding area are depicted in Views 1 through 8 as presented in Figures, V.A-1-2 through V.A-1-4, respectively. These views would remain unaltered. The No Project Alternative would have no impact on these views, as it would leave the site in its present form.

Light and Glare

The Coliseum is a fully functional sports and entertainment venue and is already equipped with adequate field-lighting infrastructure. The Coliseum structure includes eight floodlight towers located on and extending above the perimeter of the Coliseum's rim. These field lighting fixtures would remain operational and unmodified under this Alternative. No additional sources of light or glare would be placed within or around the Project Site. This alternative would, however, preclude the beneficial lighting impacts that would occur under the Proposed Project. The Proposed Project would replace the existing fixtures with more directional lighting fixtures, placed beneath the proposed tensile fabric roof. As such, the Proposed Project would reduce the amount of spill over light and glare that is currently created by the Coliseum. This environmental benefit would not occur under the No Project Alternative. While implementation of the No Project Alternative would generate less than significant lighting impacts (as no changes from existing conditions would occur), the net adverse impact from light and glare would be greater than the Proposed Project.

Air Quality

Under the No Project Alternative, no construction activities would occur. Therefore, no construction-related air quality emissions would be generated.

Regional emissions associated with the operation of the Coliseum under this Alternative would be identical to those described under the Environmental Setting in Section V.B, Air Quality. The continuation of up to 34 annual major events with a maximum seating capacity of 92,500 persons would continue to generate the same level of vehicle emissions that currently occur. As shown in Table V.B-3 on page V.B-8, the Coliseum currently generates emissions in excess of the daily SCAQMD thresholds for all criteria pollutants except for sulfur oxides. These emissions would continue to be generated up to 34 days per year, when major events are scheduled at the Coliseum. It should be noted that these emissions are greater than those projected under the Proposed Project, as the project proposes to reduce the maximum number of seats available for any one event. Air quality impacts under this Alternative would be considered significant and greater than the Proposed Project.

Geology/Seismic Hazards

The Project Site is located in a seismically active region and is prone to experiencing moderate to major earthquakes (magnitude 6.0 or greater). After Southern California's damaging earthquake in January, 1994, $93 million was required to repair the Coliseum to meet adequate safety standards. With the recent (1994) seismic retrofitting of the Coliseum complete, no other unique hazardous geotechnical issues are present on-site or in the immediate surrounding area that would create increased geotechnical hazards beyond those inherent to the surrounding Southern California region. However, in the event that a major earthquake struck the Southern California region during an event at the Coliseum, the exposure to seismic hazards under this Alternative could potentially affect a venue with a capacity of up to 92,500 persons. As compared to the Proposed Project, which reduces the Coliseum's seating capacity to 78,000 persons for one or two occasions and 68,000 for all other events, the No Project Alternative would potentially expose a greater number of people to regionally inherent seismic risk. While such impacts are considered less than significant, exposure to potential seismic hazards would be increased under this Alternative as compared to the Proposed Project.

Land Use

The Coliseum would not experience any change in land use under the No Project Alternative. Land uses surrounding Exposition Park generally consist of commercial/retail uses, surface parking lots, and multi-family residential uses. Existing Project Site uses are compatible with the site's OS-1XL zoning designation. Therefore, land use impacts would be less than significant under both the No Project Alternative and the Proposed Project.

Energy Conservation

From 1999-2002, the Project Site has, on average, had a total average annual consumption of 10,484 cubic feet (cf) of natural gas and 2,152,973 Kilowatts (Kwh) of electricity (See Section V.H.1). Continuation of existing operations under the No Project Alternative would not generate any additional demand for natural gas or electrical resources. Impacts upon natural gas and electricity would therefore be less than significant and reduced as compared to the Proposed Project.

Public Services

Fire

Under the No Project Alternative, Fire and Emergency services would continue to be served by LAFD fire stations No. 14, 15, and 46. Since the No Project Alternative would not alter the number or nature of events currently hosted by the Coliseum, and would not change the level of service and demands at the Coliseum, impacts upon fire services would be less significant.

Police

The No Project Alternative would result in the continuation of existing conditions on the Project Site, which would not warrant a change in the demand for police services. The No Project Alternative would not alter the number or nature of events currently hosted by the Coliseum. Therefore, the current level of service and demand for police protection would remain unchanged. Impacts on police services would be less than significant.

Public Utilities

Water Conservation

The continuation of existing operations under the No Project Alternative would not generate any new demands for water resources. Water service is adequately provided to both the Project Site and the surrounding locale by the City of Los Angeles's Department of Water and Power (DWP). Existing water lines serving the Project Site include a 16-inch main under Figueroa Street, a 12-inch main under Martin Luther King Jr. Blvd., and a four-inch main under Menlo Avenue. No new demands for water services or supplies would be created under the No Project Alternative. Impacts upon water services would be less than significant and less than the Proposed Project.

Sanitary Sewers

The continuation of the existing operations under the No Project Alternative would not generate any new demand for wastewater facilities. The Hyperion Treatment Plant (HTP), located directly west of the Los Angeles International Airport in Playa Del Rey, has adequate treatment capacity for all wastewater flows generated by the Project Site. Impacts upon wastewater services would therefore be less than significant and less than the Proposed Project.

Solid Waste

The continuation of the existing operations under the No Project Alternative would not generate any new demands for solid waste facilities. No construction or demolition debris would be generated. During an average year of operation, the Coliseum currently generates approximately 92,500 pounds, or approximately 42 tons of solid waste per event, which is hauled away by a private company. Based on an average of 34 major events per year, this equates to approximately 1,430 tons of solid waste on an annual basis. Solid waste generation of this magnitude would continue to occur under the No Project Alternative. Since no renovation would occur and no new spectators would be generated, the

No Project Alternative impact upon solid waste facilities would be less than significant and less than the Proposed Project.

COMPARATIVE MERITS OF THE ALTERNATIVE'S ABILITY TO MEET THE PROJECT OBJECTIVES AND REDUCE ENVIRONMENTAL IMPACTS

The No Project Alternative would not meet any of the project's goals or objectives as outlined previously in this Section. Continuation of major events at the Coliseum with no structural or design improvements would not increase the severity of environmental impacts over the existing operations. However, as compared to the impacts that would occur under the Proposed Project, this Alternative would have a greater potential for adverse environmental impacts with regard to aesthetics (light and glare), air quality, noise, traffic and parking, and seismic hazards. Impacts for the remaining environmental issues would not differ substantially as compared to the Proposed Project.

Most importantly, however, the No Project Alternative would not meet the Coliseum Commission's objective to enable the 1920s-era stadium to become a premiere state-of-the-art venue for a NFL franchise. The Proposed Project was conceptually designed to enhance the Historic Landmarks' presence and importance both nationally and in the Los Angeles region, which would attract an NFL franchise and generate sufficient revenue to enable the Coliseum Commission to preserve and maintain the Coliseum independently of public funds. While this Alternative would not modify any portion of the Coliseum's architecture, it would result in the ongoing underutilization and deterioration of an historic landmark. As the Coliseum is currently eighty years old, having its last maintenance and renovation efforts occurring nearly ten years ago, improvements and upgrades are necessary to increase the useful life of the Coliseum to ensure its ability to provide a safe public facility capable of hosting major regional events. As such, the net effect of the No Project Alternative could not be viewed as a beneficial impact from an historic preservation point of view.

If a No Project Alternative is selected as the preferred project and the renovation improvements are not made, the NFL franchise will likely relocate a franchise team to another venue, potentially outside the City of Los Angeles. The development of another venue that would compete for events with the Coliseum could result in diminished revenues for the Coliseum needed to maintain the historic structure. Failing to cover its ongoing upkeep from event revenues will require allocation of public funds for the obligated ongoing maintenance costs that an historic designation requires. In turn, this Alternative would likely result in either the construction of a new stadium on undeveloped land or in an extensive refurbishing of another stadium such as the Rose Bowl or Carson to host the NFL, both of which would cause more severe impacts on the environment compared to the Proposed Project. The impacts of these scenarios are addressed in Section VII.D, Alternative Sites.

For the reasons stated above, the No Project Alternative is not an environmentally superior alternative.

VII. ALTERNATIVES TO THE PROPOSED PROJECT
C. ALTERNATIVE DESIGN (WITHOUT ROOF)

The Alternative Design (Without Roof) would include renovating the Coliseum as currently proposed, but without the tensile fabric canopy over the north and south seating areas. The elimination of this feature would primarily result in a change in the proposed public address (PA) and sound system as well as the proposed lighting plan. Currently, the proposed sound and lighting systems are designed to take advantage of the overhanging roof feature to provide directional sound and light and minimize spillover light and noise pollution. With the elimination of the roof feature, the proposed lighting plan will need to be redesigned to place light poles on top of the Coliseum's rim, in a manner similar to the existing lighting plan. Similarly, the proposed acoustic and PA systems would need to be redesigned to place speakers throughout the Coliseum. All other aspects of the Proposed Project, including the proposed structural improvements and seating plan, would remain unchanged from the current proposal.

Aesthetics (Visual Impacts)

This alternative would change the exterior appearance of the proposed Coliseum design as it would eliminate the roof element. Structurally, the roof element would be replaced with four or more light pole towers, as they are currently positioned around the rim of the Coliseum. The elimination of the roof element would also change the proposed signage plan as the project proposes to include a signage element on the top side of the roof fabric. The aerial view of the stadium would provide an unobstructed view of the stadium, including all seating areas. The impact of this change is subjective, but could be perceived as an improvement over the proposed design.

Aesthetics (Light and Glare)

As stated previously, the Alternative Design Without Roof alternative would necessitate the placement of light poles on and around the Coliseum's rim in a manner similar to the existing conditions. The effects of this design would be similar to those of the existing conditions, with spillover lighting being cast onto adjacent neighborhoods. The beneficial impact of the Proposed Project would not be realized and the roof design of the Proposed Project would effectively shield light from illuminating areas outside of the Coliseum's bowl. As compared to the Proposed Project, this Alternative would have greater adverse impacts associated with spillover lighting.

Air Quality

This Alternative would not affect the project's construction or operational-related air quality impacts. As such, impacts associated with air quality would be less than significant and the same as the Proposed Project.

Geology/Seismic Hazards

Development of this Alternative would not affect the geologic or seismic impact of the Proposed Project. The foundation and footing design would be the same with or without the roof element. As such, geologic and seismic impacts would be less than significant and the same as the Proposed Project.

Land Use

Development of this Alternative would not affect the land use consistency impacts of the Proposed Project. The project is exempt from local Zoning Codes and would not be subject to any local zoning regulations with regard to height. In terms of land use compatibility, this Alternative would result in greater adverse impacts than the Proposed Project with regards to spill over lighting and noise impacts. As discussed in each respective Section of this EIR, the proposed roof element would effectively block spillover lighting impacts and attenuate noise from encroaching into the surrounding community. These effects would continue to be created in the same manner as created by current operations.

Noise

As stated above, this Alternative would result in the need to redesign the proposed sound system. Currently, the Proposed Project design entails positioning several hundred small speakers throughout the Coliseum, including on the roof structure. With the elimination of this element from the proposed design the speakers will need to be positioned in alternative areas along the Coliseum's rim or on posts throughout the stadium. In addition to the aesthetic impact associated with speakers being placed in more visible places, the acoustics of the Coliseum would generate spill-over noise in a manner consistent with the existing conditions. Currently there is no roof element to shield and attenuate noise from inside the Coliseum. The noise impacts would be generally the same as under existing conditions and would be greater as compared to the Proposed Project.

Public Utilities (Energy Conservation, Water Conservation, Sewers and Solid Waste)

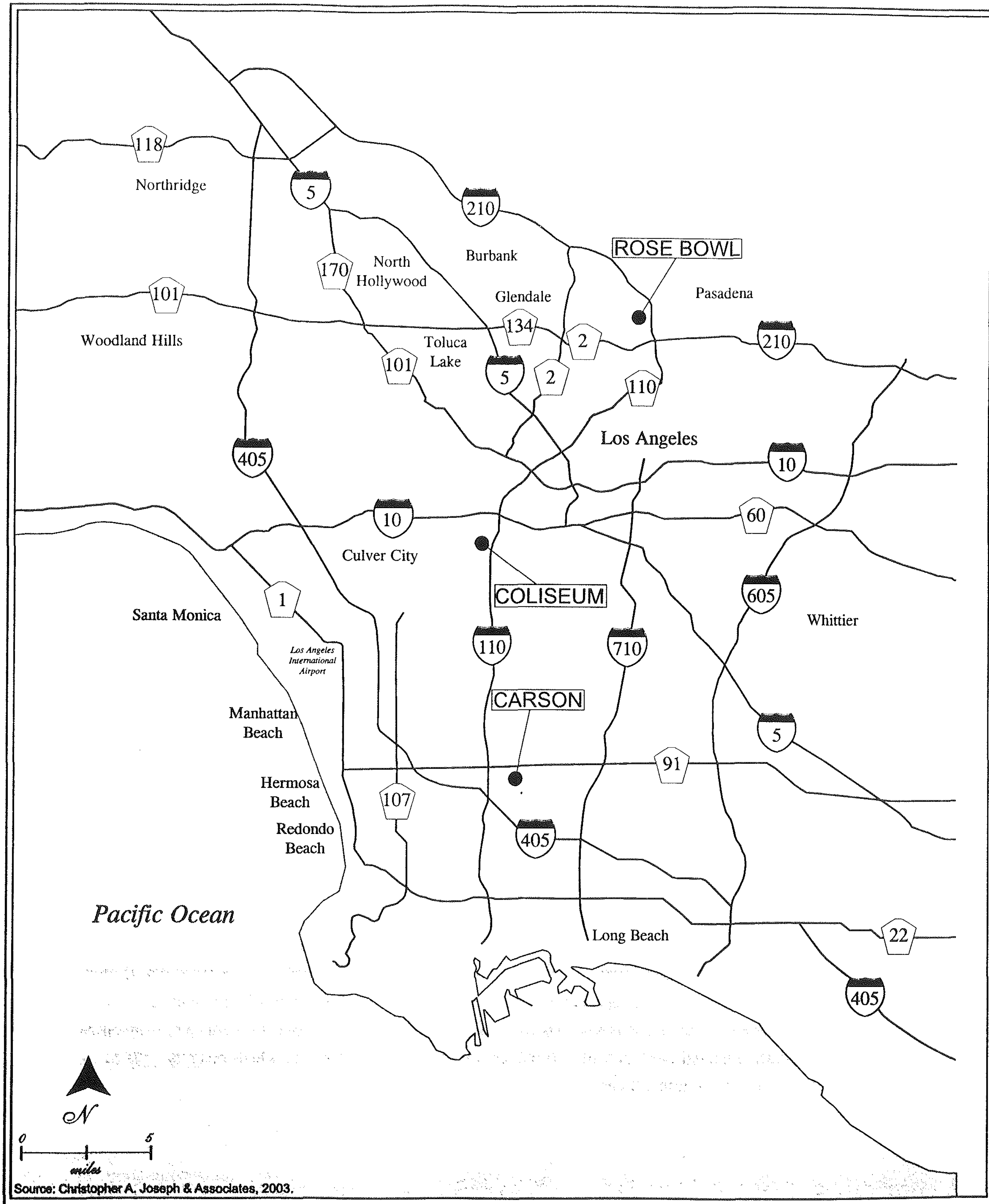
This Alternative would not alter any of the public utility services associated with the Proposed Project. As such, impacts associated with energy and water conservation, sanitary sewers, and solid waste would be less than significant and the same as the Proposed Project.

Public Services (Police and Fire)

This Alternative would not alter the Proposed Project's demands on public services. As such, impacts associated with fire and police services would be less than significant and the same as the Proposed Project.

Traffic and Parking

As stated above, this Alternative would result in the renovation of the Coliseum as defined under the Proposed Project, with the one exception that the roof element would be eliminated. This change would not affect either traffic congestion or parking demands of the Proposed Project. Therefore the impacts of this Alternative would be the same as the Proposed Project.



Source: Christopher A. Joseph & Associates, 2003.

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Figure VII-2
Alternative Sites
(City of Carson/City of Pasadena)

Rose Bowl Site

The Rose Bowl Site is challenged with many of the same issues as the Coliseum. Similar to the Coliseum, the Rose Bowl is designated as an historic resource. As such, any redevelopment at the Rose Bowl has the potential to result in an adverse impact on the Rose Bowl's historic designation that must be evaluated in a project-specific EIR. Consequently, from an historic perspective, each project would be relatively the same with respect to the level of impact upon historic resources. However, for purposes of this EIR, this alternative would be equivalent to the No Project Alternative with respect to impacting an historical resource. While the Rose Bowl Alternative would also involve the reuse of an existing historic landmark and major sports and entertainment venue, the impacts of renovating the Rose Bowl will need to be evaluated in further detail in a separate EIR under the direction of the lead agency with jurisdiction over that resource. In terms of impacts upon the Coliseum, this alternative would involve no construction activities at the Coliseum; thus no new adverse impacts to the Coliseum would be created.

In terms of construction, the Rose Bowl would be remodeled in a similar fashion as the Proposed Coliseum. Both projects would renovate an existing structure. The impacts associated with the construction phase would be relatively comparable under either the Proposed Project or the Rose Bowl Alternative.

Impacts associated with the operational aspects of the Rose Bowl Alternative would be generally similar to the Proposed Project. Depending on the proposed seating capacity of the Rose Bowl redevelopment, the Alterative site would have the potential to generate traffic congestion and parking demands similar in nature to what is already experienced for special events. As such, the operational impacts for the Rose Bowl Alternative would be substantially similar to the Proposed Project.

VII. ALTERNATIVES TO THE PROPOSED PROJECT
E. ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Among the range of alternatives evaluated in this EIR, the No Project Alternative would represent the alternative with the least environmental impact. A matrix displaying the major characteristics and significant environmental effects of each project in relation to the Proposed Project is provided in Table VII.E-1.

As indicated in the impact matrix in Table VII.E-1, the No project Alternative would result in reduced environmental impacts with regards to Aesthetics/Visual Impacts, and Cultural Resources. The No Porject Alternative would still result in significant unavoidable impacts with respect to Air Quality and Traffic. Impacts would be relatively the same as the Proposed Project for the remaining issue areas.

The Alternative Design (Without Roof) Alternative would result in reduced environmental impacts with regards to Aesthetics/Visual Impacts. The Alternative Deign Alternative would still result in significant unavoidable impacts with respect to Air Quality, Cultural Resources and Traffic. Impacts would be increased with respect to Noise and Light and Glare impacts. Impacts would be relatively the same as the Proposed Project for the remaining issue areas.

The level of environmental impacts that would be created by either of the Alternative Sites is impossible to determine without a detailed analysis of the each respective locale. An evaluation of the specific circumstances surrounding the environmental conditions for each location is needed in order to accurately determine the level of significance for each environmental issue area.

Table VI.E.-1
Project Impacts and Alternatives Analysis Matrix

Environmental Issues	Project Without Mitigation	Project With Mitigation	No Project Alternative	Alternative Design (Without Roof)	Alternative Sites	
					Carson	Rose Bowl
A.1. Aesthetics / Visual Impacts	LS	LS*	LS (-)	LS (-)	--	--
A.1. Aesthetics / Light and Glare	LS	LS*	LS (+)	LS (+)	--	--
B. Air Quality	S	SU	SU (-)	SU (=)	S (+)	S (=)
C. Cultural and Historic Resources	S	SU (-)	LS	SU (=)	LS (-)	LS (-)
D. Geology / Seismic Hazards	LS	LS (-)	LS (+)	LS (=)	LS (=)	LS (=)
E. Land Use	LS	LS (-)	LS	LS (=)	--	--
F. Noise	LS	LS (-)	LS (+)	LS (+)	LS (+)	LS (=)
G.1. Public Services / Fire Protection	LS	LS (-)	LS	LS (=)	NA	LS (-)
G.2. Public Services / Police Protection	S	LS (-)	LS	LS (=)	--	--
H.1 Public Utilities /Energy Conservation	LS	LS (-)	LS	LS (=)	--	--
H.2 Public Utilities / Water Conservation	S	LS	LS	LS (=)	--	--
H.3 Public Utilities / Sewers	LS	LS (-)	LS (+)	LS (=)	--	--
H.4 Public Utilities / Solid Waste	LS	LS (-)	LS (+)	LS (=)	LS+	LS+
I.1 Traffic & Access	S	SU	SU (+)	SU (=)	S	S
I.2. Parking	LS	LS (-)	LS	LS (=)	--	LS (=)

__Notes:__
LS = Less than Significant Impact.
LS = Less than Significant Impact and No Mitigation Required.*
S = Significant Impact.
SU = Significant Unavoidable Impact.

(+) = Impacts would be increased as compared to the Proposed Project.
(-) = Impacts would be reduced as compared to the Proposed Project.
(+/-) = Impacts would be mixed. While some of the project's negative impacts would be reduced, potential negative impacts would be created or net beneficial impacts would be compromised.
-- = There is not enough information about developing these sites to render a conclusion.

VIII. ORGANIZATIONS AND INDIVIDUALS CONTRIBUTING TO THE PREPARATION OF THIS DOCUMENT

LEAD AGENCY

Los Angeles Memorial Coliseum Commission
3939 S. Figueroa Street
Los Angeles, California, 90037

Patrick T. Lynch, General Manager
Charlie Isgar, Director of Development and Special Projects
Ronald Lederkramer, Assistant General Manager, Director of Finance and Administration
Margaret Farnum, Chief Administrative Officer

PROJECT ARCHITECT

NBBJ
13335 Maxella Avenue
Marina Del Rey, CA 90292
(310) 448-9600

Ronald F. Turner, AIA, Principal
James B. Morton, AIA, Principal
Jonathan Emmett, Associate

EIR CONSULTANT

Christopher A. Joseph & Associates
11849 W Olympic Boulevard, Suite 101
Los Angeles, California 90064

Chris Joseph, President
Shane Parker, Principal, Project Manager
Jennifer Johnson, Manager of Special Projects
Leah Dierkes, Assistant Environmental Planner/Graphics Specialist

Lainie Herrera, Assistant Environmental Planner
Rebecca Shokrian, Research Assistant
Heidi McWhorter, Research Assistant
Jeff Daems, Word Processor

TRAFFIC CONSULTANT

Kaku Associates
1453 Third Street, Suite 400
Santa Moinca, California 90401
(310) 458-9116

Dick Kaku, President
Paul Taylor, Vice President
John Muggridge, Transportation Engineer

HISTORIC RESOURCES CONSULTANT

Architectural Resources Group
Pier 9, The Embarcadero
San Francisco, California 94111
(415) 421-1680

Bruce Judd, Principal

PUBLIC AGENCIES CONSULTED

State of California

Governor's Office of Planning and Research, State Clearinghouse

Scott Morgan, Project Analyst

Regional Agencies

California Department of Transportation, District 7, Office of Regional Planning

Stephen Buswell, IGR/CEQA Program Manager

Southern California Association of Governments

Jeffrey M. Smith, Senior Regional Planner, Intergovernmental Review

Local Agencies

Department of Public Works of the City of Los Angeles

Adel H. Hagekhalil, Division Manager

Department of Transportation of the City of Los Angeles

Allyn D. Rifkin, Principal Transportation Engineer

Department of Water and Power of the City of Los Angeles

Laurent McReynolds, Engineer in Charge, Water Operating Division
Edward Karapetian, Manager of Environmental and Governmental Affairs
Charles C. Holloway, Supervisor, Environmental Assessment

Fire Department of the City of Los Angeles

Alfred B. Hernandez, Assistant Fire Marshal, Bureau of Fire Prevention and Public Safety
Alan Masumoto, Hydrant Unit

Los Angeles Office of the Board of Public Works

Karen Coca

Police Department of the City of Los Angeles

Garrett W. Simmon, Commanding Officer, Planning and Research Division
William M. Rathburn, Former Deputy Chief, Operations - South Bureau
Sergeant Chris Berglund, Special Events Coordinator, Operations - South Bureau
Officer Judy Redmayne, Operations - South Bureau

PRIVATE ORGANIZATIONS

Los Angeles Conservancy

Linda Dishman, Director
Ken Bernstein, Director of Preservation Issues

Southern California Gas Company, South Coastal Division

J. M. Sharp, Distribution Planning Supervisor

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse

Gray Davis
Governor

Tal Finney
Interim Director

Notice of Preparation

RECEIVED
MAY 30 2003
L.A. COLISEUM COMMISSION

May 23, 2003

To: Reviewing Agencies

Re: Los Angeles Memorial Coliseum Renovation
SCH# 1990011065

Attached for your review and comment is the Notice of Preparation (NOP) for the Los Angeles Memorial Coliseum Renovation draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Shane Parker
Los Angeles Memorial Coliseum Commission
3911 South Figueroa Street
Los Angeles, CA 90037

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Project Analyst, State Clearinghouse

Attachments
cc: Lead Agency

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
(916)445-0613 FAX(916)323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH# 1990011065
Project Title Los Angeles Memorial Coliseum Renovation
Lead Agency Los Angeles, City of

Type NOP Notice of Preparation

Description The project consists of renovating and redeveloping the Los Angeles Memorial Coliseum, including rehabilitation of portions of the 27.4-acre site surrounding and containing the Coliseum structure. The project will reduce the existing seating capacity from 92,500 seats to 68,000 for professional NFL football games and up to 78,000 seats to accommodate collegiate football games (USC).

Lead Agency Contact

Name Shane Parker
Agency Los Angeles Memorial Coliseum Commission
Phone 310-473-1600 ext 20 ***Fax***
email
Address 3911 South Figueroa Street
City Los Angeles ***State*** CA ***Zip*** 90037

Project Location

County Los Angeles
City Los Angeles, City of
Region
Cross Streets S. Figueroa and Martin Luther King Jr. Boulevard
Parcel No. 5037-028-907 (portion)
Township ***Range*** ***Section*** ***Base***

Proximity to:

Highways 10 and 110
Airports
Railways
Waterways
Schools LAUSD
Land Use OX-1XL/Publicly Owned Space

Project Issues Aesthetic/Visual; Air Quality; Archaeologic-Historic; Geologic/Seismic; Noise; Public Services; Recreation/Parks; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Traffic/Circulation; Water Quality; Growth Inducing; Landuse; Cumulative Effects

---

Reviewing Agencies Resources Agency; Department of Conservation; Office of Historic Preservation; Department of Parks and Recreation; Department of Fish and Game, Region 5; Native American Heritage Commission; Office of Emergency Services; Caltrans, District 7; California Highway Patrol; Caltrans, Division of Transportation Planning; Air Resources Board, Major Industrial Projects; Department of Toxic Substances Control; Regional Water Quality Control Board, Region 4

Date Received 05/23/2003 ***Start of Review*** 05/23/2003 ***End of Review*** 06/23/2003

Note: Blanks in data fields result from insufficient information provided by lead agency.

Resources Agency

■ **Resources Agency**
Nadell Gayou

☐ **Dept. of Boating & Waterways**
Suzi Betzler

☐ **California Coastal Commission**
Elizabeth A. Fuchs

☒ **Dept. of Conservation**
Roseanne Taylor

☐ **Dept. of Forestry & Fire Protection**
Allen Robertson

☒ **Office of Historic Preservation**
Hans Kreutzberg

■ **Dept of Parks & Recreation**
B. Noah Tilghman
Environmental Stewardship Section

☐ **Reclamation Board**
Lori Buford

☐ **S.F. Bay Conservation & Dev't. Comm.**
Steve McAdam

☐ **Dept. of Water Resources**
Resources Agency
Nadell Gayou

Health & Welfare

☐ **Health & Welfare**
Wayne Hubbard
Dept. of Health/Drinking Water

Food & Agriculture

☐ **Food & Agriculture**
Steve Shaffer
Dept. of Food and Agriculture

Fish and Game

☐ **Dept. of Fish & Game**
Scott Flint
Environmental Services Division

☐ **Dept. of Fish & Game 1**
Donald Koch
Region 1

☐ **Dept. of Fish & Game 2**
Banky Curtis
Region 2

☐ **Dept. of Fish & Game 3**
Robert Floerke
Region 3

☐ **Dept. of Fish & Game 4**
William Laudermilk
Region 4

▨ **Dept. of Fish & Game 5**
Don Chadwick
Region 5, Habitat Conservation Program

☐ **Dept. of Fish & Game 6**
Gabrina Gatchel
Region 6, Habitat Conservation Program

☐ **Dept. of Fish & Game 6 I/M**
Tammy Allen
Region 6, Inyo/Mono, Habitat Conservation Program

☐ **Dept. of Fish & Game M**
Tom Napoli
Marine Region

Independent Commissions

☐ **California Energy Commission**
Environmental Office

■ **Native American Heritage Comm.**
Debbie Treadway

☐ **Public Utilities Commission**
Ken Lewis

State Lands Commission
Jean Sarino

☐ **Governor's Office of Planning & Research**
State Clearinghouse Planner

☐ **Colorado River Board**
Gerald R. Zimmerman

☐ **Tahoe Regional Planning Agency (TRPA)**
Lyn Barnett

☒ **Office of Emergency Services**
John Rowden, Manager

☐ **Delta Protection Commission**
Debby Eddy

☐ **Santa Monica Mountains Conservancy**
Paul Edelman

Dept. of Transportation

☐ **Dept. of Transportation 1**
Mike Eagan
District 1

☐ **Dept. of Transportation 2**
Don Anderson
District 2

☐ **Dept. of Transportation 3**
Jeff Pulverman
District 3

☐ **Dept. of Transportation 4**
Tim Sable
District 4

☐ **Dept. of Transportation 5**
David Murray
District 5

☐ **Dept. of Transportation 6**
Marc Birnbaum
District 6

▨ **Dept. of Transportation 7**
Stephen J. Buswell
District 7

☐ **Dept. of Transportation 8**
Linda Grimes,
District 8

☐ **Dept. of Transportation 9**
Gayle Rosander
District 9

☐ **Dept. of Transportation 10**
Tom Dumas
District 10

☐ **Dept. of Transportation 11**
Bill Figge
District 11

☐ **Dept. of Transportation 12**
Bob Joseph
District 12

Business, Trans & Housing

☐ **Housing & Community Development**
Cathy Creswell
Housing Policy Division

☐ **Caltrans - Division of Aeronautics**
Sandy Hesnard

☒ **California Highway Patrol**
Lt. Julie Page
Office of Special Projects

☒ **Dept. of Transportation**
Ron Helgeson
Caltrans - Planning

☐ **Dept. of General Services**
Robert Sleppy
Environmental Services Section

Air Resources Board

- ☐ Airport Projects
  Jim Lerner
- ☐ Transportation Projects
  Kurt Karperos
- ☒ Industrial Projects
  Mike Tollstrup

☐ **California Integrated Waste Management Board**
Sue O'Leary

☐ **State Water Resources Control Board**
Jim Hockenberry
Division of Financial Assistance

☐ **State Water Resources Control Board**
Student Intern, 401 Water Quality Certification Unit
Division of Water Quality

☐ **State Water Resouces Control Board**
Mike Falkenstein
Division of Water Rights

☒ **Dept. of Toxic Substances Control**
CEQA Tracking Center

Regional Water Quality Control Board (RWQCB)

☐ **RWQCB 1**
Cathleen Hudson
North Coast Region (1)

☐ **RWQCB 2**
Environmental Document Coordinator
San Francisco Bay Region (2)

☐ **RWQCB 3**
Central Coast Region (3)

☒ **RWQCB 4**
Jonathan Bishop
Los Angeles Region (4)

☐ **RWQCB 5S**
Central Valley Region (5)

- ☐ **RWQCB 5F**
  Central Valley Region (5)
  Fresno Branch Office
- ☐ **RWQCB 5R**
  Central Valley Region (5)
  Redding Branch Office

☐ **RWQCB 6**
Lahontan Region (6)

- ☐ **RWQCB 6V**
  Lahontan Region (6)
  Victorville Branch Office

☐ **RWQCB 7**
Colorado River Basin Region (7)

☐ **RWQCB 8**
Santa Ana Region (8)

☐ **RWQCB 9**
San Diego Region (9)

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY GRAY DAVIS, Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 7, REGIONAL PLANNING
IGR/CEQA BRANCH
120 S. SPRING STREET
LOS ANGELES, CA 90012
PHONE (213) 897-4429
FAX (213) 897-1337

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JUN 0 3 2003
L.A. COLISEUM COMMISSION

Flex your power!
Be energy efficient!

May 30, 2003

IGR/CEQA cs/030571
NOP
Exposition Park
Proposed Renovation of the Los Angeles Memorial Coliseum
3911 S. Figueroa St.
Vic. LA-110-20.13
SCH#

Ms. Margaret Farnum
Chief Administrative Officer
Los Angeles Memorial Coliseum Commission
3911 S. Figueroa St.
Los Angeles, CA 90037

Dear Ms. Farnum:

Thank you for including the California Department of Transportation in the environmental review process for the above-mentioned project. Based on the information received, we have the following comments:

A traffic study will be needed to evaluate the project's impact on the State transportation system including impacts to the mainline I-110 (Harbor Freeway) and all affected freeway on/off ramps. The traffic study should include, but not be limited to:

1) Assumptions used to develop trip generation/distribution percentages and assignments.

2) An analysis of ADT, AM and PM peak hour volumes for both the existing and future (year 2025) conditions. This should also include level-of-service calculations using the HCM 2000 methodology. The analysis should include the following:

- existing traffic volumes
- project and cumulative traffic volumes
- future traffic volumes projections for year 2025
- existing level-of-service (LOS) calculations
- project and cumulative level-of-service (LOS) calculations

3) Any mitigation measures proposed to alleviate traffic impact should include, but not be limited to the following:

- financing
- scheduling considerations
- implementation responsibilities
- monitoring plan

4) The Equitable Share responsibility for traffic mitigation measures should be calculated as determined by the percentage increase in projected peak period trips resulting in operational impacts to the Harbor Freeway. The City should refer to Appendix "B" Methodology for Calculating Equitable Mitigation Measures found in our Caltrans Guide for the Preparation of Traffic Impact Studies. The Guide can be found on the internet at:

http://www.dot.ca.gov/hq/traffops/developserv/operationalsystems/reports/tisguide.pdf

"Caltrans improves mobility across California"

The proposed project will need to conform with the National Pollution Discharge Elimination System (NPDES) requirements relating to construction activities and Post-Construction Storm Water Management. To the maximum extent practicable, Best Management Practices will need to be implemented to address storm water runoff from new development. The responsible water quality control agencies will need to review storm water runoff facilities and drainage plans.

We would appreciate advance copies of the DEIR and traffic study to facilitate internal Departmental review. Copies should be sent to the undersigned :

Stephen Buswell, IGR/CEQA Program Manager
California Department of Transportation
District 7, Office of Regional Planning
120 South Spring Street
Los Angeles, CA 90012

If you have any questions regarding our comments, refer to our internal IGR/CEQA Record # cs/030571, and please do not hesitate to contact me at (213) 897-4429.

Sincerely,

STEPHEN BUSWELL
IGR/CEQA Branch Chief

cc: Mr. Scott Morgan, State Clearinghouse

RECEIVED
JUN 09 2003
L.A. COLISEUM COMMISSION

THERN CALIFORNIA
ASSOCIATION of GOVERNMENTS
Main Office
818 West Seventh Street
12th Floor
Los Angeles, California
90017-3435

t (213) 236-1800
f (213) 236-1825

www.scag.ca.gov

Officers: President: Mayor Bev Perry, Brea • First Vice President: Supervisor Charles Smith, Orange County • Second Vice President: Councilmember Ron Roberts, Temecula • Immediate Past President: Councilmember Hal Bernson, Los Angeles

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Orange County: Charles Smith, Orange County • Ron Bates, Los Alamitos • Art Brown, Buena Park • Lou Bone, Tustin • Richard Chavez, Anaheim • Debbie Cook, Huntington Beach • Cathryn DeYoung, Laguna Niguel • Richard Dixon, Lake Forest • Alta Duke, La Palma • Bev Perry, Brea • Tod Ridgeway, Newport Beach

Riverside County: Bob Buster, Riverside County • Ron Loveridge, Riverside • Jeff Miller, Corona • Greg Pettis, Cathedral City • Ron Roberts, Temecula • Charles White, Moreno Valley

San Bernardino County: Paul Biane, San Bernardino County • Bill Alexander, Rancho Cucamonga • Lawrence Dale, Barstow • Lee Ann Garcia, Grand Terrace • Susan Longville, San Bernardino • Gary Ovitt, Ontario • Deborah Robertson, Rialto

Ven ounty: Judy Mikels, Ventura County • Gle , Simi Valley • Carl Morehouse, San Bue a • Toni Young, Port Hueneme

Riverside County Transportation Commission: Robin Lowe, Hemet

Ventura County Transportation Commission: Bill Davis, Simi Valley

June 6, 2003

Ms. Margaret Farnum
Chief Administrative Officer
Los Angeles Memorial Coliseum Commission
3911 S. Figueroa Street
Los Angeles, CA 90037

RE: **SCAG Clearinghouse No. I 20030295 Proposed Renovation of the Los Angeles Memorial Coliseum**

Dear Ms. Farnum:

Thank you for submitting the **Proposed Renovation of the Los Angeles Memorial Coliseum** for review and comment. As areawide clearinghouse for regionally significant projects, SCAG reviews the consistency of local plans, projects and programs with regional plans. This activity is based on SCAG's responsibilities as a regional planning organization pursuant to state and federal laws and regulations. Guidance provided by these reviews is intended to assist local agencies and project sponsors to take actions that contribute to the attainment of regional goals and policies.

We have reviewed the **Proposed Renovation of the Los Angeles Memorial Coliseum**, and have determined that the proposed Project is not regionally significant per SCAG Intergovernmental Review (IGR) Criteria and California Environmental Quality Act (CEQA) Guidelines (Section 15206). Therefore, the proposed Project does not warrant comments at this time. Should there be a change in the scope of the proposed Project, we would appreciate the opportunity to review and comment at that time.

A description of the proposed Project was published in SCAG's **May 16-31, 2003** Intergovernmental Review Clearinghouse Report for public review and comment.

The project title and SCAG Clearinghouse number should be used in all correspondence with SCAG concerning this Project. Correspondence should be sent to the attention of the Clearinghouse Coordinator. If you have any questions, please contact me at (213) 236-1867. Thank you.

Sincerely,

Jeffrey M. Smith

JEFFREY M. SMITH, AICP
Senior Regional Planner
Intergovernmental Review

CITY OF LOS ANGELES
CALIFORNIA

WAYNE K. YANDA
GENERAL MANAGER

DEPARTMENT OF
TRANSPORTATION
221 N. FIGUEROA ST. SUITE 500
LOS ANGELES, CA 90012
(213) 580-1177
FAX (213) 580-1188

JAMES K. HAHN
MAYOR

3911 S. Figueroa St

June 20, 2003

Margaret Farnum
Chief Administrative Officer
Los Angeles Memorial Coliseum Commission
3911 South Figueroa Street
Los Angeles, CA 90037

NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE RENOVATION OF THE LOS ANGELES MEMORIAL COLISEUM

The Los Angeles Department of Transportation (LADOT) has reviewed the Notice of Preparation (NOP) for the Draft Environmental Impact Report (DEIR) for the Los Angeles Memorial Coliseum Renovation Project. The proposed project is to renovate the existing Memorial Coliseum stadium in Los Angeles and rehabilitate portions of the 27.4 acre project site. The proposed renovations would reduce the existing seating capacity from 92,500 to approximately 68,000 for National Football League games and to approximately 78,000 for collegiate football games. In addition, the project will construct 175 new luxury suites and a club level with 15,000 premier seats.

HIGHWAY DEDICATION AND STREET WIDENING REQUIREMENTS

The Transportation Element of the City of Los Angeles General Plan adopted by the City Council and Section 12.37 of the Los Angeles Municipal Code (LAMC) require that the developer adhere to the highway dedication and street widening requirements of the General Plan. The developer must check with the Bureau of Engineering (BOE) Land Development Group to determine the highway dedication or street widening requirements in order to improve and construct the streets along the project frontage in accordance with standards adopted by the City.

ASSESSMENT OF TRAFFIC IMPACT

A traffic study is being prepared to analyze the potential impacts of the project. LADOT has been working with traffic consultant Kaku Associates on the traffic study and scope of work required for the study.

If you have any questions, please contact Wes Pringle of my staff at (213) 580-5206.

Sincerely,

Allyn D. Rifkin
Principal Transportation Engineer

cc: Council District 8
Central District, LADOT
Land Development Group, BOE

Letters/coliseum_renovation NOP.wpd

Department of Water and Power the City of Los Angeles

JAMES K. HAHN
Mayor

Commission
KENNETH T. LOMBARD, *President*
DOMINICK W. RUBALCAVA, *Vice President*
ANNIE E. CHO
SID C. STOLPER
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JOHN C. BURMAHLN, *Secretary*

DAVID H. WIGGS, *General Manager*
FRANK SALAS, *Chief Administrative Officer*

RECEIVED
JUN 2 6 2003
L.A. COLISEUM COMMISSION

June 18, 2003

Ms. Margaret Farnum
Chief Administrative Officer
Los Angeles Memorial
Coliseum Commission
3911 South Figueroa Street
Los Angeles, CA 90037

Dear Ms. Famum:

Subject: Proposed Renovation of the Los Angeles Memorial Coliseum
Review of Notice of Preparation of a Draft Environmental Impact Report

The Los Angeles Department of Water and Power (LADWP) has reviewed a Notice of Preparation (NOP) dated May 22, 2003 for the proposed project. For reference, the Los Angeles Memorial Coliseum is within the boundaries of the Exposition Park Master Plan which is located about two miles southwest of downtown Los Angeles.

The proposed project involves the renovation of the Los Angeles Memorial Coliseum, including the rehabilitation of portions of the 27.4-acre project site surrounding and containing the Coliseum structure itself. Proposed renovations would reduce the fixed seating capacity for professional and college football games from the existing of 92,500 to about 68,000.

We are providing information for consideration and incorporation into the planning, design, and development efforts for the proposed project. Regarding water needs for the proposed project, this letter does not constitute a response to a water supply assessment due to recent state legislative activity (i.e., SB 901, SB 610, and SB 221) for development projects to determine the availability of long-term water supply. Our understanding is that a water supply assessment by the water supply agency needs to be requested and completed prior to issuing a draft Negative Declaration or draft EIR. Before investing resources in preparation of a water supply assessment, we recommend that you contact LADWP (Mr. Alvin Bautista, [213] 367-0800 or by e-mail at Alvin.Bautista@water.ladwp.com) and provide specific project details as requested to help staff make a determination on whether or not the proposed project meets the criteria for compliance with this legislation.

Water and Power Conservation ... a way of life

111 North Hope Street, Los Angeles, California *Mailing address:* Box 51111, Los Angeles 90051-0100
Telephone: (213) 367-4211 *Cable address:* DEWAPOLA

If proposed project parameters (e.g., development details such as type, square footage, etc., anticipated water demand by 2020, population increase, etc.) are such that they are subject to state law requiring a water availability assessment, a separate request must be made in writing to:

Mr. Gerald A. Gewe
Assistant General Manager - Water
Los Angeles Department of Water and Power
111 North Hope Street, Room 1455
Los Angeles, CA 90012

The following is LADWP information regarding meeting the projected water and power infrastructure needs for the proposed project:

Water Needs

Once a determination of the proposed project fire demands has been made, LADWP will assess the need for additional facilities, if any.

As the project proceeds further in the design phase, we recommend the project applicant or designated Project Management Engineer to confer with a single point-of-contact at LADWP (Mr. Hugo Torres, [213] 367-1178 or by e-mail at Hugo.Torres@water.ladwp.com) to make arrangements for water supply service needs.

Power Needs

LADWP, under the Los Angeles City Charter, has an obligation to serve its customers within the City of Los Angeles.

As the project proceeds further in the planning and design phase, we recommend the project applicant or designated Project Management Engineer to confer with a single point-of-contact at LADWP (Mr. James M. Laschober, [213] 367-3469 or by e-mail at James.Laschober@ladwp.com) for dealing with power services and infrastructure needs.

LADWP Programs to Assist Customer Water and Power Needs

LADWP has a number of programs that are intended to serve existing and prospective customer water and power needs. Since the proposed project is in the planning and design phase, it may be a good idea to review these programs to consider the feasibility of incorporating measures in the design, project development, and operations of the proposed facilities. The benefit of these programs is cost savings to the customer while at the same time being environmentally friendly. Existing and prospective customers of at the same time being environmentally friendly. Existing and prospective customers of LADWP are encouraged to join us in this effort by taking part in our "Green Power for a Green LA" program. Call 800 GREEN LA (800-473-3652), or visit www.GreenLA.com as well as www.LADWP.com to learn more about the various programs available.

Green Power for a Green LA Program. LADWP is committed to replacing electricity generated from fossil fuel-burning power plants with energy generated from renewable resources such as the sun, wind, water, biomass, and geothermal. Mr. John Giese is the Green Power Program Manager and can be reached at (213) 367-0434 or by e-mail at John.Giese@ladwp.com.

Trees for a Green LA. As part of its ongoing commitment to environmental initiatives that reduce energy use, improve air quality, and beautify local communities, LADWP is sponsoring the *Trees for a Green LA* program. One of the main goals of the program is to add an estimated 200,000 shade trees to the Los Angeles urban environment starting in March 2002. The program is intended to provide trees to LADWP residential customers. Additional elements of the program that are planned include: trees for 1) public spaces, 2) new construction/development, and 3) replacement under power lines. Ms. Leilani Johnson is the Program Manager and can be reached at (213) 367-3023 or by e-mail at Leilani.Johnson@ladwp.com.

Efficiency Solutions. LADWP suggests consideration and incorporation of energy efficient design measures for building new commercial and/or remodeling existing facilities. Implementation of applicable measures would exceed Title 24 energy efficiency requirements. LADWP continues to offer a number of energy efficiency programs and cash incentives to reduce peak electrical demand and energy costs. Mr. Donald Cunningham is the Director of Energy Efficiency Solutions and can be reached at (213) 367-1375 or by e-mail at Don.Cunningham@ladwp.com.

Solar Energy. In an effort to decrease dependency on traditional, polluting energy sources, LADWP is promoting solar power to make this energy alternative more affordable. Mr. Thomas Honles is the Solar Energy Program Manager and can be reached at (213) 367-3151 or by e-mail at Thomas.Honles@ladwp.com.

Electric Transportation. LADWP is promoting this program by providing our customers with information and assistance that greatly simplifies the process of buying electric vehicles and installing a charger(s). Mr. Scott Briasco is the Electric Transportation Program Manager and can be reached at (213) 367-0239 or by e-mail at Scott.Briasco@ladwp.com.

Water Conservation. LADWP is always looking for means to assist its customers to use water resources more efficiently and welcomes the opportunity to work with new developments to identify water conservation opportunities. Mr. Thomas Gackstetter is the Water Conservation Program Manager and can be reached at (213) 367-0936 or by e-mail at Thomas.Gackstetter@water.ladwp.com.

Water and Energy Conservation

Based on the proposed project, some of the enclosed energy and water conservation measures may apply and should be considered for inclusion in the proposed project. If there are any questions concerning the recommended conservation measures, please contact our Customer Outreach, or for more details on various water conservation methods available, contact the Water Conservation Office at (800) 544-4498.

Consideration of these conservation measures, including possible use of recycled materials and recycling area requirements for new developments (see Ordinance No. 171687), early on in the design of the proposed project would facilitate incorporation into project implementation based on economic, technical, environmental and marketing objectives.

Please include LADWP in your mailing list and address it to the undersigned in Room 1044. We look forward to reviewing your environmental document for the proposed project. If there are any additional questions, please contact Mr. Val Amezquita of my staff at (213) 367-0429.

Sincerely,

Charles C. Holloway

CHARLES C. HOLLOWAY
Supervisor
Environmental Assessment

VA:gc
Enclosures
c: Mr. Alvin Bautista
Mr. Hugo Torres
Mr. James Laschober
Mr. John Giese
Ms. Leilani Johnson
Mr. Don Cunningham
Mr. Thomas Honles
Mr. Scott Briasco
Mr. Thomas Gackstetter
Mr. Val Amezquita

LADWP WATER & ENERGY CONSERVATION MEASURES

IMPACT OF THE PROPOSED PROJECT ON THE WATER SYSTEM AND METHODS OF CONSERVING WATER LOS ANGELES DEPARTMENT OF WATER AND POWER

IMPACT ON THE WATER SYSTEM

If the estimated water requirements for the proposed project can be served by existing water mains in the adjacent street(s), water service will be provided routinely in accordance with the Los Angeles Department of Water and Power's (LADWP) Rules and Regulations. If the estimated water requirements are greater than the available capacity of the existing distribution facilities, special arrangements must be made with the LADWP to enlarge the supply line(s). Supply main enlargement will cause short-term impacts on the environment due to construction activities.

In terms of the City's overall water supply condition, the water requirement for any project that is consistent with the City's General Plan has been taken into account in the planned growth in water demand. Together with local groundwater sources, the City operates the Los Angeles-Owens River Aqueduct and purchases water from the Metropolitan Water District of Southern California. These three sources, along with recycled water, will supply the City's water needs for many years to come.

Statewide drought conditions in the mid-1970s and late 1980s dramatically illustrated the need for water conservation in periods of water shortage. However, water should be conserved in Southern California even in years of normal climate because efficient use of water allows increased water storage for use in dry years as well as making water available for beneficial environmental uses. In addition, electrical energy is required to treat and deliver all water supplies to the City and the rest of Southern California. Conserving water contributes to statewide energy conservation efforts. Practicing water conservation also results in decreased customer operating costs.

WATER CONSERVATION

LADWP assists residential, commercial, and industrial customers in their efforts to conserve water. Recommendations listed below are examples of measures that conserve water in both new and existing construction:

1. The landscape irrigation system should be designed, installed and tested to provide uniform irrigation coverage for each zone. Sprinkler head patterns should be adjusted to minimize over spray onto walkways and streets. Each zone (sprinkler valve) should water plants having similar watering needs (do not mix shrubs, flowers and turf in the same watering zone).

2. Automatic irrigation timers should be set to water landscaping during early morning or late evening hours to reduce water losses from evaporation. Adjust irrigation run times for all zones seasonally, reducing watering times and frequency in the cooler months (fall, winter, spring). Adjust sprinkler timer run times to avoid water runoff, especially when irrigating sloped property.

3. Selection of drought-tolerant, low water consuming plant varieties should be used to reduce irrigation water consumption. For a list of these plant varieties, refer to Sunset Magazine, October 1988, "The Unthirsty 100," pp. 74-83, or consult a landscape architect.

4. The availability of recycled water should be investigated as a source to irrigate large landscaped areas.

5. Ultra-low-flush water closets, ultra-low-flush urinals, and water-saving showerheads must be installed in both new construction and when remodeling. Low flow faucet aerators should be installed on all sink faucets.

6. Significant opportunities for water savings exist in air conditioning systems that utilize evaporative cooling (i.e. employ cooling towers). LADWP should be contacted for specific information on appropriate measures.

7. Recirculating or point-of-use hot water systems can reduce water waste in long piping systems where water must be run for considerable periods before heated water reaches the outlet.

8. Water conserving clothes washers and dishwashers are now available from many manufacturers. Water savings also represent energy savings, in that the water saved by these appliances is typically heated.

More detailed information regarding these and other water conservation measures can be obtained from LADWP's Water Conservation Office by calling (800) 544-4498.

COMMERCIAL ENERGY EFFICIENCY MEASURES

During the design process, the applicant should consult with the Los Angeles Department of Water and Power, Efficiency Solutions Business Group, regarding possible energy efficiency measures. The Efficiency Solutions Business Group encourages customers to consider design alternatives and information to maximize the efficiency of the building envelope, heating, ventilation, and air conditioning, building lighting, water heating, and building mechanical systems. The applicant shall incorporate measures to meet or, if possible, exceed minimum efficiency standards for Title XXIV of the California Code of Regulations. In addition to energy efficiency technical assistance, the Department may offer financial incentives for energy designs that exceed requirements of Title XXIV for energy efficiency.

1. Built-in appliances, refrigerators, and space-conditioning equipment should exceed the minimum efficiency levels mandated in the California Code of Regulations.

2. Install high-efficiency air conditioning controlled by a computerized energy-management system in the office and retail spaces which provides the following:

    - A variable air-volume system which results in minimum energy consumption and avoids hot water energy consumption for terminal reheat;

    - A 100-percent outdoor air-economizer cycle to obtain free cooling in appropriate climate zones during dry climatic periods;

    - Sequentially staged operation of air-conditioning equipment in accordance with building demands; and

    - The isolation of air conditioning to any selected floor or floors.

    - Consider the applicability of the use of thermal energy storage to handle cooling loads.

3. Cascade ventilation air from high-priority areas before being exhausted, thereby, decreasing the volume of ventilation air required. For example, air could be cascaded from occupied space to corridors and then to mechanical spaces before being exhausted.

4. Recycle lighting system heat for space heating during cool weather. Exhaust lighting-system heat from the buildings, via ceiling plenums, to reduce cooling loads in warm weather.

5. Install low and medium static-pressure terminal units and ductwork to reduce energy consumption by air-distribution systems.

6. Ensure that buildings are well-sealed to prevent outside air from infiltrating and increasing interior space-conditioning loads. Where applicable, design building entrances with vestibules to restrict infiltration of unconditioned air and exhausting of conditioned air.

7. A performance check of the installed space-conditioning system should be completed by the developer/installer prior to issuance of the certificate of occupancy to ensure that energy-efficiency measures incorporated into the project operate as designed.

8. Finish exterior walls with light-colored materials and high-emissivity characteristics to reduce cooling loads. Finish interior walls with light-colored materials to reflect more light and, thus, increase lighting efficiency.

9. Use a white reflective material for roofing meeting California standards for reflectivity and emissivity to reject heat.

10. Install thermal insulation in walls and *ceilings* which exceeds requirements established by the California Code of Regulations.

11. Design window systems to reduce thermal gain and loss, thus, reducing cooling loads during warm weather and heating loads during cool weather.

12. Install heat-rejecting window treatments, such as films, blinds, draperies, or others on appropriate exposures.

13. Install fluorescent and high-intensity-discharge (HID) lamps, which give the highest light output per watt of electricity consumed, wherever possible including all street and parking lot lighting to reduce electricity consumption. Use reflectors to direct maximum levels of light to work surfaces.

14. Install photo sensitive controls and dimmable electronic ballasts to maximize the use of natural daylight available and reduce artificial lighting load.

15. Install occupant-controlled light switches and thermostats to permit individual adjustment of lighting, heating, and cooling to avoid unnecessary energy consumption.

16. Install time-controlled interior and exterior public area lighting limited to that necessary for safety and security.

17. Control mechanical systems (HVAC and lighting) in the building with timing systems to prevent accidental or inappropriate conditioning or lighting of unoccupied space.

18. Incorporate windowless walls or passive solar inset of windows into the project for appropriate exposures.

19. Design project to focus pedestrian activity within sheltered outdoor areas.

For additional information concerning these conservation measures, please contact Mr. Adan Reinosa, Outreach Customer Manager, Business Planning, at (213) 361-1742.

W&P ConsrvtnMeasures v.082802

Department of Water and Power the City of Los Angeles

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Mayor

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FRANK SALAS, *Chief Administrative Officer*

July 24, 2003

Christopher A. Joseph & Associates
Environmental Planning and Research
11849 West Olympic Boulevard, Suite 101
Los Angeles, CA 90064

Attention Ms. Leah Dierkes

Ladies and Gentlemen:

Subject: Request for Water Service Information
Los Angeles Memorial Coliseum Project

This is in response to your letter, dated June 09, 2003, requesting information regarding the Los Angeles Department of Water and Power's (LADWP) water distribution facilities in the vicinity of the proposed renovation of the Los Angeles Memorial Coliseum, bounded by Exposition Boulevard to the north, Figueroa Street on the east, Martin Luther King Jr. Boulevard on the south, and Vermont Avenue on the west.

1) **Where does LADWP receive its supply from?**

   LADWP receives water from the Los Angeles Aqueduct, local groundwater, Metropolitan Water District, and recycled water.

2) **Describe the size/capacity of existing water mains near the project site.**

   Please see the attached water service maps for the size and location of the existing water lines.

3) **Are there any groundwater pumping wells on-site or in the immediate project vicinity?**

   At this time there are no existing groundwater pumping wells on-site or in the immediate project vicinity.

4) **Are there any existing water service problems/deficiencies in the project area?**

At this time, no deficiencies exist in the system in the location of the project, however from the vicinity map, it appears that some of the project area may not have existing water mains.

5) **Can the existing water distribution system near the project site accommodate the increased water demand form the project site? If not, do you know to what extent the water mains in the project area would have to be upgraded?**

The Project's water consumption (quantity, size, and type of the needed services) is determined by the Developer's engineering staff based on the Los Angeles Department of Building and Safety and applicable building code requirements. The onsite (sprinkler system and private fire hydrants) and offsite (public fire hydrants) fire-flow demands are determined based on the Los Angeles Fire Department (LAFD) and the applicable building code requirements.

Once a determination of the Project's domestic and fire demands has been made, LADWP will assess the need for additional facilities. Should the requirements remain the same as the present site, infrastructure improvements may not be necessary.

6) **Do you know if the water pressure (psi) and supply (gpm) in the project area are adequate to meet the Los Angeles Fire Department's fire flow and residual water pressure requirements?**

Once the onsite fire-flow demands for the Project are determined, the Developer will need to request a Service Advisory Request (SAR) from LADWP. This SAR will determine whether the pressures in the area are sufficient. If they are not, upgrades to the facilities will be necessary to meet the pressure.

7) **Would there be a temporary disruption in water service in the project area when "hooking-up" the new project? If so, do you know approximately how long the disruption would last?**

Should the Project require main upgrades in the area due to an increase in demand, a disruption in service may occur. Proper notification will take place if disruption is necessary. If, however, the Project only requires additional water services, it is not anticipated that any significant disruptions will occur.

8) **Do you have any recommendations that might ensure that the proposed project would not result in any "significant" water distribution and/or supply impacts?**

See attached copy of water conservation measures.

Should you have any questions, please contact me at (213) 367-1211.

Sincerely,

Heidi HK Hiraoka

Heidi H.K. Hiraoka, P.E.
Engineer of Central Design District
Water Distribution Engineering

HHKH:fa/tdt

Enclosures

IMPACT OF THE PROPOSED PROJECT ON THE WATER SYSTEM AND METHODS OF CONSERVING WATER
LOS ANGELES DEPARTMENT OF WATER AND POWER

IMPACT ON THE WATER SYSTEM

If the estimated water requirements for the proposed project can be served by existing water mains in the adjacent street(s), water service will be provided routinely in accordance with the Department's Rules and Regulations. If the estimated water requirements are greater than the available capacity of the existing distribution facilities, special arrangements must be made with the Department to enlarge the supply line(s). Supply main enlargement will cause short-term impacts on the environment due to construction activities.

In terms of the City's overall water supply condition, the water requirement for any project, which is consistent with the City's General Plan has been taken into account in the planned growth of the Water Services Organization. Together with local groundwater sources, the City operates the Los Angeles-Owens River Aqueduct and is a member of the Metropolitan Water District of Southern California (MWD). These three sources will supply the City's water needs for many years to come.

Statewide drought conditions in the mid-1970s and late 1980s dramatically illustrated the need for water conservation in periods of water shortage. However, water should be conserved in Southern California even in years of normal climate because electrical energy is required to deliver supplemental MWD water supplies to the City and the rest of Southern California. Conserving water will minimize purchases from MWD and contribute to the national need for energy conservation.

WATER CONSERVATION

The Water Services Organization will assist residential, commercial, and industrial customers in their efforts to conserve water. Recommendations listed below are examples of steps, which would conserve water in both new and old construction:

1. Automatic sprinkler systems should be set to irrigate landscaping during early morning hours or during the evening to reduce water losses from evaporation. However, care must be taken to reset sprinklers to water less often in cooler months and during the rainfall season so that water is not wasted by excessive landscape irrigation.

2. Reclaimed water should be investigated as a source to irrigate large landscaped areas.

3. Selection of drought-tolerant, low water consuming plant varieties should be used to reduce irrigation water consumption. For a list of these plant varieties, refer to Sunset Magazine, October 1976, "Good Looking – Unthirsty," pp. 78-851, or consult a landscape architect.

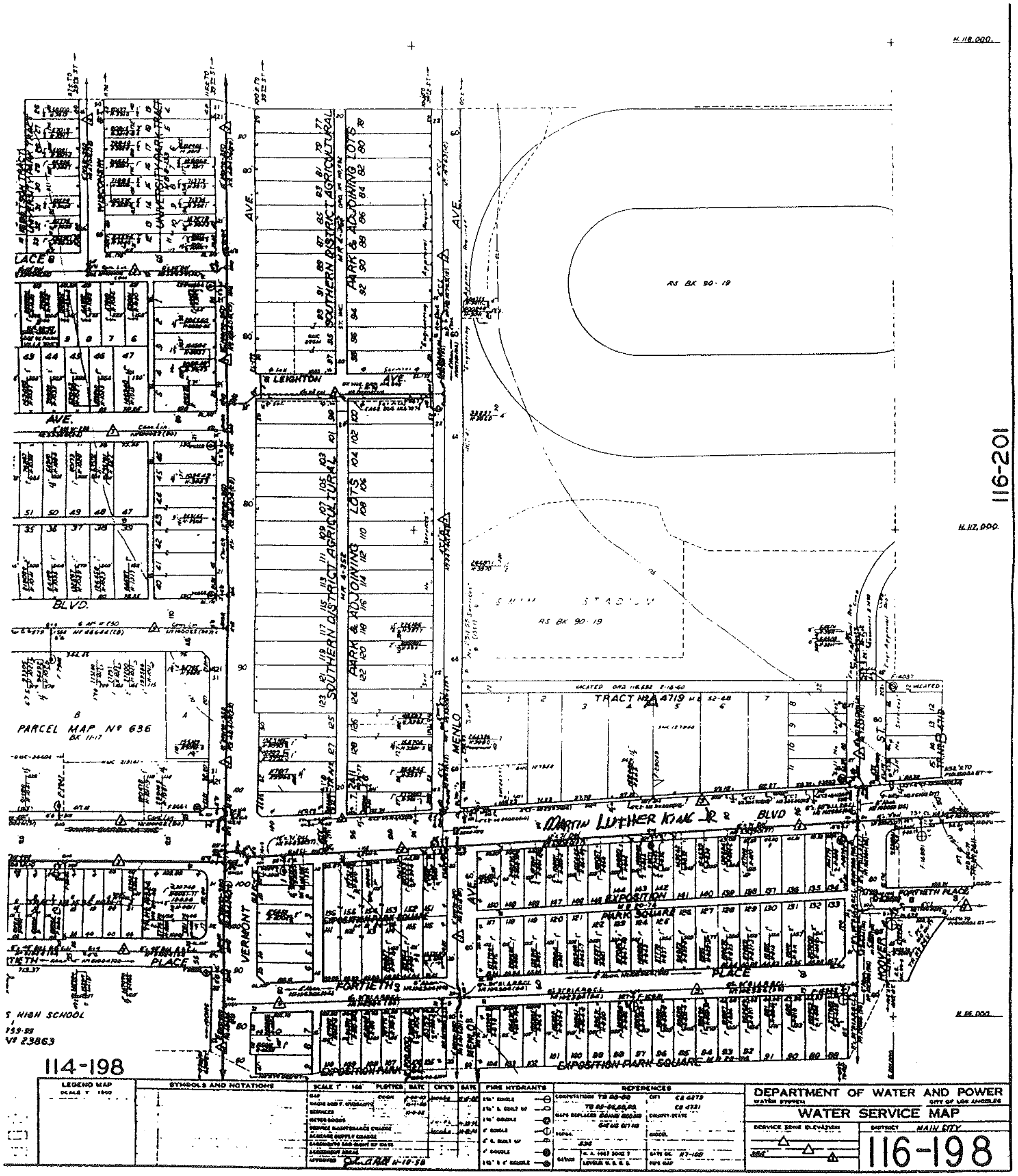
4. Recirculating hot water systems can reduce water waste in long piping systems where water must be run for considerable periods before hot water is received at the outlet.

5. Lower-volume water dosets and water-saving shower heads must be installed in new construction and when remodeling.

6. Plumbing fixtures should be selected which reduce potential water loss from leakage due to excessive wear of washers.

In addition, the provisions contained in the Water Conservation Ordinance of April 1988 must be adhered to.

More detailed information regarding these and other water conservation measures can be obtained from the Department's Water Conservation Office by calling (213) 367-094



CRONAFLEX
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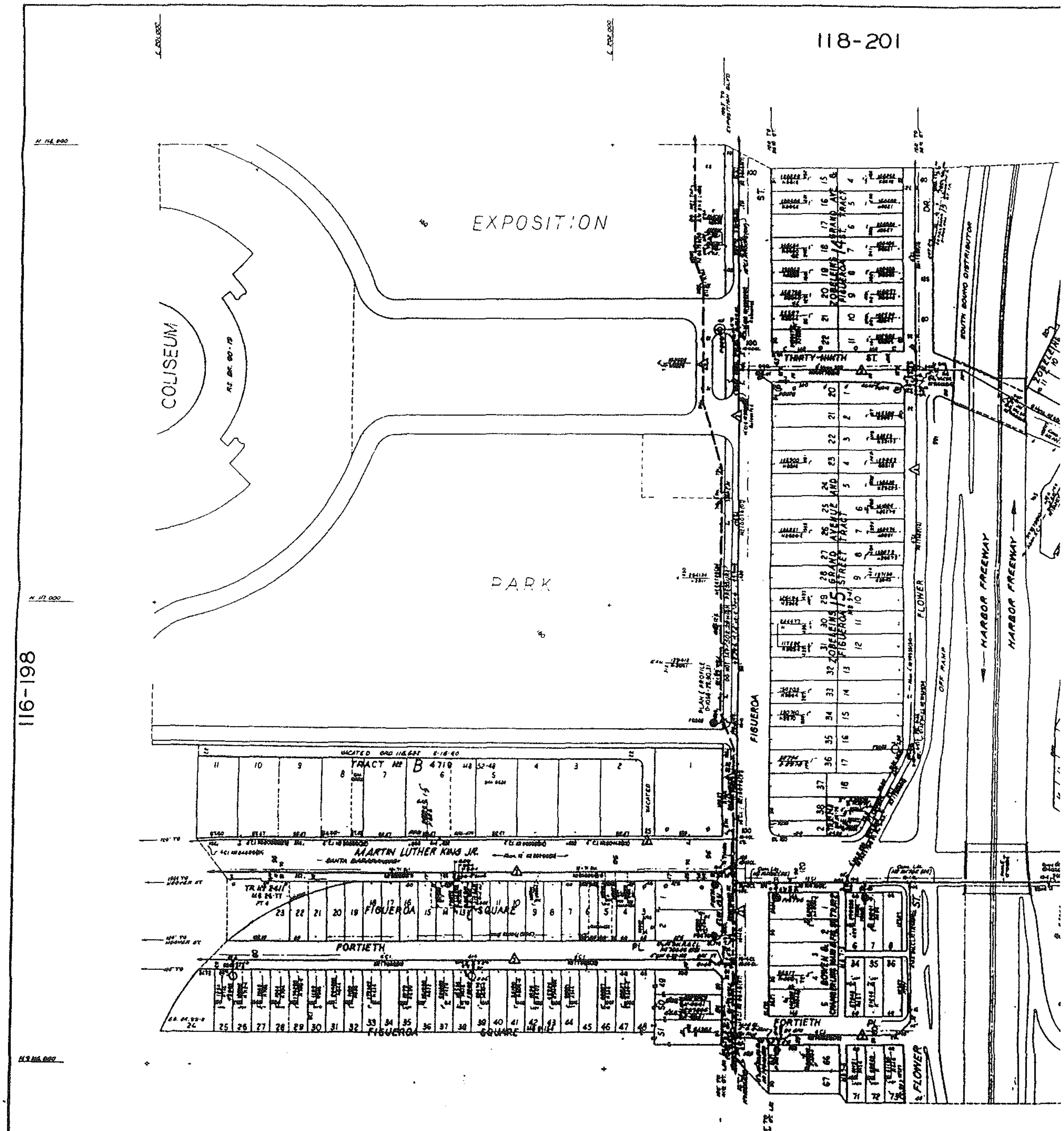
The Department of Water and Power (DWP) assumes no responsibility for the accuracy of the Substructure information herein provided. The user assumes responsibility for verifying substructure locations before excavation and assumes all liability for damage to DWP facilities as a result of such excavation. Call Underground Service Alert on 1-800-227-2600 two (2) days before excavating.



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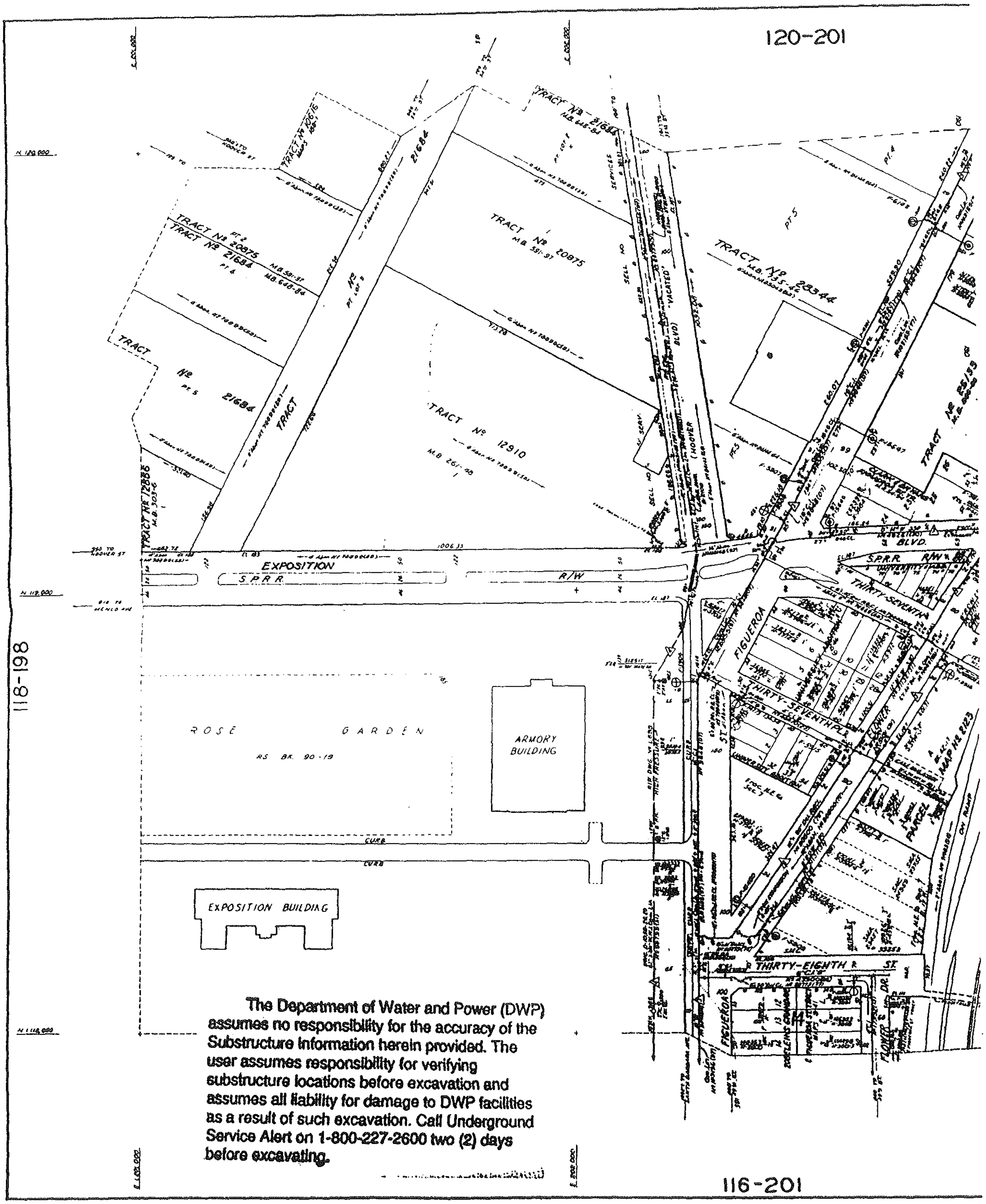
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116-201
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M.B. 581-37
TRACT Nº 28344
TRACT Nº 12910
M.B. 261-45
TRACT Nº 12886
TRACT Nº 25133
EXPOSITION
S.P.R.R.
R/W
EXPOSITION BLVD.
"VACATED" (HOOVER BLVD)
S.P.R.R. R/W
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ARMORY BUILDING
EXPOSITION BUILDING
CURB
CURB
PARCEL
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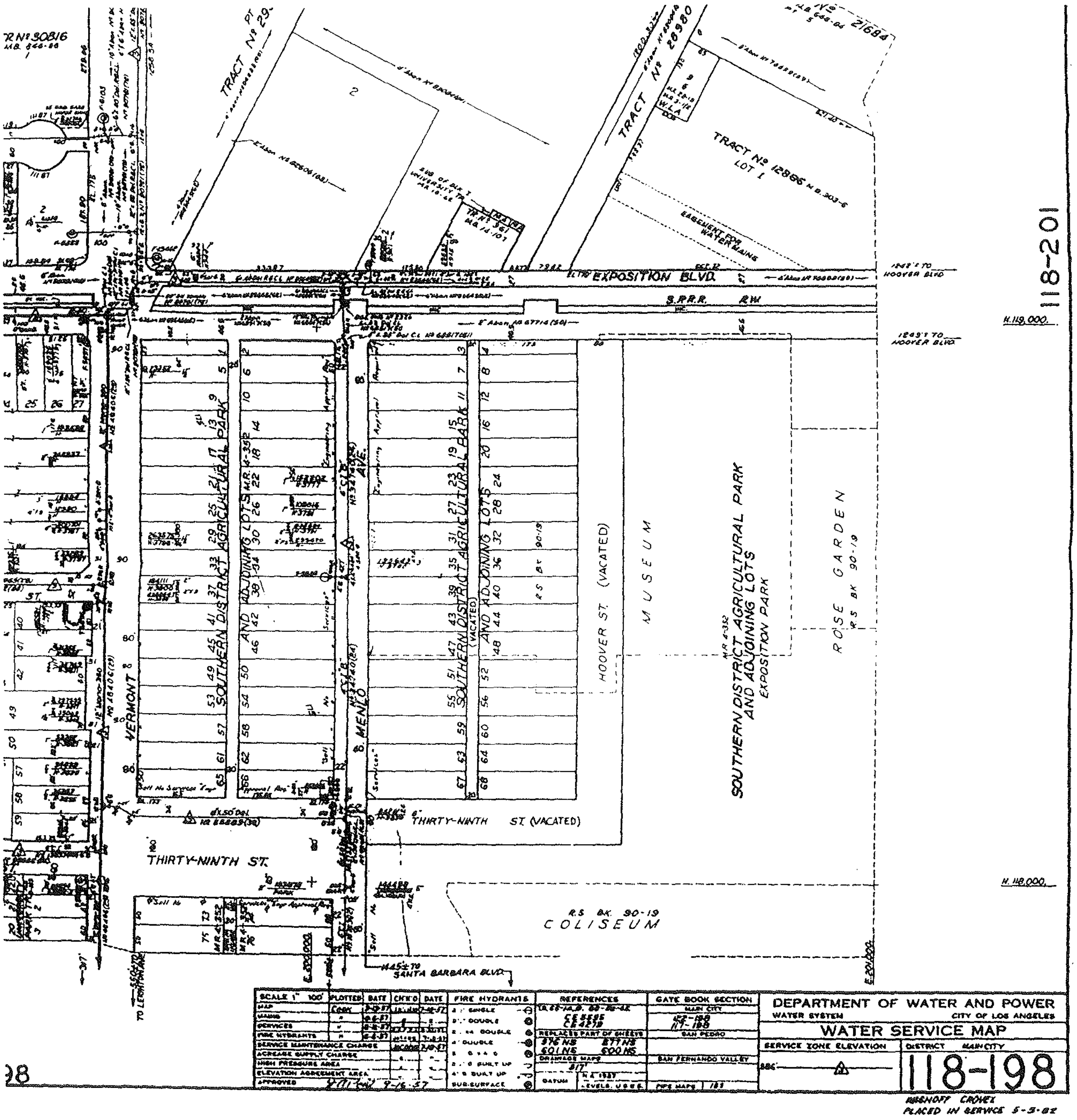
118-201



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LOS ANGELES POLICE DEPARTMENT

WILLIAM J. BRATTON
Chief of Police

JAMES K. HAHN
Mayor

P.O. Box 30158
Los Angeles, Calif. 90030
Telephone: (213) 485-4101
TDD: (877) 275-5273
Ref #: 1.1.2

July 8, 2003

Ms. Leah Dierkes
Christopher A. Joseph & Associates
Assistant Environmental Planner
11849 West Olympic Boulevard, Suite 101
Los Angeles, California 90064

Dear Ms. Dierkes:

PROJECT TITLE: LOS ANGELES MEMORIAL COLISEUM 2003

The proposed project involves the Los Angeles Police Department's (LAPD) Southwest Area. I have enclosed Area population, average crime rate per thousand persons, predominant crimes, response time to emergency calls for service, and Area personnel statistics and information. The Department's response time is based on information received from the Area in which the project is located, LAPD's Information Technology Division, and input from Community Relations Section, Crime Prevention Unit (CPU) personnel.

A project of this size would have a significant impact on police services in Southwest Area. The CPU is available to advise you regarding crime prevention features appropriate to the design of the property involved in the project. The LAPD strongly recommends that developers contact CPU personnel to discuss these features.

Upon completion of the involved project, you are encouraged to provide the Southwest Area commanding officer with a diagram of each portion of the property. The diagram should include access routes and any additional information that might facilitate police response.

Questions regarding this response should be referred to Sergeant John Amendola, Community Relations Section, at (213) 485-4101.

Very truly yours,

WILLIAM J. BRATTON
Chief of Police

FRED BOOKER, Lieutenant
Officer in Charge
Community Relations Section
Office of the Chief of Police

Enclosures

SOUTHWEST AREA

The Los Angeles Memorial Coliseum project is located in Southwest Area, in Reporting District (RD) 378. The Southwest Area covers 12.37 square miles and the station is located at 1546 W. Martin Luther King Boulevard, Los Angeles, California 90062, (213) 485-2582.

The service boundaries of Southwest Area are as follows: Santa Monica Freeway (10) to the north; Los Angeles City boundary, 52nd Street and Vernon Avenue to the south; Los Angeles City boundary to the west; and the Harbor Freeway to the east.

The boundaries for RD 378 are as follows: Exposition Boulevard to the north, Vermont Avenue to the west, Martin Luther King Boulevard to the south, and Figueroa Street to the east.

The average response time to emergency calls for service in Southwest Area during 2002 was 11.1 minutes. The Citywide average during 2002 was 10.2 minutes. There are approximately 327 sworn officers and 26 civilian support staff deployed over three watches at Southwest Area.

There were 79 crimes per 1000 persons in Southwest in 2002. Individual RD crime statistics, population, and crimes per 1000 persons are listed on the attached RD information sheets. The predominant crimes in Southwest Area are aggravated assault, other theft and burglary from vehicle.

Prepared by:
Community Relations Section
Crime Prevention Unit

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Prepared by:
Community Relations Section
Crime Prevention Unit

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CALIFORNIA

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TEL: (213) 473-7999
FAX: (213) 473-8100
TTY: (213) 473-7978

July 29, 2003

Leah Dierkes, Assistant Environmental Planner
Christopher A. Joseph and Associates
11849 W. Olympic Blvd.
Los Angeles, CA 90064

Dear Ms. Dierkes:

Los Angeles Memorial Coliseum Project EIR – Request for Wastewater Information

This is in response to your June 9, 2003 letter of request for wastewater information for the Draft Environmental Impact Report. Bureau of Sanitation, Wastewater Engineering Services Division, is providing the following comments on the proposed project after conducting a preliminary evaluation of potential impacts on the wastewater services that were conducted for the proposed site.

Review of the projected flow, the corresponding flow generation factor, wye-maps showing existing sewer lines to the proposed site, and sewer lines capacity indicates the following:

The Projected Wastewater Discharges for the Proposed Project:

Type Description	Average Daily Flow per Type Description (GPD/UNIT)	Amount of Unit per Use	Average Daily Flow (GPD)
Auditorium (Coliseum)	4/Seat	78,000	312,000
Luxury suites	18/seat	175X20 seats	63,000
Premier seats	4/seat	15,000	60,000

- The City of Los Angeles provides sewer conveyance infrastructure and wastewater treatment services to the proposed project site. The Bureau of Engineering designs and constructs new wastewater facilities. The operational and maintenance elements of the wastewater system are the responsibility of the Bureau of Sanitation, which operates all wastewater collection, treatment and disposal facilities.

- The City's wastewater services area consists of two district drainage areas: the Hyperion Service Area, Hyperion Treatment Plant, the plant full capacity is at 450 million gallon per day. Currently the plant treats an average of 350 million gallon per day. The Hyperion service area covers approximately 515 square miles and services the majority of the Los Angeles population. In addition, the service area includes several non-City agencies that contract with the City for wastewater service. The second service area is the Terminal Island Service Area (TISA). The TISA is approximately 20 square miles and services the Los Angeles Harbor area.

- The sewer infrastructure in the vicinity of the proposed project includes existing eight-inch, ten-inch, twelve-inch and eighteen-inch size lines. Some of these sewer pipes feed into an existing 44-inch sewer pipe in Exposition Boulevard and some of these sewer pipes feed into an existing 75-inch sewer pipe that flows south in Rodeo Road. All these pipes are located within the boundary of the proposed project. Ultimately, this sewage flow will be conveyed to the HTP.

The proposed renovation of the Los Angeles Memorial Coliseum has less than significant impact on the City of Los Angeles sewer lines.

If you have any questions, please call Belal Tamimi of my staff at (323) 342-6254.

Sincerely,

Adel Hagekhalil, Division Manager
Wastewater Engineering Services Division
Bureau of Sanitation

EIR Ltr-Leah Dierkes 072503 (TN. Folder)

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DEPARTMENT OF FIRE
200 NORTH MAIN STREET
LOS ANGELES, CA 90012

WILLIAM R. BAMATTRE
FIRE CHIEF

(213) 485-6003
FAX: (213) 485-8247

http://www.lafd.org

July 1, 2003

Christopher A. Joseph & Associate
11849 W. Olympic Blvd., Suite 101
Los Angeles, CA 90064

Attn: Leah Dierkes

(LOS ANGELES MEMORIAL COLISEUM)

PROJECT LOCATION

3711 S. Figueroa

PROJECT DESCRIPTION

The proposed project is the renovation of the Los Angeles Memorial Coliseum, including the rehabilitation of portions of the 27.4-acre project site surrounding and containing the Coliseum structure itself. Proposed renovations to the Coliseum would reduce the fixed seating capacity for professional and college football games from the existing level of 92,500 to approximately 68,000 for National Football League games and approximately 78,000 for collegiate football games. (The difference allows USC to "fill" the stadium for the one or two games a year for which they anticipate larger crowds.) In addition to reducing the seating capacity, the project would include 175 luxury suites and a club level of 15,000 premier seats. Upon completion of the proposed renovations, it is currently anticipated that the Coliseum would continue to host the same number and type of events as under existing and historical conditions. One of the stated primary goals of the project is to renovate the Coliseum in conformance with the generally accepted standards of design for National Football League (NFL) stadiums, thus enabling the Coliseum Commission to acquire and maintain an NFL franchise in the City of Los Angeles. The proposed renovation will retain and restore as much of the existing Coliseum façade, bowl geometry and seating areas as physically and practically possible, within constraints of operational, programmatic and historic restoration guidelines.

The following comments are furnished in response to your request for this Department to review the proposed development:

A. Fire Flow

The adequacy of fire protection for a given area is based on required fire-flow, response distance from existing fire stations, and this Department's judgment for needs in the area. In general, the required fire-flow is closely related to land use. The quantity of water necessary for fire protection varies with the type of development, life hazard, occupancy, and the degree of fire hazard.

Fire-flow requirements vary from 2,000 gallons per minute (G.P.M.) in low Density Residential areas to 12,000 G.P.M. in high-density commercial or industrial areas. A minimum residual water pressure of 20 pounds per square inch (P.S.I.) is to remain in the water system, with the required gallons per minute flowing. The required fire-flow for this project has been set at no change for G.P.M. from existing fire hydrants.

B. Response Distance

(F) The Fire Department has existing fire stations at the following locations for initial response into the area of the proposed development:

Fire Station No. 15
915 S. Jefferson Avenue
Los Angeles, CA 90012
Task Force Truck and Engine Company
Paramedic Rescue Ambulance
EMT Rescue Ambulan
Staff – 14
Miles – .6

Fire Station No. 46
4370 S. Hoover Street
Los Angeles, CA 90037
Single Engine Company
Paramedic Rescue Ambulance
Paramedic Supervisor
Battalion 3 Headquarters

Staff – 8
Miles – 1.2

Fire Station No. 14
3401 S. Central Avenue
Los Angeles, CA 90011
Task Force Truck and Engine Company
Paramedic Rescue Ambulance
EMT Rescue Ambulance
Staff – 14
Miles – 1.8

The above distances were computed to 3711 S. Figueroa.

C. Firefighting Access, Apparatus, and Personnel.

Based on these criteria (response distance from existing fire stations), fire protection would be considered adequate.

Submit plot plans indicating access road and turning area for Fire Department approval.

During demolition, the Fire Department access will remain clear and unobstructed.

Fire lane width shall not be less than 20 feet. When a fire lane must accommodate the operation of Fire Department aerial ladder apparatus or where fire hydrants are installed, those portions shall not be less than 28 feet in width.

Where access for a given development requires accommodation of Fire Department apparatus, minimum outside radius of the paved surface shall be 35 feet. An additional six feet of clear space must be maintained beyond the outside radius to a vertical point 13 feet 6 inches above the paved surface of the roadway.

No building or portion of a building shall be constructed more than 150 feet from the edge of a roadway of an improved street, access road, or designated fire lane.

Adequate public and private fire hydrants shall be required.

CONCLUSION

The proposed project shall comply with all applicable State and local codes and ordinances, and the guidelines found in the Fire Protection and Fire Prevention Plan, as well as the Safety Plan, both of which are elements of the General Plan of the City of Los Angeles C.P.C. 19708.

For additional information, please contact Inspector Mike Theule of the Construction Services Unit at (213) 485-5964.

WILLIAM R. BAMATTRE
Fire Chief

Alfred B. Hernandez, Assistant Fire Marshal
Bureau of Fire Prevention and Public Safety

ABH:MT:gm
c:LA Memorial Coliseum

June 23, 2003

Ms. Margaret Farnum
Chief Administrative Officer
Los Angeles Memorial Coliseum Commission
3911 S. Figueroa St.
Los Angeles, CA 90017

Dear Ms. Farnum:

I am writing on behalf of the Los Angeles Conservancy to provide comments on the Notice of Preparation of a Draft Environmental Impact Report (DEIR) on the proposed renovation of the Los Angeles Memorial Coliseum.

As you know, the Conservancy, now the largest local historic preservation organization in the country, with over 7,800 member households, has had a long involvement with the Coliseum. The Conservancy worked closely with the Coliseum's former managers on renovation plans for the Raiders, both in the early '90s and after the 1994 Northridge earthquake, and then worked during 1999 with the competing ownership teams to help shape a "New Coliseum" project that would ultimately meet historic preservation standards. From this work, we believe that it is possible to achieve a Coliseum project that creates a state-of-the-art football venue while also retaining the stadium's important historic elements.

The Conservancy understands that bringing the Coliseum into the 21st century involves updating its technology, improving sight lines, enhancing patron amenities, and making the site itself a fun and exciting family venue. We believe that these upgrades may be achieved while also retaining the key attributes that have made the Coliseum a beloved, recognizable landmark of Los Angeles. These include the famous east entrance peristyle (the visual symbol of the Coliseum), the grandeur of the stadium's exterior, and the retention of the visibility of key interior elements, including the stadium's defining bowl shape and classical seating arrangement.

Because the current proposal likely does not meet the Secretary of Interior's Standards for Rehabilitation, the DEIR should identify significant mitigation measures that will minimize the significant adverse impact on a cultural resource. It should also analyze a range of alternatives that would avoid this impact, examining more carefully design modifications that would comply with the Standards. While some of these modifications may deviate somewhat from typical NFL programmatic requirements, the feasibility analysis of these alternatives should also take into account the potential financial benefits from Federal Rehabilitation Tax Credits if compliance with the Standards is achieved.

The Conservancy looks forward to continuing to work with the Coliseum Commission in the coming months as this proposal and the Draft EIR move forward.

Sincerely,

Ken Bernstein
Director of Preservation Issues

523 West Sixth Street, Suite 826, Los Angeles, California 90014 T: 213.623.2489 F: 213.623.3909

APPENDIX B

AIR QUALITY ANALYSIS WORKSHEETS

2000 AIR QUALITY
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

2000

Source/Receptor Area No.	Location	Station No.	Carbon Monoxide					Ozone							Nitrogen Dioxide				Sulfur Dioxide			
			No. Days of Data	Max. Conc. in ppm 1-hour	Max. Conc. in ppm 8-hour	No. Days Standard Exceeded a) Federal ≥ 9.5 ppm 8-hour	No. Days Standard Exceeded a) State > 9.0 ppm 8-hour	No. Days of Data	Max. Conc. in ppm 1-hour	Max. Conc. In ppm 8-hour	Fourth High Conc. Ppm 8-hour	No. Days Standard Exceeded Federal > 0.12 ppm 1-hour	No. Days Standard Exceeded Federal > 0.08 ppm 8-hour	No. Days Standard Exceeded State > 0.09 ppm 1-hour	No. Days of Data	Max. Conc. in ppm 1-hour	Average Compared to Federal Standard b) AAM in ppm	No. Days Standard Exceeded State > 0.25 ppm 1-hour	No. Days of Data	Max. Conc. in ppm 1-hour c)	Max. Conc. in ppm 24-hour c)	Average Compared to Federal Standard d) AAM in ppm
Los Angeles County																						
1	Central LA	087	365	7	6.0	0	0	365	0.14	0.105	0.086	1	4	8	353	0.16	0.0404	0	305*	0.08*	0.010*	0.0009*
2	Northwest Coastal LA County	091	362	6	4.3	0	0	365	0.10	0.079	0.071	0	0	2	361	0.16	0.0273	0	--	--	--	--
3	Southwest Coastal LA County	094	365	9	7.0	0	0	359	0.10	0.075	0.065	0	0	1	364	0.13	0.0275	0	365	0.17	0.017	0.0017
4	South Coastal LA County	072	363	10	5.8	0	0	365	0.12	0.080	0.069	0	0	3	358	0.14	0.0313	0	365	0.05	0.014	0.0015
6	West San Fernando Valley	074	365	11	9.8	1	2	362	0.11	0.084	0.083	0	0	6	365	0.11	0.0285	0	--	--	--	--
7	East San Fernando Valley	069	365	8	6.1	0	0	363	0.15	0.119	0.098	3	11	16	365	0.17	0.0415	0	357	0.01	0.004	0.0001
8	West San Gabriel Valley	088	357	9	7.4	0	0	362	0.16	0.134	0.106	7	14	19	355	0.17	0.0296	0	--	--	--	--
9	East San Gabriel Valley 1	060	365	5	4.9	0	0	365	0.17	0.141	0.109	11	16	32	365	0.15	0.0366	0	--	--	--	--
9	East San Gabriel Valley 2	591	345	4	3.1	0	0	358	0.17	0.148	0.113	11	22	39	349	0.13	0.0290	0	--	--	--	--
10	Pomona/Walnut	075	360	7	4.9	0	0	363	0.15	0.124	0.089	3	5	18	358	0.14	0.0435	0	--	--	--	--
11	South San Gabriel Valley	085	365	7	5.3	0	0	365	0.14	0.114	0.086	2	4	11	365	0.14	0.0366	0	--	--	--	--
12	South Central LA County 1	084	365	13	10.0	2	6	365	0.09	0.064	0.051	0	0	0	360	0.14	0.0386	0	--	--	--	--
12	South Central LA County 2	801	222*	13*	9.5*	1*	3*	222*	0.12*	0.095*	0.085*	0*	4*	4*	221*	0.11*	0.0292*	0*		--	--	--
13	Santa Clarita Valley	089	345	6	4.9	0	0	360	0.13	0.111	0.099	1	16	31	360	0.10	0.0246	0	--	--	--	--
Orange County																						
16	North Orange County	3177	364	14	6.1	0	0	364	0.14	0.103	0.085	1	4	8	269*	0.12*	0.0304*	0*	--	--	--	--
17	Central Orange County	3176	360	8	6.8	0	0	364	0.13	0.101	0.075	1	1	9	364	0.13	0.0300	0	--	--	--	--
18	North Coastal Orange County	3195	339*	8*	6.3*	0*	0*	365	0.10	0.087	0.087	1	1	1	362	0.11	0.0205	0	363	0.02	0.008	0.0005
19	Saddleback Valley 1	3186	244*	5*	2.3*	0*	0*	244*	0.13*	0.110*	0.068*	1*	2*	3*	--	--	--	--	--	--	--	--
19	Saddleback Valley 2	3812	305*	4*	3.3*	0*	0*	305*	0.15*	0.129*	0.089*	2*	8*	25*	--	--	--	--	--	--	--	--
Riverside County																						
22	Norco/Corona	4155	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
23	Metropolitan Riverside County 1	4144	365	5	4.3	0	0	365	0.14	0.113	0.106	3	29	41	298*	0.10*	0.0236*	0*	329*	0.11*	0.041*	0.0008*
23	Metropolitan Riverside County 2	4146	365	9	4.3	0	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
24	Perris Valley	4149	--	--	--	--	--	361	0.16	0.126	0.113	15	41	65	--	--	--	--	--	--	--	--
25	Lake Elsinore	4158	351	4	2.0	0	0	361	0.13	0.109	0.099	1	31	45	360	0.08	0.0175	0	--	--	--	--
29	Banning Airport	4164	--	--	--	--	--	363	0.14	0.111	0.103	4	39	52	365	0.21	0.0237	0	--	--	--	--
30	Coachella Valley 1**	4137	353	3	1.6	0	0	355	0.12	0.105	0.096	0	33	40	337	0.07	0.0178	0	--	--	--	--
30	Coachella Valley 2**	4157	87*	3*	2.1*	0*	0*	354	0.11	0.096	0.089	0	9	43	87*	0.06*	0.0099*	0*	--	--	--	--
San Bernardino County																						
32	Northwest San Bernardino Valley	5175	348	4	2.6	0	0	365	0.18	0.159	0.118	10	19	43	357	0.15	0.0380	0	--	--	--	--
33	Southwest San Bernardino Valley	5817	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
34	Central San Bernardino Valley 1	5197	--	--	--	--	--	365	0.17	0.139	0.101	7	16	36	365	0.12	0.0364	0	274*	0.02*	0.010*	0.0018*
34	Central San Bernardino Valley 2	5203	304*	5*	4.3*	0*	0*	365	0.15	0.125	0.111	7	27	48	365	0.10	0.0325	0	--	--	--	--
35	East San Bernardino Valley	5204	--	--	--	--	--	365	0.15	0.133	0.113	11	51	78	--	--	--	--	--	--	--	--
37	Central San Bernardino Mountains	5181	--	--	--	--	--	354	0.18	0.149	0.123	17	73	85	--	--	--	--	--	--	--	--
38	Eastl San Bernardino Mountains	5818	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
District Maximum				14	10.0	2	6		0.18	0.159	0.123	17	73	85		0.21	0.0435	0		0.17	0.041	0.0018

ppm - Parts Per Million parts of air, by volume. AAM = Annual Arithmetic Mean -- - Pollutant not monitored.

*Less than 12 full months of data. May not be representative.

**Salton Sea Air Basin.

a) - The federal 1-hour standard (1-hour average CO > 35 ppm) and state 1-hour standard (1-hour average CO > 20 ppm) were not exceeded.

b) - The federal standard is annual arithmetic mean NO_2 greater than 0.0534 ppm. No location exceeded this standard.

c) - The state standards are 1-hour average > 0.25 ppm and 24-hour average > 0.045 ppm. No location exceeded state standards.

d) - The federal standard is annual arithmetic mean SO_2 > 0.03 ppm. No location exceeded this standard. The other federal standards (3-hour average > 0.50 ppm, and 24-hour average > 0.14 ppm) were not exceeded either.

South Coast
Air Quality Management District
21865 East Copley Drive
Diamond Bar, CA 91765-4182
http://www.aqmd.gov

AQMD

The map showing the locations of source/receptor areas can be accessed via the Internet at http://www.aqmd.gov/smog/areamap.html. Locations of source/receptor areas are shown on the "South Coast Air Quality Management District Air Monitoring Areas" map available free of charge from SCAQMD Public Information.

2001 AIR QUALITY
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

2001

Source/Receptor Area No.	Location	Station No.	Suspended Particulates PM10 e)						Suspended Particulates PM2.5 f)				Particulates TSP g)			Lead g)		Sulfate g)	
			No. Days of Data	Max. Conc. in µg/m³ 24-hour	No. (%) Samples Exceeding Standard Federal > 150 µg/m³ 24-hour	No. (%) Samples Exceeding Standard State > 50 µg/m³ 24-hour	Annual Averages h) AAM Conc. µg/m³	Annual Averages h) AGM Conc. µg/m³	No. Days of Data	Max. Conc. in µg/m³ 24-hour	No. (%) Samples Exceeding Standard Federal > 65 µg/m³ 24-hour	Annual Averages i) AAM Conc. µg/m³	No. Days of Data	Max. Conc. in µg/m³ 24-hour	Annual Average AAM Conc. µg/m³	Max. Monthly Average Conc. j) µg/m³	Max. Quarterly Average Conc. j) µg/m³	Max. Conc. in µg/m³ 24-hour	No. (%) Samples Exceeding Standard State ≥ 25 µg/m³ 24-hour
LOS ANGELES COUNTY																			
1	Central LA	087	61	97	0	20(33)	44.2	40.3	334	73.4	4(1.2)	22.9	61	131	75.4	0.06	0.05	15.9	0
2	Northwest Coastal LA County	091	--	--	--	--	--	--	--	--	--	--	60	81	46.5	--	--	15.6	0
3	Southwest Coastal LA County	094	58	75	0	8(14)	37.1	34.4	--	--	--	--	61	118	71.4	0.04	0.04	20.6	0
4	South Coastal LA County	072	59	91	0	10(17)	37.4	34.8	317	72.9	1(0.3)	21.4	68	113	67.2	0.05	0.04	15.9	0
6	West San Fernando Valley	074	--	--	--	--	--	--	109	71.1	1(0.9)	18.5	--	--	--	--	--	--	--
7	East San Fernando Valley	069	61	86	0	14(23)	40.9	36.9	117	94.7	4(3.4)	24.9	--	--	--	--	--	--	--
8	West San Gabriel Valley	088	--	--	--	--	--	--	110	78.1	1(0.9)	20.9	60	88	49.6	--	--	13.4	0
9	East San Gabriel Valley 1	060	58	106	0	22(38)	45.3	39.9	308	79.7	4(1.3)	21.8	59	178	93.9	--	--	14.1	0
9	East San Gabriel Valley 2	591	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10	Pomona/Walnut Valley	075	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11	South San Gabriel Valley	085	--	--	--	--	--	--	95	77.3	3(3.2)	26.1	59	146	76.9	0.07	0.05	14.5	0
12	South Central LA County	084	--	--	--	--	--	--	116	73.1	3(2.6)	24.5	58	385	90.2	0.23	0.12	15.4	0
13	Santa Clarita Valley	090l)	61	62	0	4(7)	32.0	28.5	--	--	--	--	--	--	--	--	--	--	--
ORANGE COUNTY																			
16	North Orange County	3177	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
17	Central Orange County	3176	46*	93*	0*	9(20)*	36.0*	33.7*	252*	70.8*	1(0.4)*	22.4*	--	--	--	--	--	--	--
18	North Coastal Orange County	3195	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
19	Saddleback Valley	3812	57	60	0	3(5)	26.4	24.0	102	53.4	0	15.8	--	--	--	--	--	--	--
RIVERSIDE COUNTY																			
22	Norco/Corona	4155	54	109	0	18(33)	44.8	39.3	--	--	--	--	--	--	--	--	--	--	--
23	Metropolitan Riverside County 1	4144	117	136	0	78(67)	63.1	54.3	325	98.0	19(5.8)	31.1	57	296	123.7	0.04	0.03	10.7	0
23	Metropolitan Riverside County 2	4146	--	--	--	--	--	--	106	74.9	5(4.7)	28.3	61	182	86.8	0.03	0.03	9.2	0
24	Perris Valley	4149	60	86	0	16(27)	40.8	36.0	--	--	--	--	--	--	--	--	--	--	--
25	Lake Elsinore	4158	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
29	Banning Airport	4164	54	219	1(1.9)	7(13)	35.1	26.7	--	--	--	--	--	--	--	--	--	--	--
30	Coachella Valley 1**	4137	49*	53k)	0k)	1(2)k)	26.7k)	23.9k)	107	44.7	0	10.8	--	--	--	--	--	--	--
30	Coachella Valley 2**	4157	112k	149k)	0k)	50(45)k)	50.2k)	44.3k)	113	33.5	0	12.2	--	--	--	--	--	--	--
SAN BERNARDINO COUNTY																			
32	Northwest San Bernardino Valley	5175	--	--	--	--	--	--	--	--	--	--	58	171	69.7	0.05	0.04	10.7	0
33	Southwest San Bernardino Valley	5817	64	166	1(1.6)	27(42)	52.4	46.2	113	71.2	2(1.8)	26.2	--	--	--	--	--	--	--
34	Central San Bernardino Valley 1	5197	60	106	0	34(57)	50.5	43.8	114	74.8	4(3.5)	24.8	60	237	102.1	--	--	10.7	0
34	Central San Bernardino Valley 2	5203	60	106	0	31(52)	52.0	45.2	111	78.5	5(4.5)	26.2	55	224	101.3	0.05	0.04	11.5	0
35	East San Bernardino Valley	5204	49*	102*	0*	22(45)*	46.6*	39.6*	--	--	--	--	--	--	--	--	--	--	--
37	Central San Bernardino Mountains	5181	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
38	East San Bernardino Mountains	5818	--	--	--	--	--	--	57	34.6	0	10.9							
DISTRICT MAXIMUM				219	1	78	63.1	54.3		98.0	19	31.1		385	123.7	0.23	0.12	20.6	0

µg/m³ - Micrograms per cubic meter of air. AAM - Annual Arithmetic Mean AGM - Annual Geometric Mean -- - Pollutant not monitored.

* - Less than 12 full months of data. May not be representative.

** - Salton Sea Air Basin.

e) - PM10 samples were collected every 6 days (every 3 days at Station Numbers 4144 and 4157) using the size-selective inlet high volume sampler with quartz filter media.

f) - PM2.5 samples were collected every 3 days at all sites except for the following sites: Station Numbers 060, 072, 087, 3176, and 4144 where samples were taken every day, and Station Number 5818 where samples were taken every 6 days.

g) - Total suspended particulates, lead, and sulfate were determined from samples collected every 6 days by the high volume sampler method, on glass fiber filter media.

h) - Federal PM10 standard is AAM > 50 µg/m³; and state standard is AGM > 30 µg/m³.

i) - Federal PM2.5 standard is AAM > 15 µg/m³.

j) - Federal lead standard is quarterly average > 1.5 µg/m³; and state standard is monthly average ≥ 1.5 µg/m³. No location exceeded lead standards. Special monitoring immediately downwind of stationary sources of lead was carried out at four locations in 2000. The maximum monthly average concentration was 0.57 µg/m³, and the maximum quarterly average concentration was 0.49 µg/m³, both recorded in Area 1, Central Los Angeles.

k) - The data for the samples collected on high-wind-days (245 µg/m³ on 6/3/01, 180 µg/m³ on 6/12/01, 155 µg/m³ on 7/3/01, 604 µg/m³ on 8/17/01 and 165 µg/m³ on 9/13/01 at Station Number 4157; and 432 µg/m³ on 7/3/01 at Station Number 4137) were excluded in accordance with EPA's Natural Events Policy.

l) - Station relocated in May 2001.

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                URBEMIS 2002 For Windows   7.4.2

File Name:                      <Not Saved>
Project Name:                   Coliseum 78000
Project Location:               South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

                        SUMMARY REPORT
                     (Pounds/Day - Summer)

CONSTRUCTION EMISSION ESTIMATES
                                                                   PM10      PM10      PM10
 *** 2005 ***                     ROG       NOx        CO      SO2   TOTAL   EXHAUST      DUST
 TOTALS (lbs/day,unmitigated)   56.71    638.31    348.54     5.88  214.21     21.69    192.52
 TOTALS (lbs/day, mitigated)    56.71    638.31    348.54     5.88   10.95      4.34      6.61

                                                                   PM10      PM10      PM10
 *** 2006 ***                     ROG       NOx        CO      SO2   TOTAL   EXHAUST      DUST
 TOTALS (lbs/day,unmitigated)   19.55    140.63    150.02     0.00    5.91      5.91      0.00
 TOTALS (lbs/day, mitigated)    19.55    140.63    150.02     0.00    1.18      1.18      0.00


AREA SOURCE EMISSION ESTIMATES
                                  ROG       NOx        CO      SO2    PM10
 TOTALS (lbs/day,unmitigated)    0.00      0.00      0.00     0.00    0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES
                                  ROG       NOx        CO      SO2    PM10
 TOTALS (lbs/day,unmitigated) 1,705.04    257.64  2,811.06     2.19  201.13

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES
                                  ROG       NOx        CO      SO2    PM10
 TOTALS (lbs/day,unmitigated) 1,705.04    257.64  2,811.06     2.19  201.13
```

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                URBEMIS 2002 For Windows   7.4.2

 le Name:                       <Not Saved>
 oject Name:                    Coliseum 78000
roject Location:                South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

                         DETAIL REPORT
                      (Pounds/Day - Summer)

onstruction Start Month and Year: January, 2005
nstruction Duration: 22
tal Land Use Area to be Developed: 19.5 acres
ximum Acreage Disturbed Per Day: 5 acres
Single Family Units: 0 Multi-Family Units: 0
etail/Office/Institutional/Industrial Square Footage: 0

NSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)
                                                                    PM10     PM10       PM10
    Source                    ROG       NOx        CO        SO2     TOTAL   EXHAUST      DUST
 *** 2005***
 ase 1 - Demolition Emissions
 gitive Dust                   -         -          -          -      0.94        -       0.94
Off-Road Diesel              26.67    196.71     203.09        -      8.71     8.71       0.00
On-Road Diesel                0.28      6.37       1.06      0.09     0.15     0.13       0.02
orker Trips                   0.37      0.70       7.46      0.00     0.03     0.01       0.02
 Maximum lbs/day             27.32    203.78     211.61      0.09     9.83     8.85       0.98

Phase 2 - Site Grading Emissions
ugitive Dust                   -         -          -          -    191.00        -     191.00
 ff-Road Diesel              37.27    286.80     274.72        -     12.96    12.96       0.00
 -Road Diesel                19.30    351.45      72.15      5.88    10.23     8.73       1.50
 orker Trips                  0.14      0.06       1.67      0.00     0.02     0.00       0.02
  Maximum lbs/day            56.71    638.31     348.54      5.88   214.21    21.69     192.52

 ase 3 - Building Construction
 dg Const Off-Road Diesel    19.55    145.59     146.86        -      6.29     6.29       0.00
ldg Const Worker Trips        0.00      0.00       0.00      0.00     0.00     0.00       0.00
Arch Coatings Off-Gas         0.00       -          -          -       -        -          -
rch Coatings Worker Trips     0.00      0.00       0.00      0.00     0.00     0.00       0.00
sphalt Off-Gas                0.00       -          -          -       -        -          -
sphalt Off-Road Diesel        0.00      0.00       0.00        -      0.00     0.00       0.00
Asphalt On-Road Diesel        0.00      0.00       0.00      0.00     0.00     0.00       0.00
Asphalt Worker Trips          0.00      0.00       0.00      0.00     0.00     0.00       0.00
  Maximum lbs/day            19.55    145.59     146.86      0.00     6.29     6.29       0.00

  Max lbs/day all phases     56.71    638.31     348.54      5.88   214.21    21.69     192.52


 *** 2006***
 ase 1 - Demolition Emissions
 gitive Dust                   -         -          -          -      0.00        -       0.00
Off-Road Diesel               0.00      0.00       0.00        -      0.00     0.00       0.00
On-Road Diesel                0.00      0.00       0.00      0.00     0.00     0.00       0.00
 orker Trips                  0.00      0.00       0.00      0.00     0.00     0.00       0.00
 Maximum lbs/day              0.00      0.00       0.00      0.00     0.00     0.00       0.00

Phase 2 - Site Grading Emissions
 ugitive Dust                  -         -          -          -      0.00        -       0.00
 ff-Road Diesel               0.00      0.00       0.00        -      0.00     0.00       0.00
 -Road Diesel                 0.00      0.00       0.00      0.00     0.00     0.00       0.00
Worker Trips                  0.00      0.00       0.00      0.00     0.00     0.00       0.00
  Maximum lbs/day             0.00      0.00       0.00      0.00     0.00     0.00       0.00

 ase 3 - Building Construction
 dg Const Off-Road Diesel    19.55    140.63     150.02        -      5.91     5.91       0.00
Bldg Const Worker Trips       0.00      0.00       0.00      0.00     0.00     0.00       0.00
Arch Coatings Off-Gas         0.00       -          -          -       -        -          -
 rch Coatings Worker Trips    0.00      0.00       0.00      0.00     0.00     0.00       0.00
 sphalt Off-Gas               0.00       -          -          -       -        -          -
 sphalt Off-Road Diesel       0.00      0.00       0.00        -      0.00     0.00       0.00
Asphalt On-Road Diesel        0.00      0.00       0.00      0.00     0.00     0.00       0.00
Asphalt Worker Trips          0.00      0.00       0.00      0.00     0.00     0.00       0.00
  Maximum lbs/day            19.55    140.63     150.02      0.00     5.91     5.91       0.00

  Max lbs/day all phases     19.55    140.63     150.02      0.00     5.91     5.91       0.00
```

```
Arch Coatings Worker Trips      0.00      0.00      0.00      0.00      0.00      0.00      0.00
Asphalt Off-Gas                 0.00         -         -         -         -         -         -
Asphalt Off-Road Diesel         0.00      0.00      0.00         -      0.00      0.00      0.00
Asphalt On-Road Diesel          0.00      0.00      0.00      0.00      0.00      0.00      0.00
Asphalt Worker Trips            0.00      0.00      0.00      0.00      0.00      0.00      0.00
  Maximum lbs/day              19.55    145.59    146.86      0.00      1.26      1.26      0.00

  Max lbs/day all phases       56.71    638.31    348.54      5.88     10.95      4.34      6.61


 *** 2006***
Phase 1 - Demolition Emissions
Fugitive Dust                      -         -         -         -      0.00         -      0.00
Off-Road Diesel                 0.00      0.00      0.00         -      0.00      0.00      0.00
On-Road Diesel                  0.00      0.00      0.00      0.00      0.00      0.00      0.00
Worker Trips                    0.00      0.00      0.00      0.00      0.00      0.00      0.00
  Maximum lbs/day               0.00      0.00      0.00      0.00      0.00      0.00      0.00

Phase 2 - Site Grading Emissions
Fugitive Dust                      -         -         -         -      0.00         -      0.00
Off-Road Diesel                 0.00      0.00      0.00         -      0.00      0.00      0.00
On-Road Diesel                  0.00      0.00      0.00      0.00      0.00      0.00      0.00
Worker Trips                    0.00      0.00      0.00      0.00      0.00      0.00      0.00
  Maximum lbs/day               0.00      0.00      0.00      0.00      0.00      0.00      0.00

Phase 3 - Building Construction
Bldg Const Off-Road Diesel     19.55    140.63    150.02         -      1.18      1.18      0.00
Bldg Const Worker Trips         0.00      0.00      0.00      0.00      0.00      0.00      0.00
Arch Coatings Off-Gas           0.00         -         -         -         -         -         -
Arch Coatings Worker Trips      0.00      0.00      0.00      0.00      0.00      0.00      0.00
Asphalt Off-Gas                 0.00         -         -         -         -         -         -
Asphalt Off-Road Diesel         0.00      0.00      0.00         -      0.00      0.00      0.00
Asphalt On-Road Diesel          0.00      0.00      0.00      0.00      0.00      0.00      0.00
Asphalt Worker Trips            0.00      0.00      0.00      0.00      0.00      0.00      0.00
  Maximum lbs/day              19.55    140.63    150.02      0.00      1.18      1.18      0.00

  Max lbs/day all phases       19.55    140.63    150.02      0.00      1.18      1.18      0.00


Construction-Related Mitigation Measures

  Phase 1: Off-Road Diesel Exhaust: Use diesel particulate filter
    Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 80.0%)
  Phase 1: On-Road Diesel Exhaust: Use diesel particulate filter
    Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 80.0%)
  Phase 1: Worker Trips: Use shuttle to retail establishments @lunch
    Percent Reduction(ROG 1.0% NOx 1.3% CO 1.3% SO2 1.3% PM10 1.3%)
  Phase 2: Soil Disturbance: Apply soil stabilizers to inactive areas
    Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 30.0%)
  Phase 2: Soil Disturbance: Replace ground cover in disturbed areas quickly
    Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 15.0%)
  Phase 2: Soil Disturbance: Water exposed surfaces - 2x daily
    Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 34.0%)
  Phase 2: Off-Road Diesel Exhaust: Use diesel particulate filter
    Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 80.0%)
  Phase 2: On-Road Diesel Exhaust: Use diesel particulate filter
    Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 80.0%)
  Phase 2: Stockpiles: Cover all stock piles with tarps
    Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 9.5%)
  Phase 2: Unpaved Roads: Pave all haul roads
    Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 92.5%)
  Phase 3: Off-Road Diesel Exhaust: Use diesel particulate filter
    Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 80.0%)
  Phase 3: Off-Road Diesel Exhaust: Use diesel particulate filter
    Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 80.0%)
  Phase 3: On-Road Diesel Exhaust: Use diesel particulate filter
    Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 80.0%)
  Phase 3: Worker Trips: Use shuttle to retail establishments @lunch
    Percent Reduction(ROG 1.0% NOx 1.3% CO 1.3% SO2 1.3% PM10 1.3%)
  Phase 3: Worker Trips: Use shuttle to retail establishments @lunch
    Percent Reduction(ROG 1.0% NOx 1.3% CO 1.3% SO2 1.3% PM10 1.3%)
  Phase 3: Worker Trips: Use shuttle to retail establishments @lunch
    Percent Reduction(ROG 1.0% NOx 1.3% CO 1.3% SO2 1.3% PM10 1.3%)
Phase 1 - Demolition Assumptions
Start Month/Year for Phase 1: Jan '05
Phase 1 Duration: 3 months
Building Volume Total (cubic feet): 18750
```

```
Building Volume Daily (cubic feet): 2250
On-Road Truck Travel (VMT): 210
ff-Road Equipment
 No.     Type                                    Horsepower    Load Factor     Hours/Day
     2   Concrete/Industrial saws                    84           0.730           8.0
     1   Cranes                                     190           0.430           8.0
     1   Crushing/Processing Equip                  154           0.780           8.0
     2   Excavators                                 180           0.580           8.0
     2   Graders                                    174           0.575           8.0
     1   Other Equipment                            190           0.620           8.0
     2   Rubber Tired Dozers                        352           0.590           8.0
     2   Rubber Tired Loaders                       165           0.465           8.0
     1   Tractor/Loaders/Backhoes                    79           0.465           8.0
     1   Trenchers                                   82           0.695           8.0

Phase 2 - Site Grading Assumptions
tart Month/Year for Phase 2: Apr '05
hase 2 Duration: 2 months
n-Road Truck Travel (VMT): 14205
Off-Road Equipment
 No.     Type                                    Horsepower    Load Factor     Hours/Day
     1   Cranes                                     190           0.430           8.0
     1   Crawler Tractors                           143           0.575           8.0
     1   Crushing/Processing Equip                  154           0.780           8.0
     1   Excavators                                 180           0.580           8.0
     1   Graders                                    174           0.575           8.0
     2   Other Equipment                            190           0.620           8.0
     2   Rubber Tired Dozers                        352           0.590           8.0
     2   Rubber Tired Loaders                       165           0.465           8.0
     1   Scrapers                                   313           0.660           8.0
     2   Surfacing Equipment                        437           0.490           8.0
     2   Tractor/Loaders/Backhoes                    79           0.465           8.0
     2   Trenchers                                   82           0.695           8.0

Phase 3 - Building Construction Assumptions
tart Month/Year for Phase 3: Jun '05
hase 3 Duration: 15 months
  Start Month/Year for SubPhase Building: Jun '05
  SubPhase Building Duration: 12 months
  Off-Road Equipment
  No.    Type                                    Horsepower    Load Factor     Hours/Day
     1   Bore/Drill Rigs                            218           0.750           8.0
     1   Cranes                                     190           0.430           8.0
     1   Other Equipment                            190           0.620           8.0
     2   Pavers                                     132           0.590           8.0
     2   Paving Equipment                           111           0.530           8.0
     1   Rough Terrain Forklifts                     94           0.475           8.0
     2   Surfacing Equipment                        437           0.490           8.0
  Start Month/Year for SubPhase Architectural Coatings: Oct '05
  SubPhase Architectural Coatings Duration: 3 months
  SubPhase Asphalt Turned OFF
```

```
AREA SOURCE EMISSION ESTIMATES (Summer Pounds per Day, Unmitigated)
    Source                          ROG       NOx        CO       SO2       PM10
 Natural Gas                       0.00      0.00      0.00        -        0.00
 Wood Stoves - No summer emissions
 Fireplaces - No summer emissions
 Landscaping                       0.00      0.00      0.00      0.00       0.00
 Consumer Prdcts                   0.00        -         -         -          -
 TOTALS(lbs/day,unmitigated)       0.00      0.00      0.00      0.00       0.00
```

```
Changes made to the default values for Land Use Trip Percentages

 e Primary Trip % for City park changed from 70 to 100
 e Diverted Trip % for City park changed from 25 to 0
 e Pass-By Trip % for City park changed from 5 to 0

hanges made to the default values for Construction

 e user has overridden the Default Phase Lengths
 molition Truck Hauling Miles/Round Trip changed from 30 to 50
Site Grading Fugitive Dust Emission Rate changed from 10 to 38.2
ite Grading Miles/Round Trip changed from 20 to 50
 ase 1 mitigation measure Off-Road Diesel Exhaust: Use diesel particulate filter
     has been changed from off to on.
hase 1 mitigation measure On-Road Diesel Exhaust: Use diesel particulate filter
     has been changed from off to on.
hase 1 mitigation measure Worker Trips: Use shuttle to retail establishments @lunch
     has been changed from off to on.
ase 2 mitigation measure Soil Disturbance: Apply soil stabilizers to inactive areas
     has been changed from off to on.
hase 2 mitigation measure Soil Disturbance: Replace ground cover in disturbed areas quickly
     has been changed from off to on.
ase 2 mitigation measure Soil Disturbance: Water exposed surfaces - 2x daily
     has been changed from off to on.
Phase 2 mitigation measure Off-Road Diesel Exhaust: Use diesel particulate filter
     has been changed from off to on.
ase 2 mitigation measure On-Road Diesel Exhaust: Use diesel particulate filter
     has been changed from off to on.
hase 2 mitigation measure Stockpiles: Cover all stock piles with tarps
     has been changed from off to on.
hase 2 mitigation measure Unpaved Roads: Pave all haul roads
     has been changed from off to on.
ase 3 mitigation measure Off-Road Diesel Exhaust: Use diesel particulate filter
     has been changed from off to on.
Phase 3 mitigation measure Off-Road Diesel Exhaust: Use diesel particulate filter
     has been changed from off to on.
ase 3 mitigation measure On-Road Diesel Exhaust: Use diesel particulate filter
     has been changed from off to on.
Phase 3 mitigation measure Worker Trips: Use shuttle to retail establishments @lunch
     has been changed from off to on.
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     has been changed from off to on.
ase 3 mitigation measure Worker Trips: Use shuttle to retail establishments @lunch
     has been changed from off to on.

anges made to the default values for Area


Changes made to the default values for Operations
```

```
                URBEMIS 2002 For Windows   7.4.2

File Name:                       <Not Saved>
Project Name:                    Coliseum 78000
Project Location:                South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

                         DETAIL REPORT
                          (Tons/Year)

Construction Start Month and Year: January, 2005
Construction Duration: 22
Total Land Use Area to be Developed: 19.5 acres
Maximum Acreage Disturbed Per Day: 5 acres
Single Family Units: 0 Multi-Family Units: 0
Retail/Office/Institutional/Industrial Square Footage: 0

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (tons/year)
                                                                  PM10     PM10       PM10
    Source                      ROG       NOx       CO       SO2     TOTAL   EXHAUST      DUST
 *** 2005***
Phase 1 - Demolition Emissions
Fugitive Dust                     -         -         -         -      0.03        -      0.03
Off-Road Diesel                0.87      6.48      6.69         -      0.30      0.30     0.00
On-Road Diesel                 0.00      0.21      0.03      0.00      0.00      0.00     0.00
Worker Trips                   0.00      0.03      0.23      0.00      0.00      0.00     0.00
  Total tons/year              0.87      6.72      6.95      0.00      1.02      0.30     0.03

Phase 2 - Site Grading Emissions
Fugitive Dust                     -         -         -         -      4.20        -      4.20
Off-Road Diesel                0.82      6.30      6.04         -      0.28      0.28     0.00
On-Road Diesel                 0.42      7.74      1.58      0.12      0.24      0.20     0.04
Worker Trips                   0.00      0.00      0.04      0.00      0.00      0.00     0.00
  Total tons/year              1.24     14.04      7.66      0.12     18.12      0.48     4.24

Phase 3 - Building Construction
Bldg Const Off-Road Diesel     1.54     11.20     11.34         -      0.49      0.49     0.00
Bldg Const Worker Trips        0.00      0.00      0.00      0.00      0.00      0.00     0.00
Arch Coatings Off-Gas          0.00         -         -         -         -         -        -
Arch Coatings Worker Trips     0.00      0.00      0.00      0.00      0.00      0.00     0.00
Asphalt Off-Gas                0.00         -         -         -         -         -        -
Asphalt Off-Road Diesel        0.00      0.00      0.00         -      0.00      0.00     0.00
Asphalt On-Road Diesel         0.00      0.00      0.00      0.00      0.00      0.00     0.00
Asphalt Worker Trips           0.00      0.00      0.00      0.00      0.00      0.00     0.00
  Total tons/year              1.54     11.20     11.34      0.00      3.92      0.49     0.00

  Total all phases tons/yr     3.65     31.96     25.95      0.12     23.06      1.27     4.27


 *** 2006***
Phase 1 - Demolition Emissions
Fugitive Dust                     -         -         -         -      0.00        -      0.00
Off-Road Diesel                0.00      0.00      0.00         -      0.00      0.00     0.00
On-Road Diesel                 0.00      0.00      0.00      0.00      0.00      0.00     0.00
Worker Trips                   0.00      0.00      0.00      0.00      0.00      0.00     0.00
  Total tons/year              0.00      0.00      0.00      0.00      0.00      0.00     0.00

Phase 2 - Site Grading Emissions
Fugitive Dust                     -         -         -         -      0.00        -      0.00
Off-Road Diesel                0.00      0.00      0.00         -      0.00      0.00     0.00
On-Road Diesel                 0.00      0.00      0.00      0.00      0.00      0.00     0.00
Worker Trips                   0.00      0.00      0.00      0.00      0.00      0.00     0.00
  Total tons/year              0.00      0.00      0.00      0.00      0.00      0.00     0.00

Phase 3 - Building Construction
Bldg Const Off-Road Diesel     1.10      7.75      8.25         -      0.35      0.35     0.00
Bldg Const Worker Trips        0.00      0.00      0.00      0.00      0.00      0.00     0.00
Arch Coatings Off-Gas          0.00         -         -         -         -         -        -
Arch Coatings Worker Trips     0.00      0.00      0.00      0.00      0.00      0.00     0.00
Asphalt Off-Gas                0.00         -         -         -         -         -        -
Asphalt Off-Road Diesel        0.00      0.00      0.00         -      0.00      0.00     0.00
Asphalt On-Road Diesel         0.00      0.00      0.00      0.00      0.00      0.00     0.00
Asphalt Worker Trips           0.00      0.00      0.00      0.00      0.00      0.00     0.00
  Total tons/year              1.10      7.75      8.25      0.00      2.80      0.35     0.00

  Total all phases tons/yr     1.10      7.75      8.25      0.00      2.80      0.35     0.00
```

```
Phase 1 - Demolition Assumptions
Start Month/Year for Phase 1: Jan '05
Phase 1 Duration: 3 months
Building Volume Total (cubic feet): 18750
Building Volume Daily (cubic feet): 2250
On-Road Truck Travel (VMT): 210
Off-Road Equipment
  No.     Type                               Horsepower    Load Factor     Hours/Day
     2    Concrete/Industrial saws               84           0.730           8.0
     1    Cranes                                190           0.430           8.0
     1    Crushing/Processing Equip             154           0.780           8.0
     2    Excavators                            180           0.580           8.0
     2    Graders                               174           0.575           8.0
     1    Other Equipment                       190           0.620           8.0
     2    Rubber Tired Dozers                   352           0.590           8.0
     2    Rubber Tired Loaders                  165           0.465           8.0
     1    Tractor/Loaders/Backhoes               79           0.465           8.0
     1    Trenchers                              82           0.695           8.0

Phase 2 - Site Grading Assumptions
Start Month/Year for Phase 2: Apr '05
Phase 2 Duration: 2 months
On-Road Truck Travel (VMT): 14205
Off-Road Equipment
  No.     Type                               Horsepower    Load Factor     Hours/Day
     1    Cranes                                190           0.430           8.0
     1    Crawler Tractors                      143           0.575           8.0
     1    Crushing/Processing Equip             154           0.780           8.0
     1    Excavators                            180           0.580           8.0
     1    Graders                               174           0.575           8.0
     2    Other Equipment                       190           0.620           8.0
     2    Rubber Tired Dozers                   352           0.590           8.0
     2    Rubber Tired Loaders                  165           0.465           8.0
     1    Scrapers                              313           0.660           8.0
     2    Surfacing Equipment                   437           0.490           8.0
     2    Tractor/Loaders/Backhoes               79           0.465           8.0
     2    Trenchers                              82           0.695           8.0

Phase 3 - Building Construction Assumptions
Start Month/Year for Phase 3: Jun '05
Phase 3 Duration: 15 months
  Start Month/Year for SubPhase Building: Jun '05
  SubPhase Building Duration: 12 months
  Off-Road Equipment
  No.     Type                               Horsepower    Load Factor     Hours/Day
     1    Bore/Drill Rigs                       218           0.750           8.0
     1    Cranes                                190           0.430           8.0
     1    Other Equipment                       190           0.620           8.0
     2    Pavers                                132           0.590           8.0
     2    Paving Equipment                      111           0.530           8.0
     1    Rough Terrain Forklifts                94           0.475           8.0
     2    Surfacing Equipment                   437           0.490           8.0
  Start Month/Year for SubPhase Architectural Coatings: Oct '05
  SubPhase Architectural Coatings Duration: 3 months
  SubPhase Asphalt Turned OFF
```

AREA SOURCE EMISSION ESTIMATES

Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.00	0.00	0.00	-	0.00
Wood Stoves	0.00	0.00	0.00	0.00	0.00
Fireplaces	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00
Consumer Prdcts	0.00	-	-	-	-
TOTALS (tpy, unmitigated)	0.00	0.00	0.00	0.00	0.00

```
               UNMITIGATED OPERATIONAL EMISSIONS

                              ROG       NOx        CO       SO2      PM10
 ity park                  223.43     54.26    508.40      0.39     36.71

TOTAL EMISSIONS (tons/yr)  223.43     54.26    508.40      0.39     36.71

 oes not include correction for passby trips.
 oes not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

 nalysis Year: 2004  Temperature (F): 90   Season: Annual

EMFAC Version: EMFAC2002 (9/2002)

 ummary of Land Uses:

Unit Type                  Trip Rate                Size    Total Trips

City park               0.30 trips / seats       78,000.00    23,088.00

 ehicle Assumptions:

Fleet Mix:

 ehicle Type              Percent Type   Non-Catalyst    Catalyst        Diesel
 ight Auto                   56.10           2.70          96.80           0.50
Light Truck < 3,750   lbs    15.10           4.60          92.70           2.70
Light Truck  3,751- 5,750    15.60           2.60          96.20           1.20
 ed Truck     5,751- 8,500    6.90           2.90          94.20           2.90
 ite-Heavy    8,501-10,000    1.00           0.00          80.00          20.00
Lite-Heavy   10,001-14,000    0.30           0.00          66.70          33.30
Med-Heavy    14,001-33,000    1.00          10.00          20.00          70.00
Heavy-Heavy  33,001-60,000    0.80           0.00          12.50          87.50
 ine Haul > 60,000    lbs     0.00           0.00           0.00         100.00
 rban Bus                     0.10           0.00           0.00         100.00
Motorcycle                    1.60          87.50          12.50           0.00
School Bus                    0.20           0.00           0.00         100.00
Motor Home                    1.30          15.40          76.90           7.70

 ravel Conditions
                                   Residential                 Commercial
                           Home-    Home-     Home-
                           Work     Shop      Other   Commute   Non-Work Customer
 rban Trip Length (miles) 11.5      4.9       6.0     10.3       5.5       5.5
 ural Trip Length (miles) 11.5      4.9       6.0     10.3       5.5       5.5
Trip Speeds (mph)         35.0     40.0      40.0     40.0      40.0      40.0
% of Trips - Residential  20.0     37.0      43.0

  of Trips - Commercial (by land use)
City park                                              5.0       2.5      92.5
```

```
Changes made to the default values for Land Use Trip Percentages

The Primary Trip % for City park changed from 70 to 100
The Diverted Trip % for City park changed from 25 to 0
The Pass-By Trip % for City park changed from 5 to 0

Changes made to the default values for Construction

The user has overridden the Default Phase Lengths
Demolition Truck Hauling Miles/Round Trip changed from 30 to 50
Site Grading Fugitive Dust Emission Rate changed from 10 to 38.2
Site Grading Miles/Round Trip changed from 20 to 50
Phase 1 mitigation measure Off-Road Diesel Exhaust: Use diesel particulate filter
     has been changed from off to on.
Phase 1 mitigation measure On-Road Diesel Exhaust: Use diesel particulate filter
     has been changed from off to on.
Phase 1 mitigation measure Worker Trips: Use shuttle to retail establishments @lunch
     has been changed from off to on.
Phase 2 mitigation measure Soil Disturbance: Apply soil stabilizers to inactive areas
     has been changed from off to on.
Phase 2 mitigation measure Soil Disturbance: Replace ground cover in disturbed areas quickly
     has been changed from off to on.
Phase 2 mitigation measure Soil Disturbance: Water exposed surfaces - 2x daily
     has been changed from off to on.
Phase 2 mitigation measure Off-Road Diesel Exhaust: Use diesel particulate filter
     has been changed from off to on.
Phase 2 mitigation measure On-Road Diesel Exhaust: Use diesel particulate filter
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Phase 2 mitigation measure Unpaved Roads: Pave all haul roads
     has been changed from off to on.
Phase 3 mitigation measure Off-Road Diesel Exhaust: Use diesel particulate filter
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     has been changed from off to on.

Changes made to the default values for Area


Changes made to the default values for Operations
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ASSUMPTIONS

		Daily Trips	*VMT*
	LA Memorial Coliseum	24,000	127,213
1	Mc Donald's Restaurant	1,638	8,682
2	Junior Market	1,308	6,933
3	Shopping Center	5,417	28,713
4	Apartment/Restaurant	3,814	20,216
5	Bialal Islamic Center	398	2,110
6	Accessory Mart	1,654	8,767
7	Balasco Theater	1,220	6,467
8	Staples Ent. District	-	-
9	Convienence Store/Gas Station	605	3,207
10	LA Mart	968	5,131
11	LA County Office	3,931	20,836
12	Quality Restaurant and Night Club	630	3,339
13	Medical Center and Clinic	1,143	6,059
14	Jefferson New Continuation High School	156	827
15	Central LA Area New High School	3,834	20,322
16	Jefferson New Primary Center	329	1,744
17	Weemes Playground	1	5
18	Manual Arts New Primary Center	363	1,924
19	Orthopaedic Hospital HS	1,364	7,230
20	Jefferson New Elementary School	799	4,235
21	Manual Arts New Elementary School	773	4,097
22	South Central LA Area New HS	3,780	20,036
23	Accelerated Charter School	-	-
24	Jefferson New Elementary School	885	4,691
25	Manual Arts New Elementary School	684	3,626
26	Central LA Area New Middle School	2,716	14,396
27	CA Science Center Phase II and III Expansion	620	3,286
28	Science Museum School and Science Educatic	1,890	10,018
29	EPICC	3,117	16,522
30	Molecular Biology	-	-
31	Tudor Hall	-	-
32	Events Center	-	-
33	Natural History Museum	1,845	9,780
34	Retail	700	3,710
35	Transamerica Phase III	14,011	74,266
36	CIM Group	14,543	77,086
37	Light Industrial	2,096	11,110
	TOTAL	101,232	536,585

Daily Operational Emissions

LA Memorial Coliseum				
CO	ROG	NOX	SOX	PM10
1,434.78	124.21	242.21	8.67	10.85

1. McDonald's Restaurant				
CO	ROG	NOX	SOX	PM10
97.82	8.48	17.80	0.59	0.74

2. [illegible] Market				
CO	ROG	NOX	SOX	PM10
78.20	6.77	14.29	0.47	0.59

3. Shopping Center				
CO	ROG	NOX	SOX	PM10
323.84	28.03	60.18	1.96	2.45

4. Apartment Restaurant				
CO	ROG	NOX	SOX	PM10
228.01	19.74	41.67	1.36	1.72

5. Bilal Islamic Center				
CO	ROG	NOX	SOX	PM10
23.79	2.06	4.35	0.14	0.18

6. Accessory Mart				
CO	ROG	NOX	SOX	PM10
98.86	8.56	18.07	0.60	0.75

7. Belasco Theater				
CO	ROG	NOX	SOX	PM10
72.93	6.31	13.33	0.44	0.55

8. Staples Ent. District				
CO	ROG	NOX	SOX	PM10
-	-	-	-	-

9. Food Market Convenience Store at Gas Station				
CO	ROG	NOX	SOX	PM10
36.17	3.13	6.61	0.22	0.27

10. LA Mart				
CO	ROG	NOX	SOX	PM10
57.87	5.01	10.58	0.35	0.44

11. LA County Office Park				
CO	ROG	NOX	SOX	PM10
235.00	20.34	42.95	1.42	1.78

12. Quality Restaurant & Nightclub				
CO	ROG	NOX	SOX	PM10
37.66	3.26	6.88	0.23	0.28

13. Medical Center/Clinic				
CO	ROG	NOX	SOX	PM10
68.33	5.92	12.49	0.41	0.52

14. Jefferson New Continuation High School				
CO	ROG	NOX	SOX	PM10
9.33	0.81	1.70	0.06	0.07

15. Central LA Area New High School				
CO	ROG	NOX	SOX	PM10
229.21	19.84	41.89	1.39	1.73

16. Jefferson New Primary Center				
CO	ROG	NOX	SOX	PM10
19.67	1.70	3.59	0.12	0.15

17. Warner Playground				
CO	ROG	NOX	SOX	PM10
0.06	0.01	0.01	0.00	0.00

18. Manual Arts New Primary Center				
CO	ROG	NOX	SOX	PM10
21.70	1.88	3.97	0.13	0.16

19. Central LA Area New High School				
CO	ROG	NOX	SOX	PM10
81.54	7.06	14.90	0.49	0.62

20. Jefferson New Elementary School				
CO	ROG	NOX	SOX	PM10
47.77	4.14	8.73	0.29	0.36

21. Manual Arts New Elementary School				
CO	ROG	NOX	SOX	PM10
46.21	4.00	8.45	0.28	0.35

22. South Central LA Area New High School				
CO	ROG	NOX	SOX	PM10
225.96	19.56	41.30	1.37	1.71

23. Accelerated Charter School				
CO	ROG	NOX	SOX	PM10
-	-	-	-	-

24. Jefferson New Elementary School				
CO	ROG	NOX	SOX	PM10
52.81	4.58	9.67	0.32	0.40

25. Manual Arts New Elementary School				
CO	ROG	NOX	SOX	PM10
40.89	3.54	7.47	0.25	0.31

26. Central LA Area New Middle School				
CO	ROG	NOX	SOX	PM10
162.37	14.06	29.67	0.98	1.23

27. CA Science Center Phase II and III Expansion				
CO	ROG	NOX	SOX	PM10
37.07	3.21	6.77	0.22	0.28

28. Science Museum School and Science Education Resource Center				
CO	ROG	NOX	SOX	PM10
112.89	9.78	20.65	0.68	0.85

29. EMLC				
CO	ROG	NOX	SOX	PM10
186.34	16.13	34.05	1.13	1.41

30. [illegible]				
CO	ROG	NOX	SOX	PM10
-	-	-	-	-

31. Tudor Hall				
CO	ROG	NOX	SOX	PM10
-	-	-	-	-

32. Events Center				
CO	ROG	NOX	SOX	PM10
-	-	-	-	-

33. Natural History Museum				
CO	ROG	NOX	SOX	PM10
110.30	9.55	20.16	0.67	0.83

34. [illegible]				
CO	ROG	NOX	SOX	PM10
41.85	3.62	7.65	0.25	0.32

35. [illegible] Phase II				
CO	ROG	NOX	SOX	PM10
837.61	72.51	153.06	5.06	6.33

36. [illegible]				
CO	ROG	NOX	SOX	PM10
868.42	75.18	158.69	5.25	6.57

37. [illegible]				
CO	ROG	NOX	SOX	PM10
125.30	10.85	22.80	0.76	0.95

TOTAL EMISSIONS				
6,861.88	633.69	1,166.62	38.58	46.76

Existing Conditions
(Avg.)

```
              URBEMIS 2002 For Windows   7.4.2

 le Name:                     C:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Coliseum 78000.urb
 oject Name:                  Coliseum 78000
 roject Location:             South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

                          DETAIL REPORT
                       (Pounds/Day - Summer)


                UNMITIGATED OPERATIONAL EMISSIONS

                                   ROG       NOx         CO        SO2       PM10
City park                     1,066.20    161.11   1,757.81       1.37     125.77

 TAL EMISSIONS (lbs/day)      1,066.20    161.11   1,757.81       1.37     125.77

 es not include correction for passby trips.
Does not include double counting adjustment for internal trips.

 ERATIONAL (Vehicle) EMISSION ESTIMATES

 nalysis Year: 2004  Temperature (F): 90   Season: Summer

 MFAC Version: EMFAC2002 (9/2002)

 mmary of Land Uses:

Unit Type                         Trip Rate                 Size    Total Trips

 ity park                      0.30 trips / seats      48,775.00     14,437.40

Vehicle Assumptions:

 leet Mix:

 ehicle Type               Percent Type    Non-Catalyst      Catalyst        Diesel
Light Auto                      56.10            2.70          96.80           0.50
 ight Truck < 3,750   lbs       15.10            4.60          92.70           2.70
 ight Truck  3,751- 5,750       15.60            2.60          96.20           1.20
 ed Truck     5,751- 8,500       6.90            2.90          94.20           2.90
 ite-Heavy   8,501-10,000        1.00            0.00          80.00          20.00
Lite-Heavy  10,001-14,000        0.30            0.00          66.70          33.30
 ed-Heavy   14,001-33,000        1.00           10.00          20.00          70.00
 eavy-Heavy 33,001-60,000        0.80            0.00          12.50          87.50
 ine Haul > 60,000    lbs        0.00            0.00           0.00         100.00
Urban Bus                        0.10            0.00           0.00         100.00
Motorcycle                       1.60           87.50          12.50           0.00
 chool Bus                       0.20            0.00           0.00         100.00
 otor Home                       1.30           15.40          76.90           7.70

Travel Conditions
                                    Residential                 Commercial
                           Home-      Home-      Home-
                           Work       Shop       Other    Commute   Non-Work Customer
 rban Trip Length (miles)  11.5        4.9        6.0      10.3       5.5       5.5
Rural Trip Length (miles)  11.5        4.9        6.0      10.3       5.5       5.5
 rip Speeds (mph)          35.0       40.0       40.0      40.0      40.0      40.0
  of Trips - Residential   20.0       37.0       43.0

% of Trips - Commercial (by land use)
City park                                                   5.0       2.5      92.5
```

EXISTING CONDITIONS
(MAX.)

```
                 URBEMIS 2002 For Windows   7.4.2

File Name:                      C:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Coliseum 78000.urb
Project Name:                   Coliseum 78000
Project Location:               South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

                         DETAIL REPORT
                      (Pounds/Day - Summer)


                   UNMITIGATED OPERATIONAL EMISSIONS

                                ROG       NOx        CO       SO2      PM10
City park                   2,025.09    309.66  3,378.68      2.63    241.74

TOTAL EMISSIONS (lbs/day)   2,025.09    309.66  3,378.68      2.63    241.74

Does not include correction for passby trips.
Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2004  Temperature (F): 90   Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type                        Trip Rate                Size    Total Trips

City park                     0.30 trips / seats      92,500.00    27,750.00

Vehicle Assumptions:

Fleet Mix:

Vehicle Type              Percent Type    Non-Catalyst     Catalyst          Diesel
Light Auto                    56.10           2.70           96.80             0.50
Light Truck < 3,750   lbs     15.10           4.60           92.70             2.70
Light Truck  3,751- 5,750     15.60           2.60           96.20             1.20
Med Truck    5,751- 8,500      6.90           2.90           94.20             2.90
Lite-Heavy   8,501-10,000      1.00           0.00           80.00            20.00
Lite-Heavy  10,001-14,000      0.30           0.00           66.70            33.30
Med-Heavy   14,001-33,000      1.00          10.00           20.00            70.00
Heavy-Heavy 33,001-60,000      0.80           0.00           12.50            87.50
Line Haul > 60,000    lbs      0.00           0.00            0.00           100.00
Urban Bus                      0.10           0.00            0.00           100.00
Motorcycle                     1.60          87.50           12.50             0.00
School Bus                     0.20           0.00            0.00           100.00
Motor Home                     1.30          15.40           76.90             7.70

Travel Conditions
                                     Residential                  Commercial
                            Home-     Home-      Home-
                            Work      Shop       Other    Commute   Non-Work Customer
Urban Trip Length (miles)  11.5       4.9        6.0      10.3        5.5       5.5
Rural Trip Length (miles)  11.5       4.9        6.0      10.3        5.5       5.5
Trip Speeds (mph)          35.0      40.0       40.0      40.0       40.0      40.0
% of Trips - Residential   20.0      37.0       43.0

% of Trips - Commercial (by land use)
City park                                                  5.0        2.5      92.5
```

PROPOSED (MAX. w/EXPANSION SE.

```
               URBEMIS 2002 For Windows   7.4.2

ile Name:                        C:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Coliseum 78000.urb
 roject Name:                    Coliseum 78000
 roject Location:                South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

                        DETAIL REPORT
                     (Pounds/Day - Summer)


                 UNMITIGATED OPERATIONAL EMISSIONS

                                ROG         NOx        CO        SO2       PM10
ity park                     1,705.04     257.64  2,811.06      2.19     201.13

OTAL EMISSIONS (lbs/day)     1,705.04     257.64  2,811.06      2.19     201.13

 oes not include correction for passby trips.
Does not include double counting adjustment for internal trips.

 PERATIONAL (Vehicle) EMISSION ESTIMATES

 nalysis Year: 2004  Temperature (F): 90   Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

 ummary of Land Uses:

Unit Type                       Trip Rate                 Size    Total Trips

 ity park                  0.30 trips / seats          78,000.00    23,088.00

Vehicle Assumptions:

leet Mix:

 ehicle Type              Percent Type    Non-Catalyst      Catalyst          Diesel
Light Auto                   56.10            2.70           96.80              0.50
Light Truck < 3,750   lbs    15.10            4.60           92.70              2.70
 ight Truck  3,751- 5,750    15.60            2.60           96.20              1.20
 ed Truck    5,751- 8,500     6.90            2.90           94.20              2.90
 ite-Heavy   8,501-10,000     1.00            0.00           80.00             20.00
Lite-Heavy  10,001-14,000     0.30            0.00           66.70             33.30
Med-Heavy   14,001-33,000     1.00           10.00           20.00             70.00
 eavy-Heavy 33,001-60,000     0.80            0.00           12.50             87.50
 ine Haul > 60,000    lbs     0.00            0.00            0.00            100.00
rban Bus                      0.10            0.00            0.00            100.00
Motorcycle                    1.60           87.50           12.50              0.00
School Bus                    0.20            0.00            0.00            100.00
 otor Home                    1.30           15.40           76.90              7.70

Travel Conditions
                                 Residential                   Commercial
                            Home-     Home-     Home-
                            Work      Shop      Other    Commute   Non-Work  Customer
 rban Trip Length (miles)  11.5       4.9       6.0      10.3       5.5       5.5
Rural Trip Length (miles)  11.5       4.9       6.0      10.3       5.5       5.5
Trip Speeds (mph)          35.0      40.0      40.0      40.0      40.0      40.0
  of Trips - Residential   20.0      37.0      43.0

  of Trips - Commercial (by land use)
City park                                                 5.0       2.5      92.5
```

APPENDIX C

ACOUSTIC REPORT

ArupAcoustics

Christopher A. Joseph &
Associates
Environmental Planning
& Research

Los Angeles Memorial Coliseum

Acoustics Report

Report No.
AAc/32372/R02

Report ref
AAc/32372/R02

ArupAcoustics

Christopher A. Joseph & Associates Environmental Planning & Research

Los Angeles Memorial Coliseum

Acoustics Report

Site Noise Measurements

July 2003

Ove Arup & Partners California Ltd
2440 South Sepulveda Boulevard, Suite 180, Los Angeles California 90064
Tel +1 310 312 5040 Fax +1 310 312 5788
www.arup.com/acoustics/acoustics/acoustics/acoustics

Job number

CONTENTS

TABLES

FIGURES

1. OBJECTIVE

Christopher A. Joseph and Associates (CAJA) has retained Arup to conduct environmental noise measurements at the residential area surrounding the Los Angeles Memorial Coliseum (hereafter referred to as the Coliseum) and to determine the effect of noise from a football game at the Coliseum on the surrounding community.

2. EXECUTIVE SUMMARY

Arup engineers measured sound levels in and around the Coliseum over 15 minute intervals on three separate occasions: during two college football games (ASU vs. USC and Notre Dame vs. USC) and at a time when no activity was reported within the Coliseum. A total of five residential locations, representing the existing residential land uses near the Coliseum Complex, were selected for noise monitoring.

Both graphical data analysis and actual site observations confirmed that the Coliseum related noise generations are audible at some of the nearby residential communities. Intruding noises associated with the football games in the Coliseum consisted of Public Address system noise (Announcer), crowd cheers, band noise from within the Coliseum, and automobile and helicopter traffic. These noises were most audible at residences directly west and south of the Coliseum with clear line of sight to the Coliseum building. General ambient noise sources in the surrounding neighborhood were somewhat loud and consisted primarily of automobile traffic on local surface streets and noise from local residents.

The results of the site noise survey indicate that:

- The Coliseum related noise generation is consistent with the existing sound environment at the surrounding residential communities,
- Existing noise environment at the residential neighborhood around the Coliseum is primarily controlled by the auto traffic on the nearby streets such as Martin Luther King Boulevard, Vermont Avenue, and Hoover Street,
- Coliseum noise sources such as public address systems and crowd cheers are occasionally audible at the residential communities immediately west and south of the Coliseum complex,
- Apparent increase in helicopter traffic over the Coliseum during the scheduled sport events influences the existing general sound environment.

3. SITE NOISE MEASUREMENTS

Arup measured sound in and around the Coliseum during two separate football games and compared this with sound data collected during no activities at the Coliseum. The first football game occurred on November 16, 2002 and was played between Arizona State University (ASU) and the University of Southern California (USC) with a recorded attendance of 63,241 spectators[1]. Acoustic measurements were also obtained during a game on November 30, 2002 between Notre Dame and USC with a recorded attendance of 87,944 spectators[1] (the present seating capacity in the Coliseum is 92,500[1]). Ambient noise levels (no Coliseum activities) were measured on December 7, 2002.

---

[1] Number provided by CAJA

3.1 Project settings

The Coliseum is located within Exposition Park at 3911 South Figueroa Street, Los Angeles, CA. To the north side of Exposition Park lays the USC campus and the west side of the park is bounded by residential properties, which consists mainly of single-family homes. The land-use south of Exposition Park is also residential, and consists of apartments and single-family homes. Exposition Park is bordered to the east by commercial use property.

The sound levels during each of the football games were measured on the roof of the press box (inside the Coliseum) and at 5 locations outside the Coliseum (shown in Figure 1). The 5 off-site measurement locations were chosen based on the following criterion. The locations must be within the residential area immediately surrounding the Coliseum, since the goal is to determine the noise impact of the sports activity on the *residential* neighborhood. Of these off-site noise-monitoring locations, only locations R2 and R5 do not have a clear line of sight to the Coliseum building. Also, the closest residence on the eastern side of the Coliseum structure is too far away (about ½ mile) to be significantly impacted by noise from sporting events. A description of each measurement location is provided in Table 1.

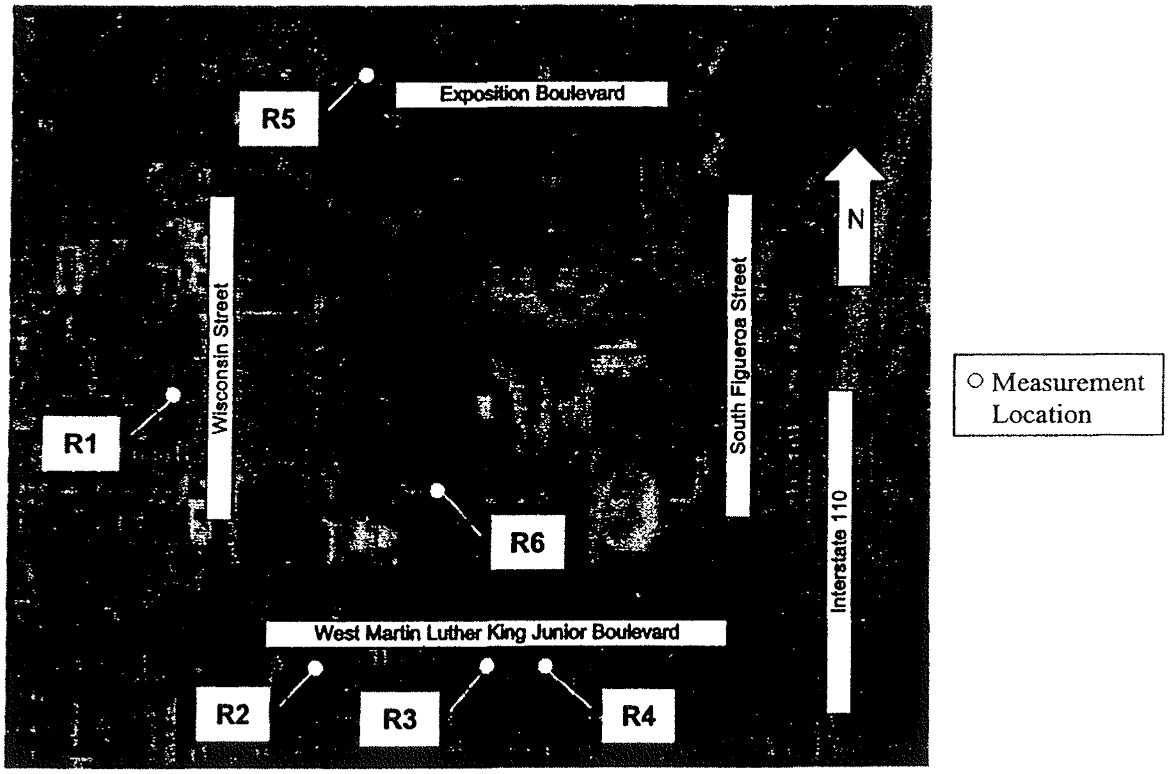

Figure 1: Aerial view of the residential measurement locations[2]

---

[2] Globe Explorer, Copyright 2002 GlobeExplorer, AirPhotoUSA, www.mapquest.com/maps

Sound Measurement Location[a]	Description	Estimated Distance to Coliseum (ft)[b]	Intervening Structures Between the Coliseum and the Sound Receptor	Existing Land Use (Arup Site Observations)
R1	Intersection of Wisconsin St. and 39th Pl.	550	No	Residential - Single Family Homes
R2	Intersection of Menlo Ave. and W. 40th Pl.	650	Yes	Residential – Apartment Buildings
R3	Intersection of W. 40th Pl. and S. Hoover St.	550	No	Residential – Apartment Buildings
R4	702 W. 40th Pl.	600	No	Residential - Mix of Single Family Homes and Apartment Buildings
R5	USC Watt Way Entrance	900	Yes	USC Campus
R6	Los Angeles Memorial Coliseum - Press Box Roof	0	No	Sport Complex

[a] See figure 1 for a map showing the physical location of these measurements
[b] This is the distance from the measurement location to the closest point on the Coliseum structure

Table 1: Description of Acoustic Measurement Locations

3.2 Sound Measurement Procedures

Ambient sound levels measurements were recorded using a microphone, DAT (Digital Audio Tape) recorder, and real-time signal analyzer (see Appendix A for a full list of measurement equipment). The signal analyzer used a Type 1 sound level meter as specified in the American National Standards Institute A.581 S1.4 (consistent with City of Los Angeles Noise Regulation[3] that a type 2 or better sound level meter be used for taking measurements). The measurements were recorded for a minimum of 15 minutes at each of the sound monitoring locations except for R6, where the sound recording extended for the entire duration of the football game. Table 2 shows the noise measurement duration, start and finish times, at each location during the ASU vs. USC game, the Notre Dame vs. USC game, and no game (that is, no sport activity in the Coliseum).

---

[3] Los Angeles Municipal Code, Noise Regulation, Rev. No. 53 – 1994.

Measurement Location [a]	Measurement Duration (Start and Finish Times)		
	During College Football Game		No Game 12/07/02
	ASU vs. USC 11/16/02	Notre Dame vs. USC 11/30/02	
R1	4:46pm – 5:01pm[b]	5:30pm – 5:45pm	5:20pm – 5:35pm
R2	5:16pm – 5:31pm	5:51pm – 6:06pm	5:39pm – 5:54pm
R3	5:38pm – 5:53pm	6:09pm – 6:24pm	5:57pm – 6:12pm
R4	6:03pm – 6:18pm	7:08pm – 7:23pm	6:13pm – 6:28pm
R5	6:31pm – 6:46pm	7:44pm – 7:59pm	6:43pm – 6:58pm
R6	3:45pm – 7:19pm	5:12pm – 8:20pm	N/A

[a] See Figure 1 for a map showing the physical location of these measurements and Table 1 for location addresses

[b] Minimum of 15 minute noise measurements were recorded, consistent with requirements of Los Angeles City Noise Regulations Chapter 11, Article 1, Section 111.01a

Table 2: Record of Measurement Time

These measurements were recorded through a microphone placed on a tripod arranged such that the microphone was at least 5' from the local ground (sidewalk elevation), in accordance with Los Angeles Noise Regulation[3]. The sound analyzer was set up to record sound on 15-minute intervals and the DAT recorder was additionally used to record acoustic time histories. All measurement equipment was calibrated before and after measurement recording in accordance with the manufacturers written procedure. In addition to sound recordings, Arup engineers also made notes with respect to local sound sources, i.e., auto traffic, helicopter traffic, Coliseum sound systems, and Coliseum crowd.

4. DATA ANALYSIS

Field noise data were analyzed to determine the noise levels emanating from the Coliseum at the surrounding land uses (mainly residential properties). The 15-minute L_{eq} sound levels (see Appendix B for a glossary of acoustic terms including Leq) are tabulated below in Table 3 (for the ASU vs. USC game, Notre Dame vs. USC game, and no game). In addition, the audibility of Coliseum noise was expressed as percent time audible for each measurement. That is, the amount of time when the Coliseum was audible during each measurement was divided by the total time over which the measurement was taken and expressed as a percentage. Audible, in this case, refers to sounds that are detectable by an Arup engineer listening via headphones to taped recordings of the ambient sound measurements.

As shown in Table 3, measurement location R1 receives the most audible noise from the Coliseum, followed by location R4. Listeners at locations R2, R3, and R5 hear little to no noise directly from the Coliseum because of intervening buildings, presence of high general ambient conditions, and relatively long distance.

Table 3 shows that the L_{eq} levels are not consistently highest during the Notre Dame game and/or consistently lowest when there is no game. Based on this fact, it does not appear that the Coliseum noise is the dominant factor in the L_{eq} sound levels. This is mainly due to the nature of the noise emanating from the Coliseum (noise sources associated with the football games are not continuous, and therefore not described well through L_{eq} metric). However, the Coliseum sound system, related helicopters overhead, and crowd noise are all intruding noise in the surrounding neighborhood, which is illustrated in the field notes/observations and in the time history correlation analysis shown in the following section.

4.1 Specific noise sources

In addition to recording of the general ambient noise, Arup also noted traffic patterns near the 5 off-site measurement locations, which are different when there is a football game in the Coliseum than when there is no game. In order to compensate for Coliseum traffic, Exposition Blvd. and Martin Luther King Jr. Blvd. both experienced reduced traffic volume during the game due to temporary traffic management (such as: limited left turns). As a result of the change in the traffic patterns the general ambient noise due to the local street traffic is actually less during a football game than that of a typical Saturday.

One intruding noise not shown in Table 3 is helicopter noise. During the games, aircraft and helicopter traffic (associated with the Coliseum events) appeared to increase. During the Notre Dame vs. USC game, helicopter flight over the Coliseum and the adjoining residential neighborhood produced noise levels in the range of 65-70-dBA at each sound monitoring location for about 50% of the time. Helicopter activities appeared to be the most frequent of all game associated intruding noises in the residential communities surrounding the Coliseum.

	L_{eq}(15 min.)			% Time Coliseum-Related Sounds were Audible		
	(dBA)			(Over meas. time)		
Meas. Location[a]	**USC vs. ASU**[b]	**USC vs. Notre Dame**[c]	**No Game**	**USC vs. ASU**[b]	**USC vs. Notre Dame**[c]	**Notes**[d] **Field Observations**
R1	69	64	64	13%	13%	• Announcer is clearly heard (PA system) • Crowd cheer is audible • Referee whistle and band also heard • General ambient noise is primarily due to traffic on Vermont Ave. and 39th Pl., residents talking, and street music
R2	61	66	59	0%	0%	• Noise directly from Coliseum not audible • Buildings block line-of-sight to Coliseum • General ambient noise is mainly due to traffic on Martin Luther King (MLK) Jr. Blvd. and children playing
R3	67	68	66	0%	0%	• Coliseum noise is not audible during ASU game • Band is barely heard at this location during Notre Dame game • General ambient noise level is highest at this location due to traffic on S. Hoover St. and MLK Jr. Blvd.
R4	61	64	64	4%	6%	• Announcer's voice (PA system) is fairly audible, but muffled • Crowd and band can also be heard (faintly) • General ambient noise was from traffic on MLK Jr. Blvd.
R5	60	65	63	0%	0%	• Coliseum is not audible at this location due to relatively long distance • Exposition Blvd. was closed to thru traffic during both games thus lower general ambient sound levels are recorded during the games • During the games general ambient noise was primarily from row of idling buses parked along the exposition park near the USC Campus
R6	84	86	N/A	100%	100%	

[a] See Figure 1 for a map showing the physical location of these measurements and Table 1 for location addresses

[b] ASU game refers to the football game played between ASU and USC at the Coliseum on November 16, 2002

[c] Notre Dame game refers to the football game played between Notre Dame and USC at the Coliseum on November 30, 2002

[d] Helicopters associated with the football game produced sound at locations R1 through R5 that was noticeable for about 50% of the measurement times and reached sound levels up to 70 dBA

Table 3: Summary of Acoustic Measurement

4.2 Time history correlation

In addition to sound level comparisons, a time history correlation of the data was also carried out in order to show the direct effects of the Coliseum noise on the surrounding environment. Figure 2 compares the time history recorded in the Coliseum with that recorded at location R4 during the Notre Dame game.

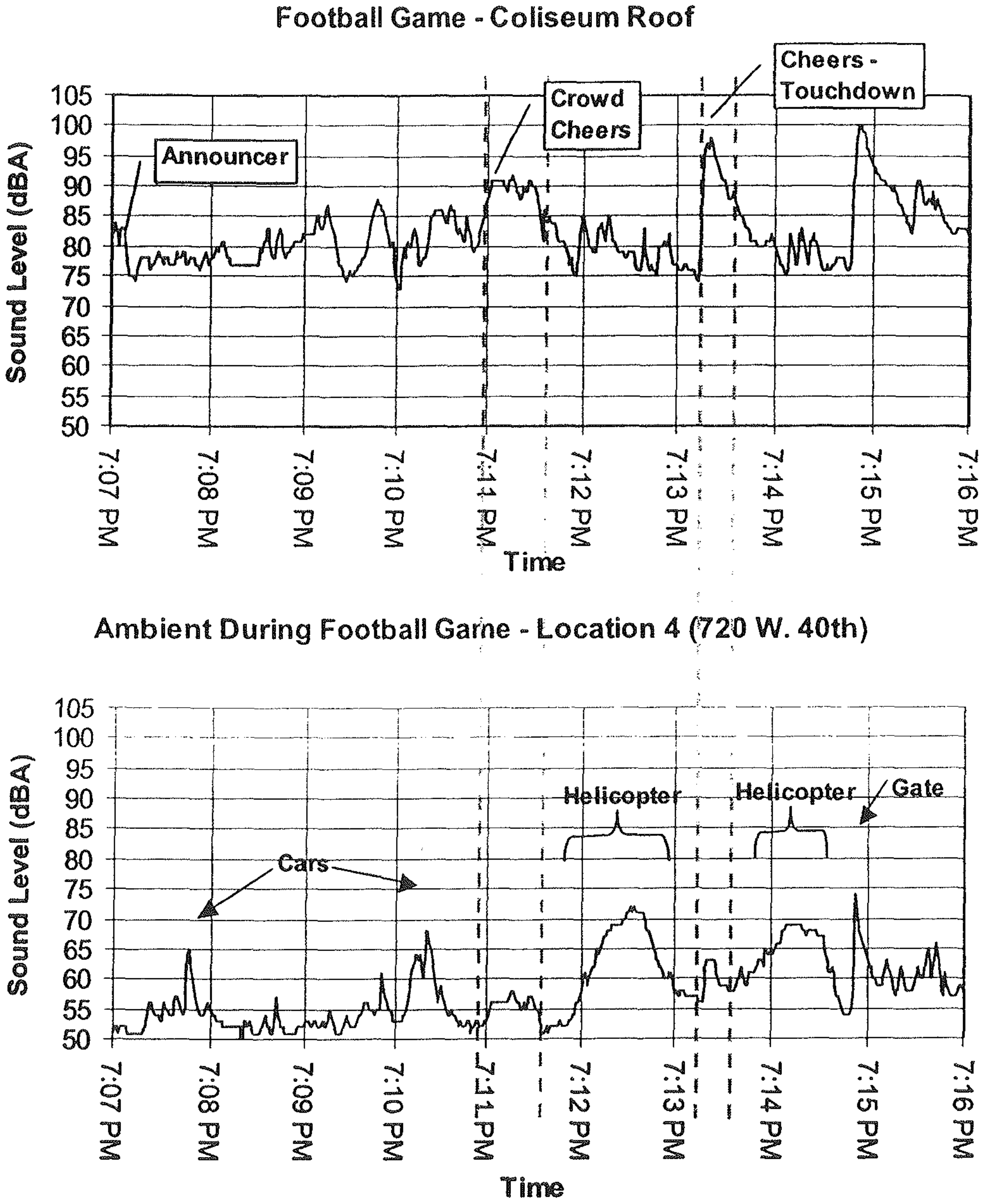

Figure 2: Time history snapshot of background sound environment during Notre Dame game

Notice that crowd cheers are audible at location R4 for two time intervals starting at 7:11:00 pm and at 7:13:15 pm. The sound level of the first cheer is 92 dBA inside the Coliseum and 57 dBA at location R4, which yields a sound attenuation of 35 dBA. Similarly, the second cheer (starting at 7:13:15 pm) reaches a sound level of 98 dBA inside the Coliseum and is 63 dBA at location 4, again yielding a sound attenuation of 35 dBA.

The loudest sounds at this location, R4, are due to helicopters (at about 70 dBA), a gate slamming nearby, and auto traffic. The announcer is also heard at this location, but the correlation is not visible on this plot simply because it was not the loudest event. Band noise is also discernable at this location.

5. CONCLUSIONS

Arup engineers measured 15 minute L_{eq} sound levels (and time histories) in and around the Coliseum on three separate occasions: during the ASU vs. USC football game on November 16, 2002, during more crowded Notre Dame vs. USC football game on November 30, 2002, and on December 7, 2002, when no game was reported inside the Coliseum.

This data was analyzed both quantitatively and qualitatively (listening tests) and Arup found that the noise sources from the Coliseum are intruding noise sources in the residential neighborhood. In addition, listening tests confirm that the crowd, band, and PA system were discernable at locations R1 and R4. Also, helicopter noise associated with the Notre Dame football game reached up to 70 dBA at the off-site receptors and was intrusive for 50% of the measurement time. Fifteen minute L_{eq} noise levels have been provided in keeping with Los Angeles city standards, although the intrusive effects of these Coliseum noise sources are not clearly represented in these noise level measures because of their discontinuous nature. Ambient noise sources in the surrounding neighborhood were somewhat loud for a residential area and consisted primarily of automobile traffic on local surface streets and noise from local residents.

APPENDIX A (EQUIPMENT LIST)

Larson Davis Environmental Monitor 870B

Larson Davis Preamplifier PRM900C, PRM900B, and PRM902

Larson Davis Microphone 2560

Larson Davis Real Time Analyzer 2900

Larson Davis Sound Level Meter/Real Time Analyzer 824RTA

Larson Davis Sound Level Meter Calibrator CAL200

Sony DAT Walkman TCD-D100

Sony DAT Walkman PCM-M1

APPENDIX B (GLOSSARY OF ACOUSTIC TERMS)

A-WEIGHTED SOUND LEVEL. The most generally used measure of noise as it relates to human judgement of sound. It is defined as the sound level, in decibels, measured with a sound level meter set to an A-weighting network, as specified in American National Standard Specifications for Sound Level Meters. It is common practice to refer to the numerical units of an A-weighted sound level as "dBA". The A-weighted network approximates the way the human ear hears different frequency sounds. Low frequency sounds are harder for the ear to hear than higher frequency sounds, therefor, a low frequency sound will have a lower level when measured using A-weighting (dBA) than it would without the weighting (dB).

dB (DECIBEL). A unit of measure of sound pressure, which compresses a large range of numbers into a more meaningful scale. Hearing tests indicate that the lowest audible pressure is approximately 2 x 10^{-5} Pascals (0 dBA), while the sensation of pain is approximately 2 x 10^{2} Pascals (0 dBA), while the sensation of pain is approximately 2 x 10^{2} Pascals (140 dB). Generally, an increase of 10 dB is perceived as twice as loud.

$$Sound\,\mathrm{Pr}\,essureLevel(dB) = 10\log\left(\frac{p^2}{p_o^2}\right)$$

$$Sound\,\mathrm{Pr}\,essureLevel(dB) = 20\log\left(\frac{p}{p_0}\right)$$

p= root-mean-square sound pressure (Pascals)
p_0= reference root-mean-square sound pressure, generally 2 x 10^{-5} Pascals.

dB and dBA. The human ear is capable of hearing a large range of levels of sound pressure from 2 x 10^{-5} Pascals (just audible, o dB) to 2 x 10^{2} Pascals (sensation of pain, 140 dB). This is 7 orders of magnitude. Because of this large range, the decibel (dB) is used to compress the range into a more meaningful scale. The symbol used to represent the linear decibel scale is dB(lin) or simply dB.

The A-weighted decibel scale is represented by dB(A) or simply dBA. The A-weighting network approximates the way the human ear hears different frequency sounds. Low frequency sounds (hum) are harder for the ear to hear than higher frequency sounds (whine). This means a low frequency sound would have a higher sound level on the linear scale (dB) than a high sound would and yet sound equally loud to the ear. These two sounds would have the same dBA rating on the A-weighting scale because they sound equally loud.

EQUIVALENT SOUND LEVEL (L_{eq}). L_{eq} is the average sound level in an environment where the sound level changes, however, the L_{eq} is not a simple arithmetic average of the sound level over time, but is a logarithmic average. L_{eq} is the "energy" average noise level over a period of time. L_{eq} can be measured for any time period, but is typically measured for some increment or fraction of an hour such as 15 minutes, 1 hour or 24-hours.

SOUND LEVEL (NOISE LEVEL). An instrument, including a microphone, an amplifier, an output meter, and frequency weighting networks for the measurement and determination of noise and sound levels. For purposes of conduction noise measurements for studies required by the Community Noise Element, a "Type 2" or better sound level meter should be used according to the American National Standards Institute (ANSI) S1.4 standards.

APPENDIX D

TRAFFIC IMPACT STUDY

TRAFFIC STUDY
FOR THE
LOS ANGELES MEMORIAL COLISEUM
RENOVATION PROJECT

LOS ANGELES, CALIFORNIA

AUGUST 2003

PREPARED FOR

CHRISTOPHER A. JOSEPH & ASSOCIATES

PREPARED BY

KAKU ASSOCIATES
A Corporation

TRAFFIC STUDY
FOR THE
LOS ANGELES MEMORIAL COLISEUM
RENOVATION PROJECT

LOS ANGELES, CALIFORNIA

August 2003

Prepared for:

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

I. INTRODUCTION

This report documents the results of a study conducted by Kaku Associates, Inc. to evaluate the potential traffic impacts of the proposed Los Angeles Memorial Coliseum Renovation Project located in the City of Los Angeles, California. This document includes the assumptions and methods used to conduct the study as well as a presentation of the results.

PROJECT DESCRIPTION

The Proposed Project consists of a vision for the historic Los Angeles Memorial Coliseum that would enable the stadium to become a premiere venue for an NFL franchise. The design is based on the strength of the existing architectural elements of the peristyle and Olympic flame, with a new modern stadium constructed within the existing structure.

The proposed project would have a maximum seating capacity of 78,000 persons for an NFL game. It is envisaged that the pedestrian patron access to the project site from the outlying parking areas off-site would remain quite similar to present day. The perimeter fence surrounding the Coliseum bordering Exposition Park along Figueroa Street would likely be removed. This provides an increase in the public open space surrounding the Coliseum façade.

Vehicle access to the field from the outside the stadium will continue to be provided by Menlo Avenue. No alterations to the current parking arrangements are forecast for the Proposed Project. In summation, the areas external to the Coliseum perimeter fence will remain unchanged, except the removal of all extraneous Coliseum outbuildings.

Exposition Park and USC will provide a total of 19,820 on-site parking spaces.

The analysis for this study centers around two different scenarios, that of a weekend game and a weekday game. The separate analyses are undertaken to highlight the difference in conditions between the two scenarios. The weekend games will likely occur between 12:00

p.m. and 5:00 p.m. (Pacific Time). The weekday games will most likely begin at 6:00 p.m. (Pacific Time) to accommodate television schedules, with the majority of the spectators arriving during the hour prior to the game commencing.

For the purposes of this traffic study, it is assumed that weekday NFL games could occur occasionally during a season, as the NFL currently plays Monday and Thursday nights.

STUDY SCOPE

As acknowledged by the City of Los Angeles Department of Transportation (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. They are described below.

This study analyzes the potential traffic of the proposed project. It assumes completion of the project in the Year 2006. The periods under analysis were a typical weekday football game and a weekend football game.

The study examines the conditions for a weekend (Saturday) college football game at the Coliseum. The game in question is between the USC Trojans and Notre Dame (November 30, 2002). This scenario is examined in detail, as it represents a worst possible scenario for the weekend game. The attendance was 87,944 persons, which far 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 collegiate (University of Southern California) games.

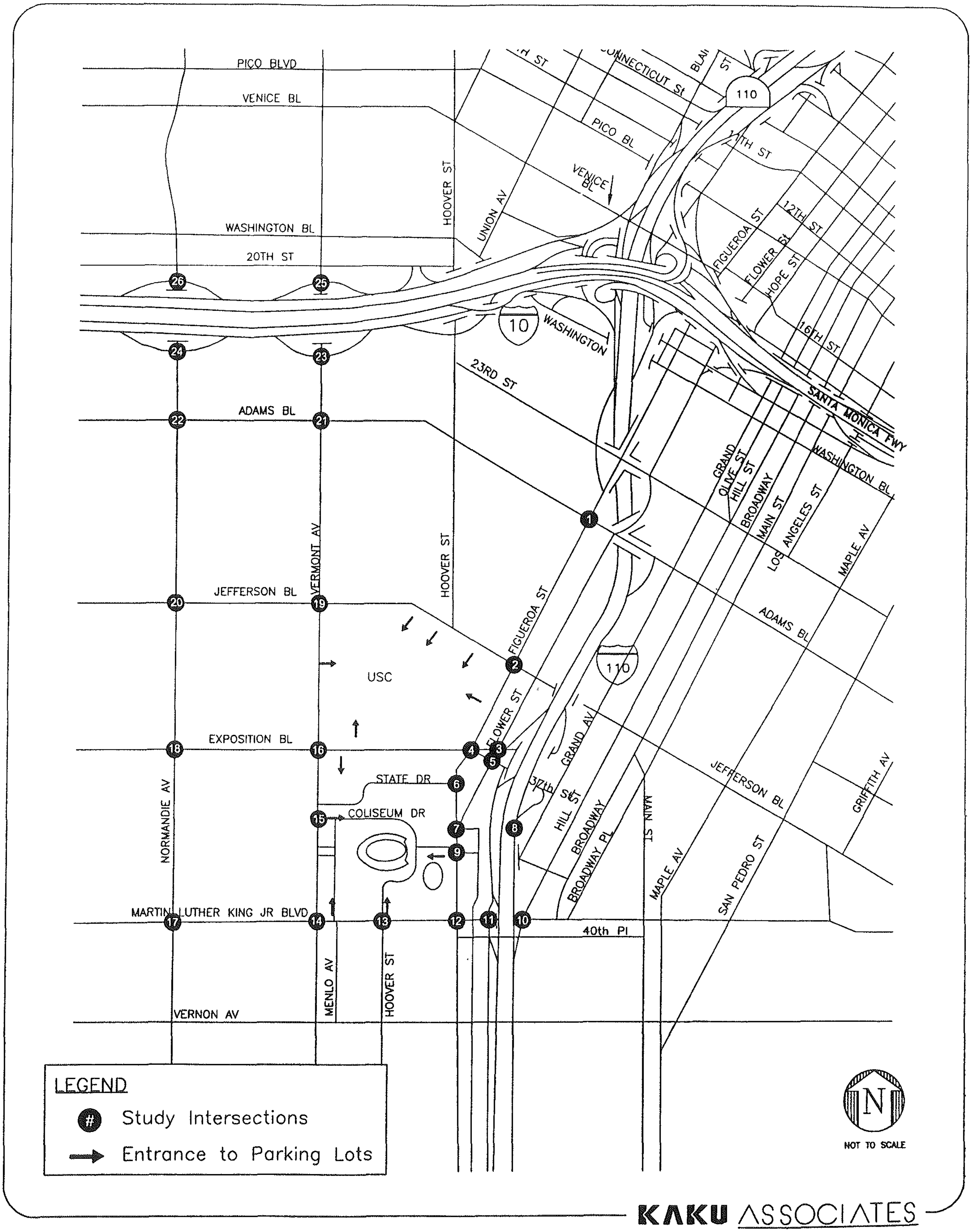
The weekday games are due to commence at 6 p.m. Pacific Time, meaning that approximately 50% of the vehicles going to the Coliseum arrive in the hour prior to the start of the game. This time period is approximately the peak traffic hour for the area surrounding the Coliseum and as such represents the largest traffic volumes.

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 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 following 26 intersections, which are illustrated in Figure 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 HOV ramps and 39th Street
9. Figueroa Street and 39th Street/Coliseum Drive
10. I-110 Northbound Ramps/Hill Street and Martin Luther King Junior Boulevard
11. I-110 Southbound Ramps and Martin Luther King Junior Boulevard
12. Figueroa Street and Martin Luther King Junior Boulevard



KAKU ASSOCIATES

FIGURE 1
STUDY LOCATION AND ANALYZED INTERSECTIONS

13. Hoover Street and Martin Luther King Junior Boulevard
14. Vermont Avenue and Martin Luther King Junior Boulevard
15. Vermont Avenue and 39th Street
16. Vermont Avenue and Exposition Boulevard
17. Normandie Avenue and Martin Luther King Junior 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

ORGANIZATION OF REPORT

This report is divided into seven chapters, including this introduction. Chapter II describes the existing conditions in the study area including the circulation system, traffic volumes, and traffic conditions. The methodologies used to analyze and forecast project traffic are described in Chapter III. Chapter IV presents an assessment of the potential traffic impacts for the Year 2006 cumulative plus project scenario, i.e., the future conditions including the addition of project traffic and traffic mitigation management plans. Chapter V includes a discussion of the regional project impacts. Chapter VI contains a parking analysis (including USC and the Coliseum lots).

Finally, a summary of the analyses and study conclusions comprise Chapter VII. Appendices to this report include details of the technical analysis and supporting calculation worksheets.

II. EXISTING HIGHWAY CONDITIONS

A comprehensive data collection effort was undertaken to develop a detailed description of existing conditions within the study area. The assessment of conditions relevant to this study includes an inventory of the street system, traffic volumes on these facilities, operating conditions at key intersections, and the current transit services in the study area.

EXISTING STREET SYSTEM

Principal 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 project. The study area is bounded by Martin Luther King Junior Boulevard on the south, Vermont Avenue on the west, Exposition Boulevard on the north, and Figueroa Street on the east. In addition to the street descriptions below, Table 1 describes the major streets serving the area in greater detail:

Martin Luther King Jr. Boulevard - Martin Luther King Jr. Boulevard which borders the project site to the south, provides six travel lanes during the am peak period and five lanes during the pm peak period (three westbound lanes and two eastbound lanes) near to 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 am peak period and on the north side all of the day. 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.

TABLE 1
EXISTING SURFACE STREET CHARACTERISTICS

SEGMENT	FROM	TO	ROADWAY DESIGNATION	LANE		MEDIAN TYPE	PARKING RESTRICTIONS		SPEED LIMIT
				NB/EB	SB/WB		NB/EB	SB/WB	
Normandie Av	48th St	47th St	S	2	2	DY	PA	1hr 8A-6P	35
	47th St	45th St	S	2	2	DY	PA	PA	35
	45th St	Vernon Av	S	2	2	DY	NSAT	PA	35
	Vernon Av	M.L. King Bl	S	2	2	DY	PA	PA	35
	M.L. King Bl	Exposition Bl	S	2	2	DY	PA	PA	35
	Exposition Bl	Jefferson Bl	S	2	2	DY	PA	PA	35
	Jefferson Bl	Adams Bl	S	2	2	2LT	PA	PA	35
	Adams Bl	23rd St	S	2	2	2LT	PA	PA	35
	23rd St	I-10 East Ramps	S	2	2	2LT	NS 7A - 9P	NSAT	35
	I-10 East Ramps	I-10 West Ramps	S	2	2	RM	NSAT	NSAT	35
	I-10 West Ramps	20th St	S	2	2	2LT	RZ	NSAT	35
	20th St	Cordova St	S	2	2	2LT	PA	NSAT	35
	Cordova St	Washington Bl	S	2	2	2LT	PA	PA	35
Vermont Av	48th St	45th St	M II	2	2	DY	1hr 8A-6P	1hr 8A-6P	35
	45th St	Vernon Av	M II	2	2	DY	PA	RZ	35
	Vernon Av	43rd Pl	M II	2	2	DY	PA	1hr 8A-6P	35
	43rd Pl	42nd St	M II	2	2	DY	1hr 8A-6P	1hr 8A-6P	35
	42nd St	41st Dr	M II	2	2	DY	PA	NS 7A-5P	35
	41st Dr	41st St	M II	2	2	DY	NS 7A-5P	NS 7A-5P	35
	41st St	40th Pl	M II	2	2	DY	1hr 8A-6P	1hr 8A-6P	35
	40th Pl	M.L. King Bl	M II	2	2	DY	RZ	1hr 8A-6P	35
	M.L. King Bl	Exposition Bl	M II	2	2	RM	NSAT	NSAT	35
	Exposition Bl	Jefferson Bl	M II	3	3	2LT	4hr 8A-6P	4hr 8A-6P	35
	Jefferson Bl	30th Pl	M II	2	2	2LT	4hr 8A-6P	4hr 8A-6P	35
	30th Pl	27th St	M II	2	2	DY	1hr 8A-6P	1hr 8A-6P	35
	27th St	Dana St	M II	2	2	2LT	1hr 8A-6P	1hr 8A-6P	35
	Dana St	Adams Bl	M II	2	2	2LT	1hr 8A-6P	RZ	35
	Adams Bl	25th St	M II	2	2	DY	RZ	RZ	35
	25th St	24th St	M II	2	2	DY	NS 7-9A, 4-7P / 1hr 9A-4P	NS 7-9A, 4-7P / 1hr 9A-4P	35
	24th St	23rd St	M II	2	2	DY	NS 7-9A, 4-7P / 1hr 9A-4P	RZ	35
	23rd St	22nd Pl	M II	2	2	DY	NS 7-9A, 4-7P / 1hr 9A-4P	NS 7-9A, 4-7P / 1hr 9A-4P	35
	22nd Pl	I-10 East Ramps	M II	2	2	DY	RZ	PA	35
	I-10 East Ramps	20th St	M II	2	2	DY	NSAT	NSAT	35
	20th St	Washington Bl	M II	2	2	DY	NS 7-9A, 4-7P / 1hr 9A-4P	NS 7-9A, 4-7P / 1hr 9A-4P	35
	Washington Bl	Venice Bl	M II	2	2	DY	NS 7-9A, 4-7P / 1hr 9A-4P	NS 7-9A, 4-7P / 1hr 9A-4P	35
Hoover St	48th St	Vernon Av	S	2	2	DY	NS 7A-8A	NS 4-6P	35
	Vernon Av	40th Pl	S	2	2	DY	NS 7A-8A	NS 4-6P	35
	40th Pl	M.L. King Bl	S	2	2	DY	NS 7A-8A	NPAT	35
	M.L. King Bl	Jefferson Bl	-	-	-	-	-	-	-
	Jefferson Bl	30th St	M II	2*	2*	2LT	2hr 8A-6P	2hr 8A-6P	35
	30th St	Adams Bl	M II	2*	2*	2LT	PA	PA	35
	Adams Bl	24th St	M II	2*	2*	2LT	PA	PA	35
	24th St	23rd St	M II	2*	2*	2LT	PA	RZ	35
	23rd St	22nd St	M II	2*	2*	2LT	PA	PA	35
	22nd St	20th St	M II	3	2*	2LT	RZ	RZ	35
	20th St	Washington Bl	M II	2*	2*	2LT	RZ	NS 4-6P	35
	Washington Bl	18th St	M II	2*	2*	2LT	PA	2hr 8A-6P	35
	18th St	Venice Bl	M II	2*	2*	2LT	PA	1hr 8A-6P	35
Figueroa St	48th St	45th St	M II	3	3	2LT	NS 7A-9A	NS 4-7P	35
	45th St	Vernon Av	M II	3	3	2LT	NS 7A-9A / 1hr 9A-6P	NS 4-7P / 1hr 8A-4P	35
	Vernon Av	M.L. King Bl	M II	3	3	2LT	NS 7A-9A / 1hr 9A-6P	NS 4-7P / 1hr 8A-4P	35
	M.L. King Bl	39th St	M II	3	3	2LT	NS 7-9A, 4-6P / 1hr 9A-4P	NSAT	35
	39th St	37th Pl	M II	3	2*	RM	RZ	RZ	35
	37th Pl	37th St	M II	4	2*	RM	RZ	RZ	35
	37th St	Jefferson Bl	M II	3*	2*	RM	NS 7A-9A / 4hr 9A-6P	NS 7A-9A, 4-7P / 4hr 9A-4P	35
	Jefferson Bl	27th St	M II	3*	2*	2LT	NS 7A-9A / 1hr 9A-6P	NS 4-7P / 1hr 8A-4P	35
	27th St	Adams Bl	M II	3*	2	2LT	NS 7A-9A / 1hr 9A-6P	RZ	35
	Adams Bl	20th St	M II	3*	2	2LT	NS 7A-9A / 1hr 9A-6P	NS 4-7P / 1hr 8A-4P	35
	20th St	Washington Bl	M II	3*	2	2LT	NS 7-9A, 3-6P / 1hr9A-3P	NSAT	35
	Washington Bl	17th St	M II	3*	2	2LT	NS 7-9A, 3-6P / 1hr9A-3P	NS 7-9A, 3-6P / 1hr9A-3P	35
	17th St	Venice Bl	M II	3*	2	2LT	NS 7-9A, 3-6P / 1hr9A-3P	NSAT	35

TABLE 1 continued
EXISTING SURFACE STREET CHARACTERISTICS

SEGMENT	FROM	TO	ROADWAY DESIGNATION	LANE		MEDIAN TYPE	PARKING RESTRICTIONS		SPEED LIMIT
				NB/EB	SB/WB		NB/EB	SB/WB	
Adams Bl	Maple Av	Main St	M II	2	2	DY	PA	PA	35
	Main St	Broadway	M II	2	2	DY	NS 4-6P	NS 7-9A,4-6P	35
	Broadway	Hill St	M II	2	2	DY	NS 7-9A, 4-6P	NS 7-9A,4-6P	35
	Hill St	Grand St	M II	2	2	2LT	NS 7-9A, 4-6P	NS 7-9A,4-6P	35
	Grand St	I-110 SB Ramp	M II	2	2	2LT	NS 7-9A, 4-6P / 1hr 9A-4P	NS 7-9A,4-6P	35
	I-110 SB Ramp	Flower St	M II	2	2	DY	NSAT	NSAT	35
	Flower St	Figueroa St	M II	2	2	DY	RZ	RZ	35
	Figueroa St	Saint James	M II	2	2	DY	4hr 8A-6P / NS 4-6P	NS 4-6P / 2hr 8A-4P / 4hr 8A-4P	35
	Saint James	Portland St	M II	2	2	DY	4hr 8A-6P	NS 4-6P	35
	Portland St	Hoover St	M II	2	2	DY	PA	NS 4-6P	35
	Hoover St	Magnolia	M II	2	2	2LT	PA	NS 4-6P	35
	Magnolia	Vermont Av	M II	2	2	DY	PA	PA	35
	Vermont Av	Raymond Av	M II	2	2	DY	PA	PA	35
	Raymond Av	Kenwood Av	M II	2	2	DY	1hr 8A-6P	PA	35
	Kenwood Av	Normandie Av	M II	2	2	DY	PA	PA	35
	Normandie Av	Halldale Av	M II	2	2	DY	PA	1hr 8A-6P	35
Jefferson Bl	Maple Av	Main St	S	2	2	DY	PA	PA	35
	Main St	Broadway	S	2	2	DY	PA	PA	35
	Broadway	Hill St	S	2	2	DY	PA	PA	35
	Hill St	Grand St	S	2	2	DY	1hr 8A-6P	1hr 8A-6P	35
	Grand St	Hope St	S	2	2	DY	1hr 8A-6P	1hr 8A-6P	35
	Hope St	Flower St	S	2	2	DY	NSAT	NSAT	35
	Flower St	Figueroa St	S	2	2	DY	NS 7-9A, 4-6P / 1hr 9A-4P	NS 7-9A, 4-6P / 1hr 9A-4P	35
	Figueroa St	Royal St	S	3	3	RM	4hr 8A-6P	1hr 8A-6P	35
	Royal St	Hoover St	S	3	3	RM	4hr 8A-6P	NS 7A-5P	35
	Hoover St	McClintock Av	S	3	3	RM	4hr 8A-6P	NSAT	35
	McClintock Av	Vermont Av	S	3	3	RM	4hr 8A-6P	4hr 8A-6P	35
	Vermont Av	Catalina	S	2	2	2LT	4hr 8A-6P	4hr 8A-6P	35
	Catalina	Budlong	S	2	2	2LT	NS 7-9A, 4-6P / 1hr 9A-4P	NS 7-9A, 4-6P / 1hr 9A-4P	35
	Budlong	Kenwood Av	S	2	2	DY	NS 7-9A, 4-6P / 1hr 9A-4P	NS 7-9A, 4-6P / 1hr 9A-4P	35
	Kenwood Av	Normandie Av	S	2	2	DY	NSAT	NSAT	35
	Normandie Av	Denker Av	S	2	2	2LT	1hr 8A-6P	1hr 8A-6P	35
M.L. King Bl	Woodlawn Av	Main St	M II	2*	2*	2LT	PA	1hr 8A-6P / NS 4-6P	35
	Main St	Broadway	M II	3	3	2LT	NS 7-9A	1hr 8A-4P / NS 4-6P	35
	Broadway	Hill St	M II	3	3	DY	NS 7-9A / 1hr 9A-6P	PA	35
	Hill St	Figueroa St	M II	3	3	DY	NSAT	NSAT	35
	Figueroa St	Hoover St	M II	3	3	2LT	NS 7-9A / 1hr 9A-6P	NSAT	35
	Hoover St	Vermont Av	M II	3	3	2LT	NS 7-9A	NSAT	35
	Vermont Av	Walton Av	M II	3	3	2LT	2hr 8A-6P	NSAT	35
	Walton Av	Budlong	M II	3	3	2LT	2hr 8A-6P	2hr 8A-6P	35
	Budlong	Normandie Av	M II	3	3	2LT	PA	PA	35
	Normandie Av	Brighton Av	M II	3	3	2LT	NS 7-9A	RZ	35
	Brighton Av	Denker Av	M II	3	3	2LT	NS 7-9A / 1hr 9A-6P	NS 4-6P / 1hr 8A-4P	35
Exposition Bl	I-110 NB Ramp	Flower St	S	3	2	RM	NSAT	NSAT	35
	Flower St	Figueroa St	S	3	3	RM	NSAT	NSAT	35
	Figueroa St	USC Pardee Wy	S	4	3	RM	4hr 6-10P	RZ	35
	USC Pardee Wy	USC Watt Wy	S	3	3	RM	4hr 6-10P	4hr 8A-6P	35
	USC Watt Wy	Vermont Av	S	3	2	RM	4hr 6-10P	4hr 8A-6P	35
	Vermont Av	Catalina	S	3	3	RM	1hr 8A-6P	1hr 8A-6P	35
	Catalina	Normandie Av	S	3	3	RM	PA	PA	35
	Normandie Av	Halldale Av	S	3	3	RM	PA	PA	35
	Halldale Av	Denker Av	S	3	2	RM	PA	PA	35

KEY:

MEDIAN TYPE:
DY = Double Yellow Centerline
2LT = Dual Left Turn Centerline
RM = Raised Median

ROADWAY DESIGNATION:
M II = Major Highway Class II
S= Secondary

PARKING:
PA = Parking Allowed
NSAT = No Stopping Anytime
NPAT = No Parking Anytime
RZ = Red zone - No parking allowed

LANES: # = Number of lanes

* = Bike Lane & Parking Lane

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 for 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.

Diagrams of existing lane configurations at the analyzed intersections are contained in Appendix A.

LEVEL OF SERVICE METHODOLOGY

The following section presents a description of the methodology utilized to analyze operating conditions.

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 2. The 26 analyzed intersections are all controlled by traffic signals.

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.

All but two of signalized intersections are currently operated under the Automated Traffic Surveillance And Control (ATSAC) system. In accordance with LADOT procedures, capacity values were increased by 7% 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 as follows:

- Figueroa Street and Exposition Boulevard
- I-110 northbound ramps/Hill Street and Martin Luther King Junior Boulevard

The area is under the ATSC (Adaptive Traffic Control System), but the estimated benefit from this system, an increase of approximately 3% per intersection, has not been included due to the system not running in 'adaptive' mode. The adaptive mode is a set of procedures that adapt the

TABLE 2
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 somewhat 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 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 Reoprt 209, 1994 system, using real time traffic information, to optimize the signals and hence improve the intersection LOS.

EXISTING WEEKEND SCENARIO

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

Existing Weekend Traffic Volumes

Weekend afternoon (2:00 to 5:00 p.m.) and evening (6:30 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 University of Southern California (USC) and Notre Dame, where the attendance was 87,944 people. These volumes are illustrated in Figure 2-1 and represent the existing weekend traffic.

This particular date was chosen because the counts (from 6:30 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.

Existing Levels of Service - Weekend Scenario

Table 3 summarizes the existing V/C ratios and corresponding levels of service at each of the study intersections. As shown in Table 3, 25 out of 26 intersections operate at LOS C or better. The intersection that does not is Vermont Avenue and Adams Boulevard (LOS D).

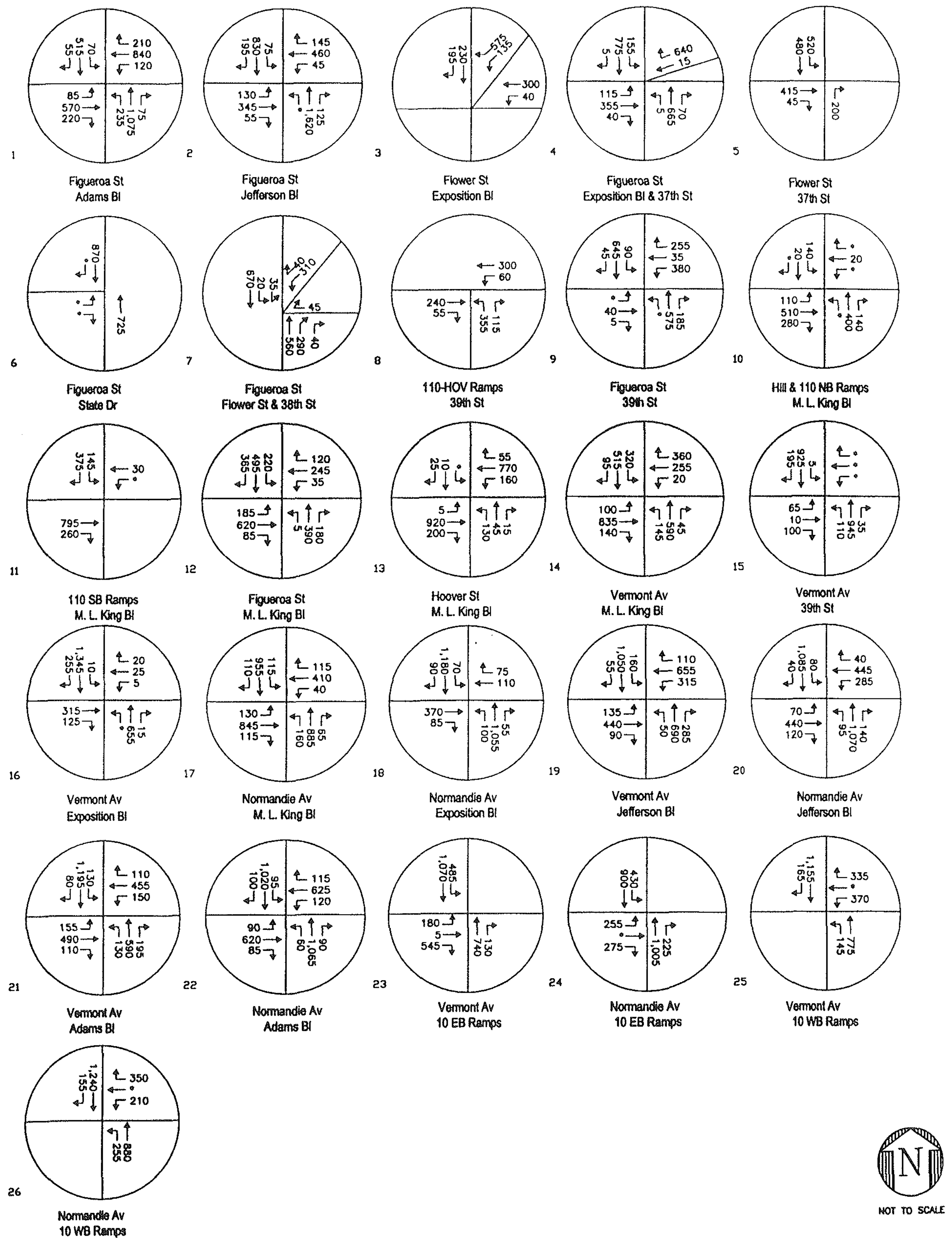


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FIGURE 2-1
EXISTING WEEKEND TRAFFIC VOLUMES WITHOUT PROJECT

TABLE 3
INTERSECTION LEVEL OF SERVICE ANALYSIS - EXISTING WEEKEND CONDITIONS

Intersection	Time Period	Without Project Conditions V/C	Without Project Conditions LOS
1. Figueroa St & Adams Bl	PM	0.112	A
2. Figueroa St & Jefferson Bl	PM	0.411	A
3. Flower St & Exposition Bl	PM	0.326	A
4. Figueroa St & Exposition Bl	PM	0.798	C
5. Flower St & 37th St	PM	0.274	A
6. Figueroa St & State Dr	PM	0.174	A
7. Figueroa St & 38th St	PM	0.359	A
8. I-110 HOV Ramps & 39th St	PM	0.286	A
9. Figueroa St & 39th St	PM	0.362	A
10. I-110 NB Ramps/Hill & M.L.King Jr. Bl	PM	0.672	B
11. I-110 SB Ramps & M.L.King Jr. Bl	PM	0.302	A
12. Figueroa St & M.L.King Jr. Bl	PM	0.449	A
13. Hoover St & M.L.King Jr. Bl	PM	0.386	A
14. Vermont Av & M.L.King Jr. Bl	PM	0.699	B
15. Vermont Av & 39th St	PM	0.494	A
16. Vermont Av & Exposition Bl	PM	0.479	A
17. Normandie Av & M.L.King Jr. Bl	PM	0.631	B
18. Normandie Av & Exposition Bl	PM	0.579	A
19. Vermont Av & Jefferson Bl	PM	0.739	C
20. Normandie Av & Jefferson Bl	PM	0.726	C
21. Vermont Av & Adams Bl	PM	0.818	D
22. Normandie Av & Adams Bl	PM	0.763	C
23. Vermont Av & I-10 EB Ramps	PM	0.762	C
24. Normandie Av & I-10 EB Ramps	PM	0.711	C
25. Vermont Av & I-10 WB Ramps	PM	0.651	B
26. Normandie Av & I-10 WB Ramps	PM	0.738	C

In conclusion, the existing volumes analyses show that the 26 intersections are currently working satisfactorily prior to game day traffic.

EXISTING WEEKDAY SCENARIO

The following section presents the existing traffic volumes for a weekday at the 26 intersections around the Coliseum.

Existing Weekday Traffic Volumes

Weekday intersection turning movement counts were conducted during the afternoon (4:00 to 7:00 p.m.) peak periods 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 to 5:45 p.m. for 15 of the intersections and from 5:00 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 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 2-2 illustrates the existing weekday traffic volumes and turning movements for the 5:00 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 of America currently govern 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 Time, which is three hours behind the east coast, two hours behind the central region, and one hour behind the mountain region. Hence, games typically do not start any later than 6:00 p.m. Pacific Time (directly in the evening rush hour).

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 the game generated traffic will be at its most concentrated level. This period is deemed to attract approximately 50% of NFL game generated traffic.

The results in Table 4 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 D.

EXISTING TRANSIT SERVICE

The study area is served 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 3:

- 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 Line 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. LACTMTA lines 204/754 travels on Vermont Avenue through the study area. The service runs daily, evenings, and weekends.

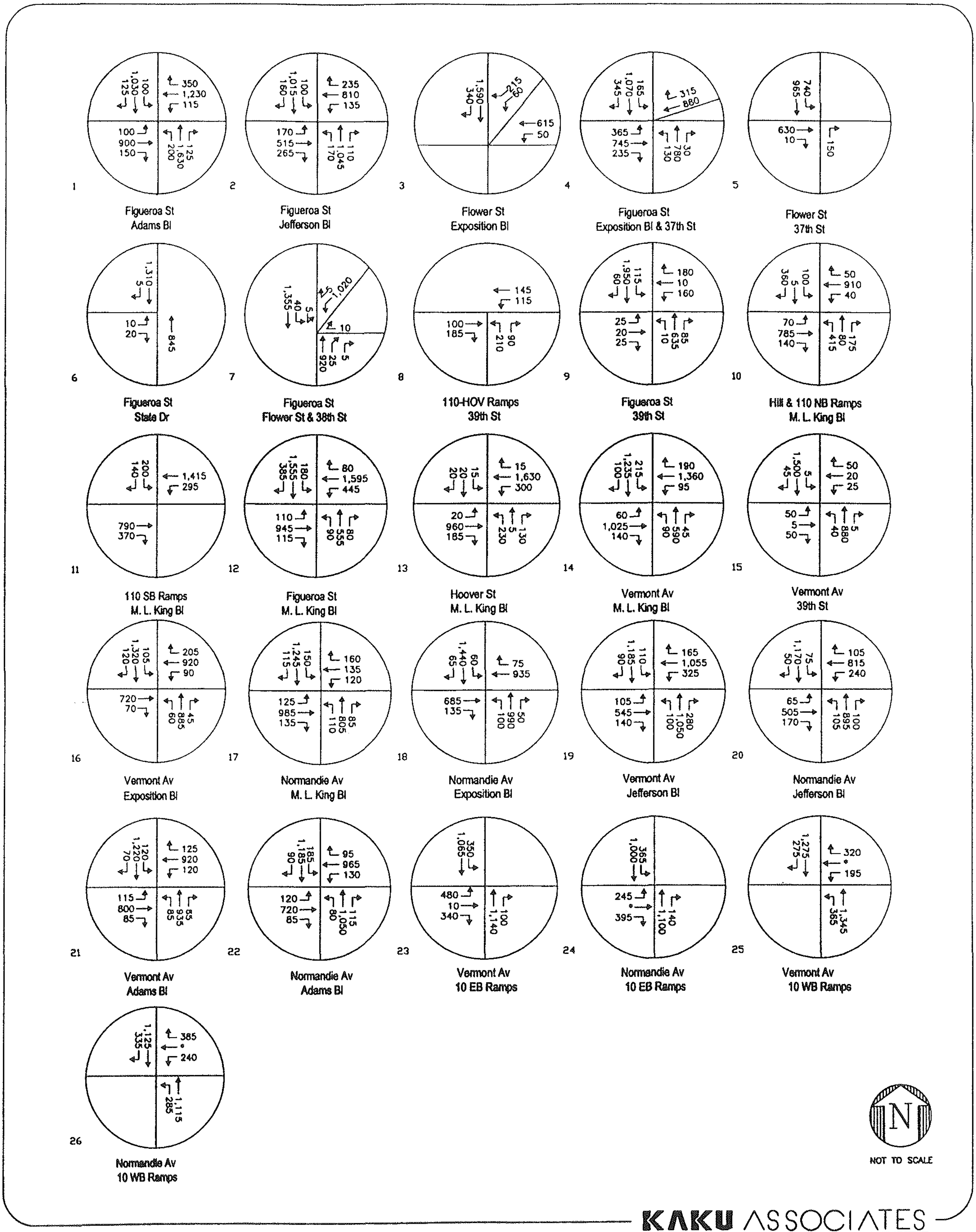

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FIGURE 2-2
EXISTING WEEKDAY TRAFFIC VOLUMES WITHOUT PROJECT

TABLE 4
INTERSECTION LEVEL OF SERVICE ANALYSIS - EXISTING WEEKDAY EVENING CONDITIONS

Intersection	Time Period	Existing	
		V/C	LOS
1. Figueroa St & Adams Bl	PM	0.881	D
2. Figueroa St & Jefferson Bl	PM	0.714	C
3. Flower St & Exposition Bl	PM	0.517	A
4. Figueroa St & Exposition Bl	PM	0.985	E
5. Flower St & 37th St	PM	0.365	A
6. Figueroa St & State Dr	PM	0.239	A
7. Figueroa St & 38th St	PM	0.716	C
8. I-110 HOV Ramps & 39th St	PM	0.271	A
9. Figueroa St & 39th St	PM	0.524	A
10. I-110 NB Ramps/Hill & M.L.King Jr. Bl	PM	0.760	C
11. I-110 SB Ramps & M.L.King Jr. Bl	PM	0.459	A
12. Figueroa St & M.L.King Jr. Bl	PM	1.047	F
13. Hoover St & M.L.King Jr. Bl	PM	0.552	A
14. Vermont Av & M.L.King Jr. Bl	PM	0.865	D
15. Vermont Av & 39th St	PM	0.568	A
16. Vermont Av & Exposition Bl	PM	0.783	C
17. Normandie Av & M.L.King Jr. Bl	PM	0.784	C
18. Normandie Av & Exposition Bl	PM	0.741	C
19. Vermont Av & Jefferson Bl	PM	0.882	D
20. Normandie Av & Jefferson Bl	PM	0.757	C
21. Vermont Av & Adams Bl	PM	0.922	E
22. Normandie Av & Adams Bl	PM	0.958	E
23. Vermont Av & I-10 EB Ramps	PM	0.800	C
24. Normandie Av & I-10 EB Ramps	PM	0.849	D
25. Vermont Av & I-10 WB Ramps	PM	0.743	C
26. Normandie Av & I-10 WB Ramps	PM	0.745	C

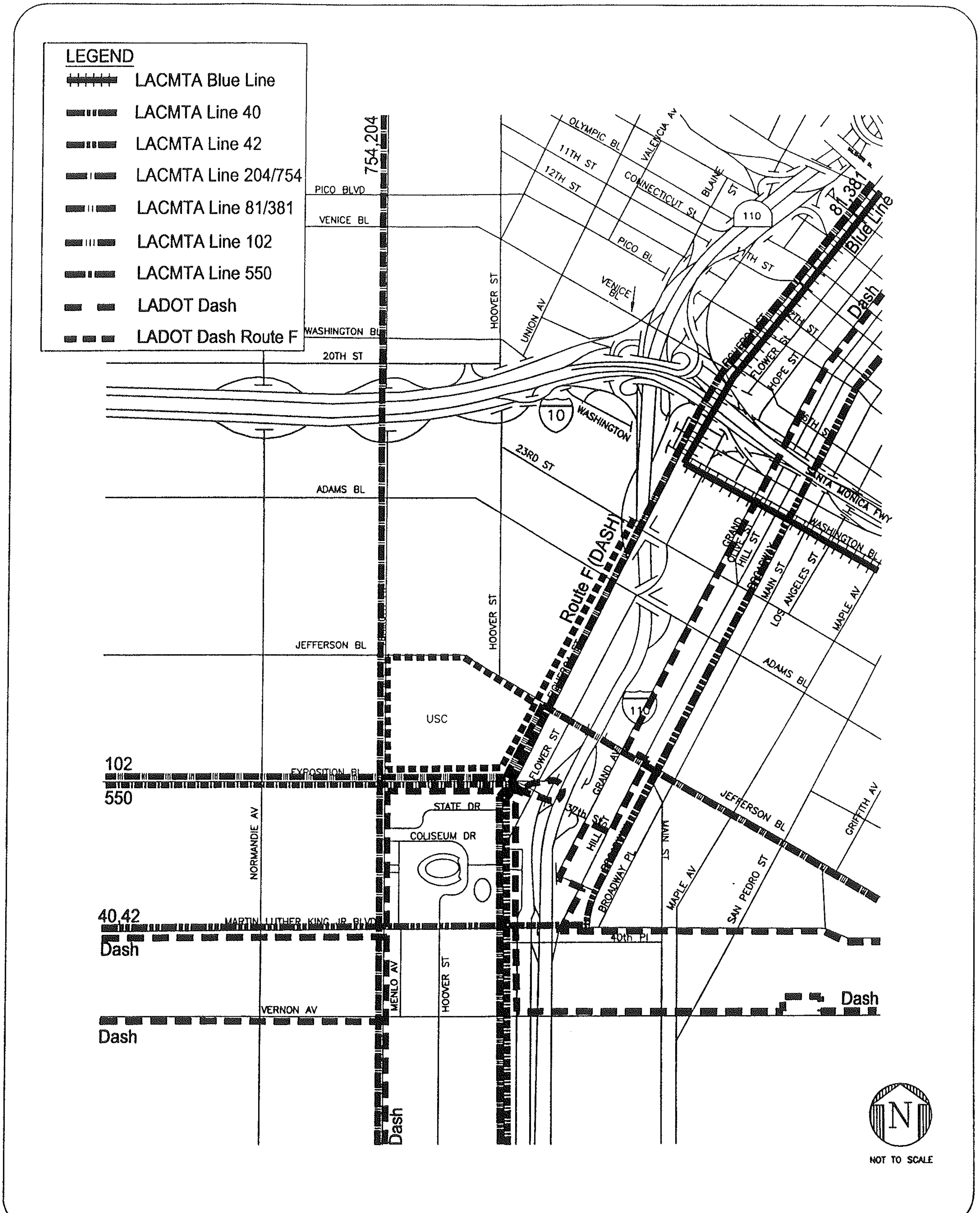

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FIGURE 3
EXISTING TRANSIT SERVICES

- LACMTA Line 81/381 – LACMTA Lines 81/381 are local north/south lines from Eagle Rock Plaza to the Rosewood Community in Los Angeles County. LACMTA Line 81/381 travels 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 up to 9 p.m., and weekends.

- LACMTA Line 550 – LACMTA Line 550 is a north/south express route from the 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. to 7:00 p.m. and on Saturdays between 10:00 a.m. to 5:30 p.m.

- LADOT Dash King-East Line - The LADOT Dash King-East line is a community transit line that provides a service on 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. to 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 a 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. to 7:00 p.m. and on Saturdays between 9:00 a.m. to 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. to 6:30 p.m. and weekends between 10:00 a.m. to 5:00 p.m.

III. ANALYSIS OF PROJECT TRAFFIC

In order to evaluate correctly 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 project.

WEEKEND TRAFFIC ANALYSIS

Traffic volumes are first estimated for the study area without the project these were taken from the observed ground counts from November 30, 2002. These can be seen in Figure 2-1. In addition the weekend volumes with project can be seen in Figure 4-1 and 4-2. The figures represent the pre-event and post-event traffic conditions respectively. The observed traffic counts used in the analysis for pre and post event reflect the street closures and turn prohibitions that are part of LADOT's event management plan.

The resulting impacts are discussed further in Chapter IV.

WEEKDAY TRAFFIC ANALYSIS

Future traffic volumes are first estimated for the study area without the 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.

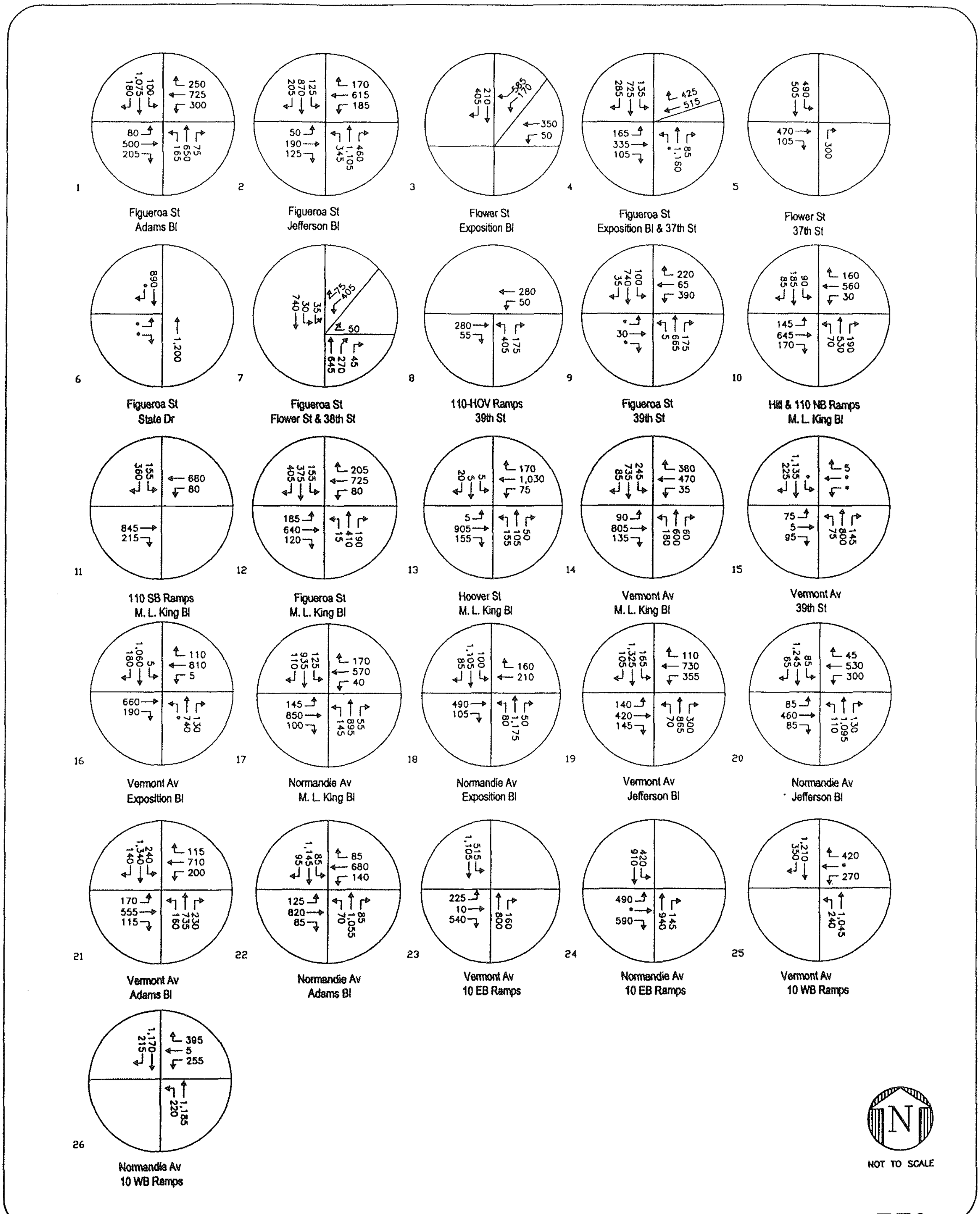

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FIGURE 4-1

PRE EVENT WEEKEND TRAFFIC VOLUMES WITH PROJECT

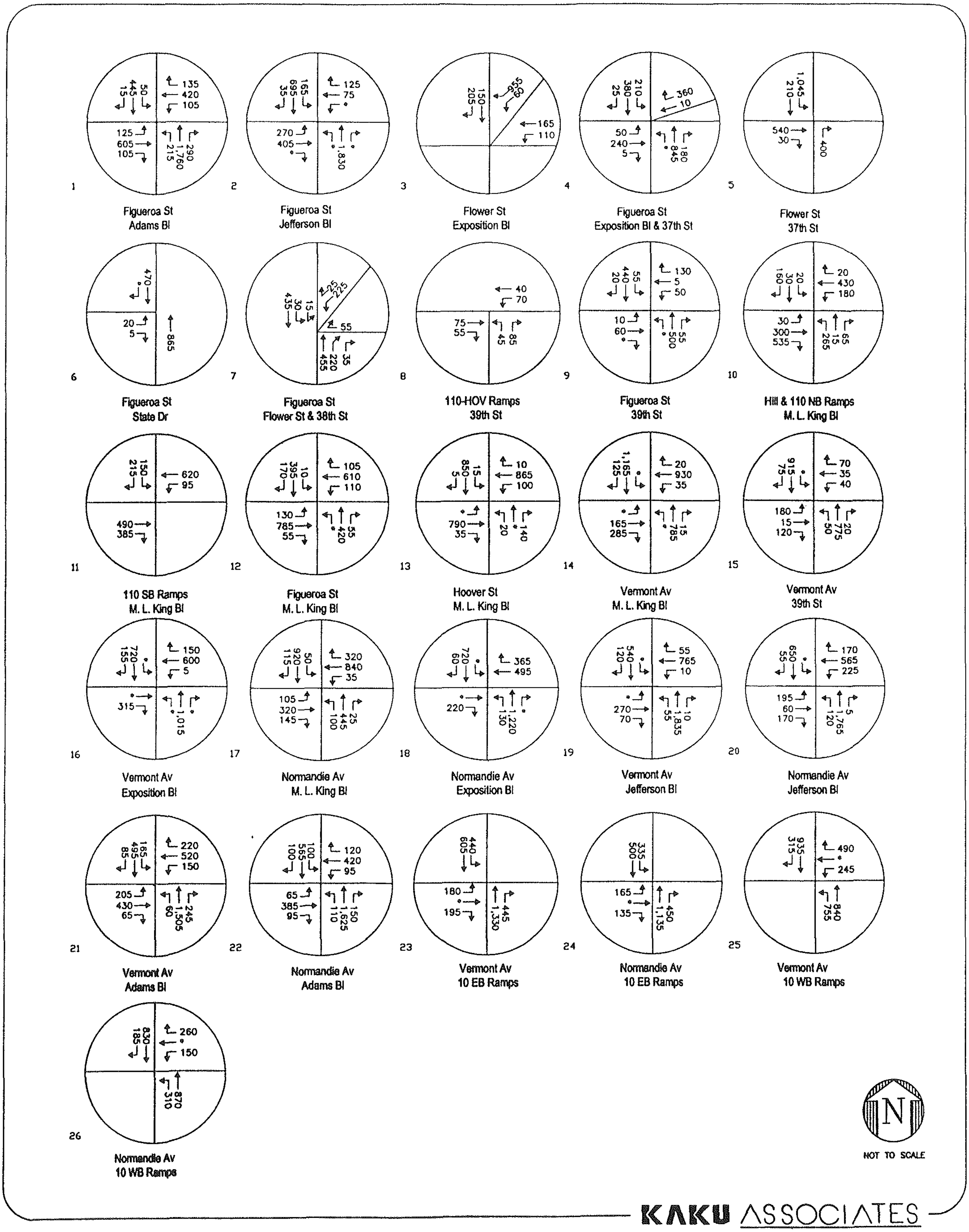

FIGURE 4-2
POST EVENT WEEKEND TRAFFIC VOLUMES WITH PROJECT

Weekday Traffic Generation of Cumulative Development Projects

The Cumulative Base conditions include three distinct elements: growth in existing background traffic volumes reflecting the effects of overall regional growth and development both in and outside of the study area, traffic generated by the Staples Center and Los Angeles Convention Center, and 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 in and out of the study area. A factor of 1% per year was used in the analysis, based on general traffic volume growth factors suggested in the *2002 Congestion Management Program for Los Angeles* (Los Angeles County Metropolitan Transportation Authority, June 2002). The Coliseum is situated in Regional Statistical Area (RSA) 17. Annual growth in this RSA is 0.86%. Using a more conservative growth rate of 1%, the existing traffic volumes are adjusted upwards by 3% 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* (Korve Engineering, Inc., March 1997).

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 summarized in Table 5 and illustrated in Figure 5.

It is also expected that the Sports Arena situated on the project site will not pose a problem on game nights. This facility is under Coliseum jurisdiction and every attempt will be made to ensure that there is no event scheduled on the same day as an NFL game. In addition to the Sports Arena, the USC Events Center is currently in the planning stage but has not been included in the related projects as it has yet to receive formal approval.

Trip generation estimates for the cumulative projects were prepared using rates/equations contained in Trip Generation, 6th Edition (Institute of Transportation Engineers, 1997). The trip rates are summarized in Table 5. As shown in the table, 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, Staples Center and Los Angeles Convention Center traffic to the existing volumes (which were increased by 3% 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 Year 2006 without the proposed project. Figure 6 describes these conditions.

WEEKDAY PROJECT TRAFFIC VOLUMES

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

TABLE 5
TRIP GENERATION ESTIMATES FOR RELATED PROJECTS

No.	Project Name	Project Description	Project Location	Size	Units	Daily Trips	PM Peak Hour Trips		Source
							Inbound	Outbound	
1	McDonald's restaurant	2,307 sf fast food restaurant w/ drive-thru	730 Olympic Bl	2.3	Ksf	1638	38	35	[1]
2	Junior market	8,720 sf junior market	1450 Venice Bl	8.7	Ksf	1308	43	41	[1]
3	Shopping Center	57,640 sf shopping center	5837 Vermont Av	57.6	Ksf	5417	160	173	[1]
4	Apartment	179-unit apartment	1300 Figueroa St	179		1907	115	56	[1]
	Restaurant	8,000sf restaurant		8	Ksf	1907	86	42	[1]
5	Bilal Islamic Center	41,138sf religious institution	4016 Central Av	41.1	Ksf	398	56	47	[1]
6	Accessory Mart	32,533sf retail	10220 Main St	32.5	Ksf	827	29	38	[1]
		w/ 7,909sf storage		7.9	Ksf	827	37	37	[1]
7	Balasco Theatre	Variance to use existing theater to 33,423 sf entertain	1050 Hill St	33.4	Ksf	1220	164	164	[1]
8	Staples Entertainment District	3.5M sf(1800 rm hotel, 3600 seat cinema, 1000 seat theater, 345,000sf restaurant, 498,000sf retail, 165,000sf office, 800du apts)	Figueroa St	3500	Ksf		1881	1731	[1]
9	Food Market convenience store at gas station	5,990 sf a convenience market w/ 12 fueling stations	1570 Western Av	6.0	Ksf	605	21	21	[1]
10	LA Mart	Construct 215,000 sf building, 2 stories, adjacent to LA Mart for special wholesale trade events during weekends	1933 Broadway	215	Ksf	968	94	19	[1]
11	LA County Office Park	Construct 447,500 sf office park, w/child care center & 1,690 parking spaces	Slauson Av	447.5	Ksf	3931	73	451	[1]
12	Quality Restaurant & nightclub	Construct 7,142 sf quality restaurant and nightclub in existing office bldg w/18 on-site & 100 off-site parking space	605 Olympic Bl	7.1	Ksf	630	19	21	[1]
13	Medical Center/Clinic	Construct 6-story 31,655 sf clinic w/off site parking space	1530 Olive St	31.7	Ksf	1143	49	49	[1]
14	Jefferson New Continuation High School	New Continuation High School	1921 South Maple Avenue	87	students	156	5	8	[2]
15	Central LA Area New High School	New High School	1500 W. Washington Boulevard	2142	students	3834	129	193	[2]
16	Jefferson New Primary Center	New Primary Center	3601 South Maple Avenue	344	students	329	41	48	[2]
17	Weemes Playground	Playground Expansion	1260 West 36th Place	0.6	acres	1	0	0	[2]
18	Manual Arts New Primary Center	New Primary Center	1017 W. 47th Street	380	students	363	45	53	[2]
19	Orthopaedic Hospital High School	New Magnet High School	300 West 23rd Street	762	students	1364	46	69	[2]
20	Jefferson New Elementary School	New Elementary School	899 East 42nd Place	831	students	799	99	117	[2]
21	Manual Arts New Elementary School	New Elementary School	3020 S. Catalina Street	804	students	773	96	113	[2]
22	South Central LA Area New High School	New High School	1921 South Maple Avenue	2112	students	3780	127	190	[2]

TABLE 5
TRIP GENERATION ESTIMATES FOR RELATED PROJECTS

No.	Project Name	Project Description	Project Location	Size	Units	Daily Trips	PM Peak Hour Trips		Source
							Inbound	Outbound	
23	Accelerated Charter School	Expansion and Reuse	116 East Martin Luther King Boulevard	797	students		61	99	[2]
24	Jefferson New Elementary School	New Elementary School	401 East 40th Place	919	students	885	110	129	[2]
25	Manual Arts New Elementary School	New Elementary School	700 State Drive	712	students	684	85	100	[2]
26	Central LA Area New Middle School	New Middle School	3500 South Hill Street	1512	students	2716	114	128	[2]
27	California Science Center Phase II & III Expansion	Museum expansion & addition	West & East side of California Science Center	165	Ksf	620	15	155	[2]
28	Science Museum School and Science Education Resource Center	Renovation and expansion	Northeast corner of Exposition Park	172	Ksf	1890	10	35	[2]
29	Exposition Park Intergenerational Community Center	Expansion and renovation	South of the Coliseum	6	Ksf	3117	162	246	[2]
30	Molecular Biology	Addition to the Science Complex	UCS Campus	135	Ksf	0	0	0	[2]
31	Tudor Hall	New addition	UCS Campus	105	Ksf	0	0	0	[2]
32	Events Center	New addition under study	USC Campus	10,000	Ksf	0	0	0	[2]
33	Natural History Museum	Renovation and expansion	North side of Exposition Park	491	ksf	1845	44	447	[2]
34	RETAIL - No Name yet	17200 Sq Feet of retail	West of Figueroa between 17th & 18th Street	17.2	Ksf	700	14	19	[2]
35	Transamerica (phase II)	2,006,000 Sq Ft of Office	11th Street & Hope Street	2006	Ksf	13277	404	1663	[2]
		100 Apartments		100	du	734	49	24	[2]
36	CIM Group	50,000 Sq Feet Supermarket	9th Street & Flower	50	Ksf	5576	126	121	[2]
		1,021 Apartments		1021 du	du	6254	325	160	[2]
		66,700 retail and restaurants		66.7	Ksf	2713	56	74	[2]
37	Light Industrial	700 employee light Industry	San Pedro & Pico	700	employees	2096	54	204	[2]
	TOTAL					77232	5082	7320	

Sources:
[1] Trip generation data obtained from the LADOT related project database (City of Los Angeles Planning Department, CRA, LAUSD)
[2] Christopher A. Joseph & Associates, 2003

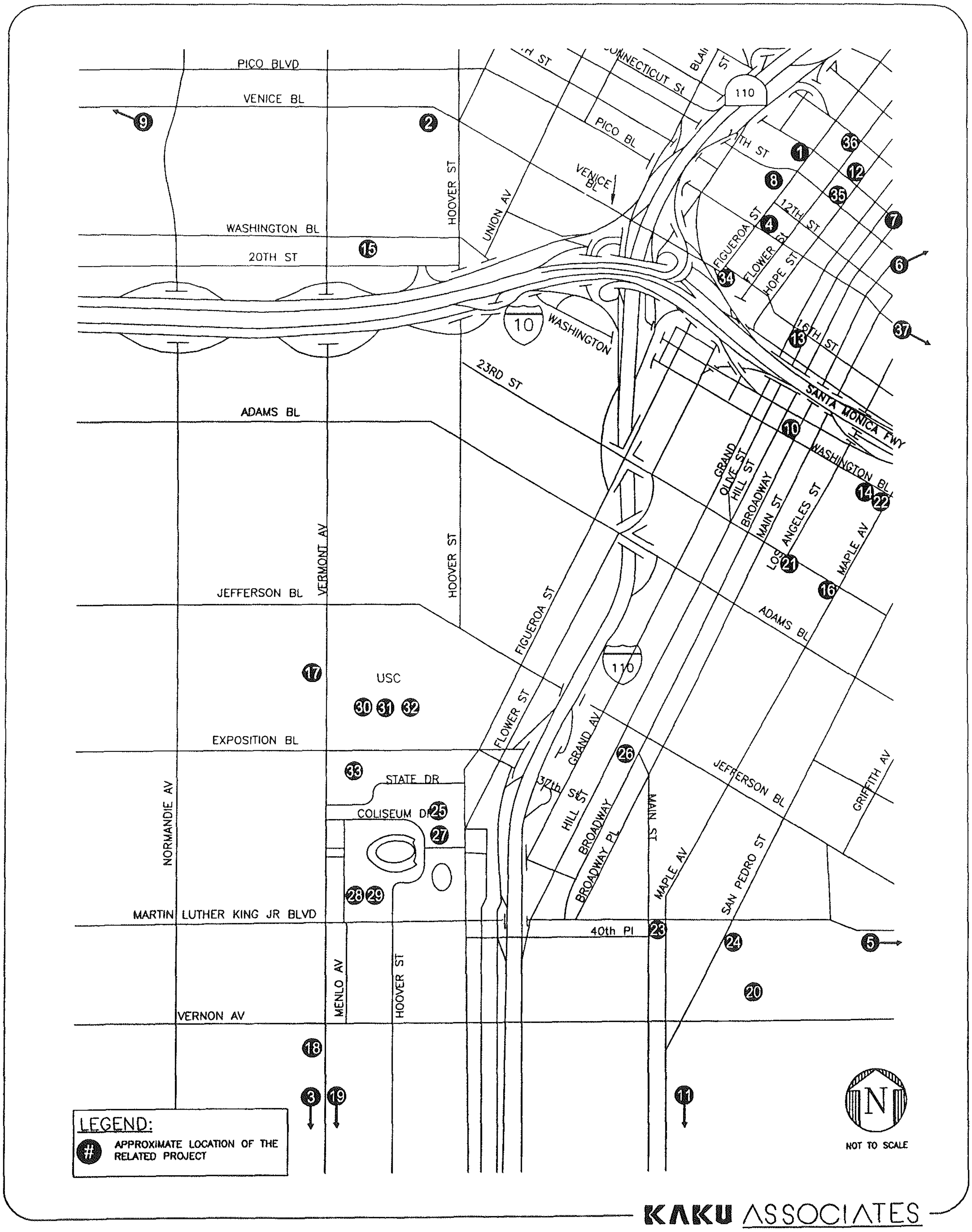

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FIGURE 5
CUMULATIVE DEVELOPMENT PROJECTS

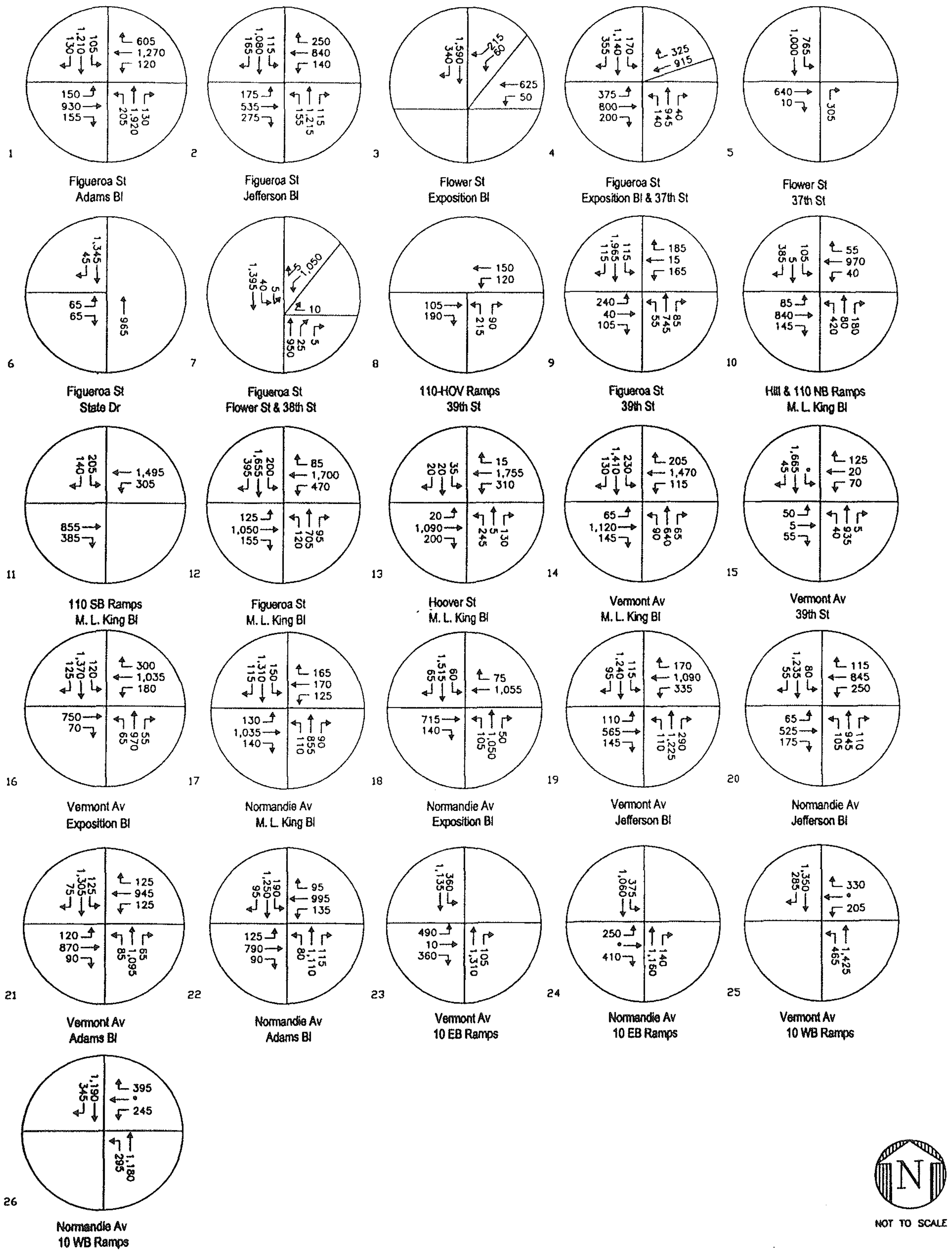

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FIGURE 6
CUMULATIVE BASE WEEKDAY TRAFFIC VOLUMES

Average Vehicle Occupancy (AVO) and Project Traffic Generation

The Los Angeles Memorial Coliseum currently occupies the proposed project site. USC College football games are currently held at the Coliseum on weekends where the attendance has been as much as 87,944 persons. The Coliseum also hosts other events such as concerts, soccer and special events. The current capacity of the Stadium is 92,500 persons. The Proposed Project would redevelop the Coliseum with a maximum seating capacity of 78,000 seats. Vehicular access to the site would remain unchanged. Assuming a sold out event, an NFL game at the redeveloped Coliseum would result in a maximum attendance of approximately 14,500 fewer persons at any one event as compared to existing conditions.

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 project. It was decided that a detailed analysis of the 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 Los Angeles 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 6. 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.

TABLE 6
AVERAGE VEHICLE OCCUPANCY BASED ON HISTORICAL COLISEUM DATA

EVENT	AVERAGE ATTENDANCE	ARRIVING VIA AUTOMOBILE	AVERAGE PARKING DEMAND	AVERAGE VEHICLE OCCUPANCY
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: "Los Angeles Memorial Coliseum Renovation Project", DKS Associates, 1991.

For the purpose of trip generation analysis for the LA Coliseum, the average vehicle occupancy 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 Los Angeles Department of Transportation, it can be assumed that approximately 5% of patrons arrive at the Coliseum by transit and 95% arrive by automobile. Therefore, the 78,000 seats 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% 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:

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

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

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 6:

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 (I-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 7 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. It is also worthwhile noting that vehicles may opt to use private parking lots in the area if they fail to find parking in the lots used by the Coliseum/USC.

Figure 8 illustrates parking entrances and restrictions that are applied during weekend game days for the USC Trojans. 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 9.

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 10, represent future conditions with project traffic.

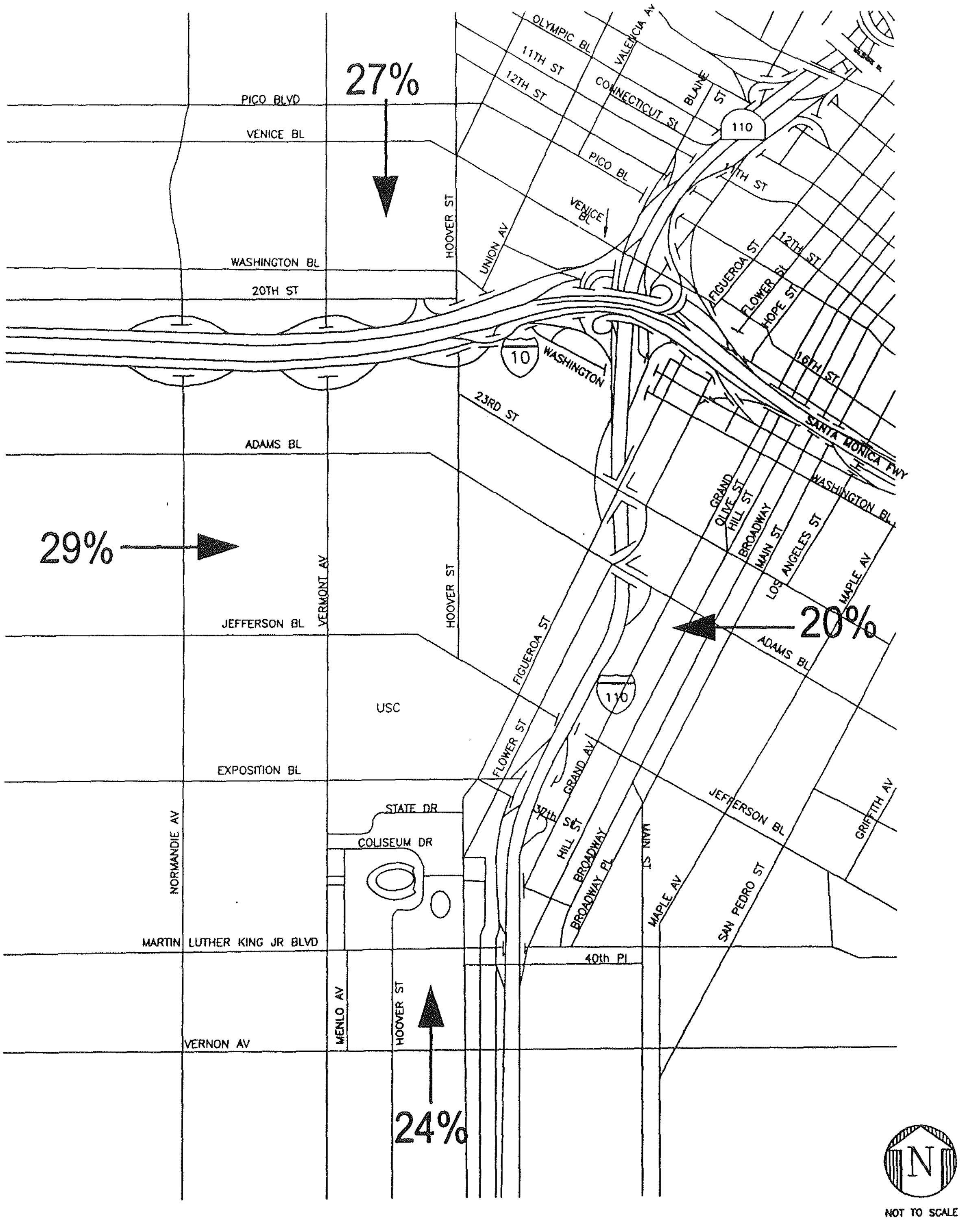

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FIGURE 7
PROJECT TRAFFIC DISTRIBUTION

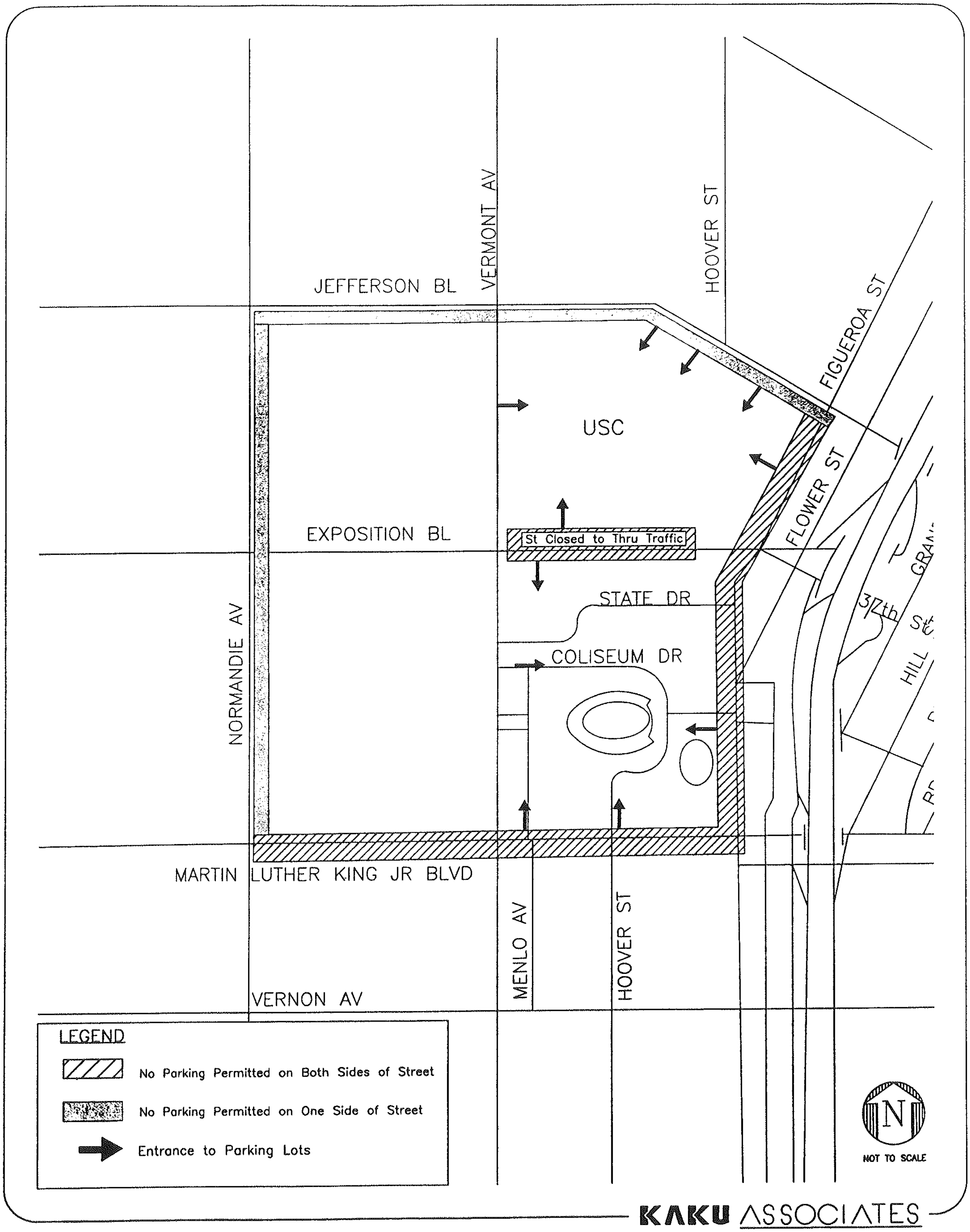

FIGURE 8
PRE-EVENT TURN PROHIBITIONS AND PARKING RESTRICTIONS

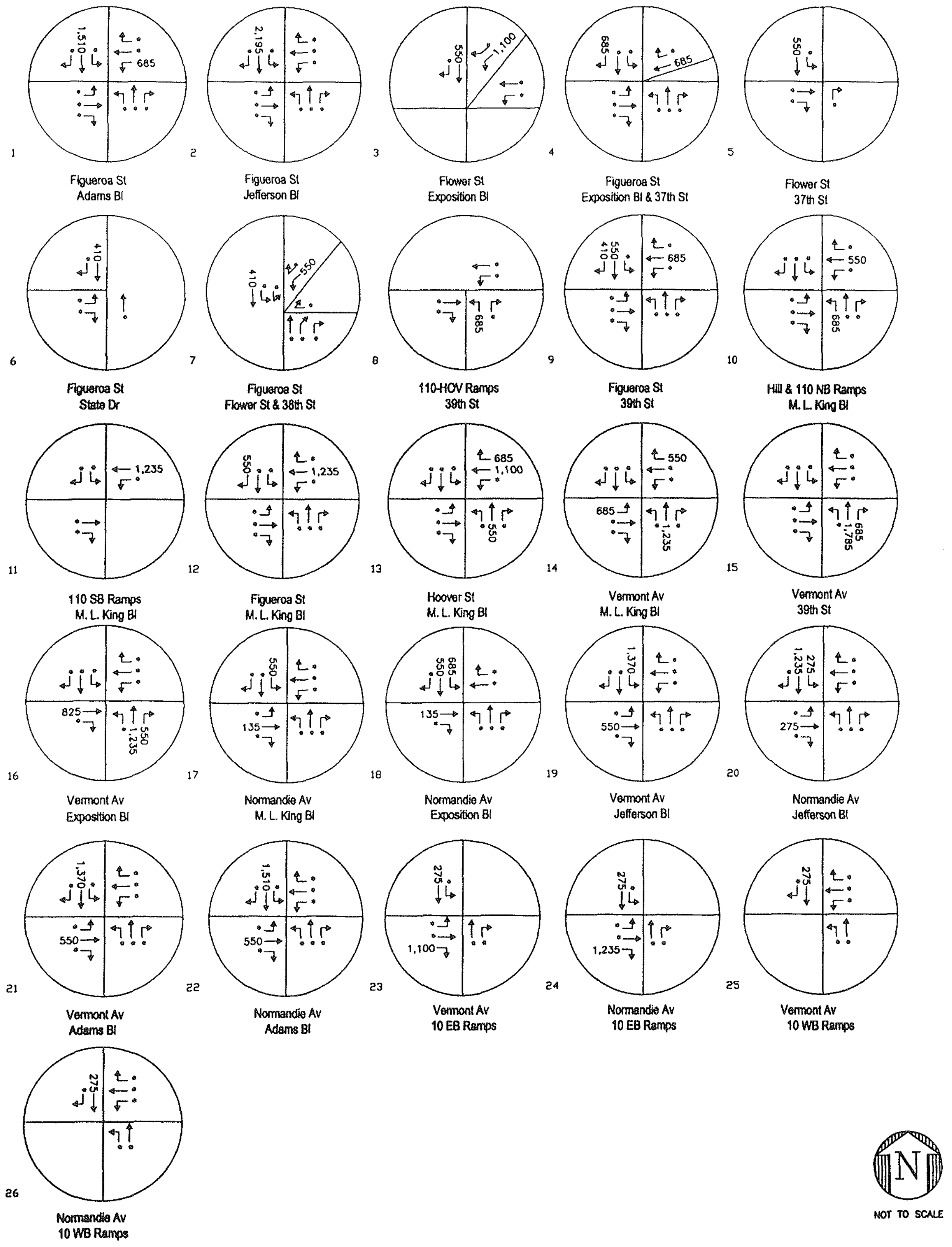

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FIGURE 9
PROJECT ONLY WEEKDAY TRAFFIC VOLUMES

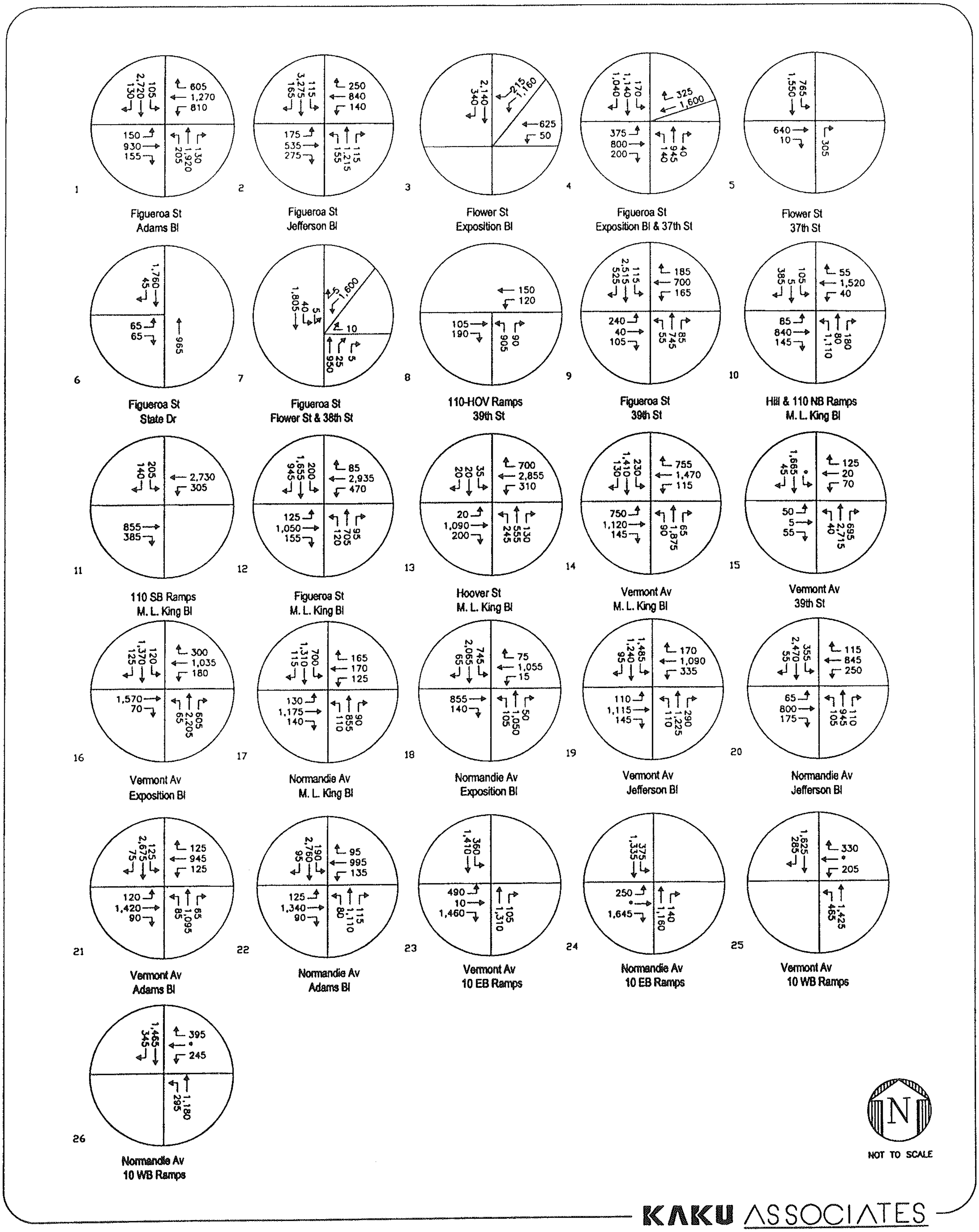

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FIGURE 10
CUMULATIVE BASE PLUS PROJECT WEEKDAY TRAFFIC VOLUMES

IV. TRAFFIC IMPACT ANALYSIS

This chapter presents an analysis of the potential impacts of the proposed project traffic on the local street system for both the weekend and weekday scenarios. The analysis compares the projected levels of service at each study intersection under with and without project conditions to determine the potential impacts, using significance criteria established by the LADOT.

SIGNIFICANT TRAFFIC IMPACT CRITERIA

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 following conditions are met:

Intersection Condition with Project Traffic		**Project Related Increase in V/C Ratio**
LOS	**V/C Ratio**	
C	0.701 - 0.800	Equal to or greater than 0.040
D	0.801 - 0.900	Equal to or greater than 0.020
E, F	> 0.900	Equal to or greater than 0.010

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.

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 this scenario demonstrates the traffic impacts associated with a Coliseum event with a recorded attendance of 87,944 persons. This represents a conservative future weekend conditions with project scenario, as the Proposed Project would redevelop the Coliseum with a maximum seating capacity of 78,000 seats (14,500 fewer seats than what currently exists).

Pre-Event Scenario

Table 7 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 with the USC Trojans game, 23 out of the 26 intersections work at LOS D or better pre event. Two intersections work at LOS E (I-110 northbound ramps/Hill & Martin Luther King Jr. Boulevard and Normandie Avenue & I-10 eastbound ramps).

Application of the significance criteria, previously described in this chapter, indicates that the project would create significant traffic impacts at the following eight study intersections:

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

TABLE 7
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		
1. Figueroa St & Adams Bl	PM	0.112	A	0.834	D	0.722	YES
2. Figueroa St & Jefferson Bl	PM	0.411	A	0.668	B	0.257	NO
3. Flower St & Exposition Bl	PM	0.326	A	0.432	A	0.106	NO
4. Figueroa St & Exposition Bl	PM	0.798	C	0.744	C	-0.054	NO
5. Flower St & 37th St	PM	0.274	A	0.316	A	0.042	NO
6. Figueroa St & State Dr	PM	0.174	A	0.331	A	0.157	NO
7. Figueroa St & 38th St	PM	0.359	A	0.477	A	0.118	NO
8. I-110 HOV Ramps & 39th St	PM	0.286	A	0.328	A	0.042	NO
9. Figueroa St & 39th St	PM	0.362	A	0.385	A	0.023	NO
10. I-110 NB Ramps/Hill & M.L.King Jr. Bl	PM	0.672	B	0.907	E	0.235	YES
11. I-110 SB Ramps & M.L.King Jr. Bl	PM	0.302	A	0.351	A	0.049	NO
12. Figueroa St & M.L.King Jr. Bl	PM	0.449	A	0.594	A	0.145	NO
13. Hoover St & M.L.King Jr. Bl	PM	0.386	A	0.333	A	-0.053	NO
14. Vermont Av & M.L.King Jr. Bl	PM	0.699	B	0.672	B	-0.027	NO
15. Vermont Av & 39th St	PM	0.494	A	0.551	A	0.057	NO
16. Vermont Av & Exposition Bl	PM	0.479	A	0.591	A	0.112	NO
17. Normandie Av & M.L.King Jr. Bl	PM	0.631	B	0.612	B	-0.019	NO
18. Normandie Av & Exposition Bl	PM	0.579	A	0.642	B	0.063	NO
19. Vermont Av & Jefferson Bl	PM	0.739	C	0.894	D	0.155	YES
20. Normandie Av & Jefferson Bl	PM	0.726	C	0.795	C	0.069	YES
21. Vermont Av & Adams Bl	PM	0.818	D	1.01	F	0.192	YES
22. Normandie Av & Adams Bl	PM	0.763	C	0.862	D	0.099	YES
23. Vermont Av & I-10 EB Ramps	PM	0.762	C	0.797	C	0.035	NO
24. Normandie Av & I-10 EB Ramps	PM	0.711	C	0.970	E	0.259	YES
25. Vermont Av & I-10 WB Ramps	PM	0.651	B	0.74	C	0.089	YES
26. Normandie Av & I-10 WB Ramps	PM	0.738	C	0.723	C	-0.015	NO

Post-Event Scenario

Table 8 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 the USC College football game. The with-project scenario effectively takes traffic counts for the worst hour after the game (between 6:30 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 operate at LOS D or better after the game. One intersection operates at LOS F, that of Vermont Avenue and Adams Boulevard.

Application of the significance criteria, previously described in this chapter, indicates that the project would create significant traffic impacts at the following six study intersections

- I-110 NB Ramps/Hill Street & Martin Luther King Jr. Boulevard
- Vermont Avenue & Jefferson Boulevard
- Normandie Avenue & Jefferson Boulevard
- Vermont Avenue & Adams Boulevard
- Normandie Avenue & Adams Boulevard
- Vermont Avenue & 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 6, were analyzed to determine the V/C ratio and corresponding LOS for each of the analyzed intersections under these base conditions. Table 9 summarizes these results for the pre-event hour weekday night

TABLE 8
POST-EVENT INTERSECTION LEVEL OF SERVICE ANALYSIS - WEEKEND CONDITIONS

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

scenario. As indicated in Table 9, 19 of the 26 analyzed intersections are projected to operate at LOS D or better during the pre-event peak hour. Five of the remaining intersections operate at LOS E and two operate at LOS F.

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 7% 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 an weekday NFL football game at the Coliseum. These results are also displayed in Table 9.

As indicated in the table, traffic generated by the project results 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 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 & 39th Street
- Figueroa Street and 39th Street/Coliseum Drive
- I-110 Northbound Ramps/Hill Street and Martin Luther King Junior Boulevard
- Figueroa Street and Martin Luther King Junior Boulevard
- Hoover Street and Martin Luther King Junior Boulevard
- Vermont Avenue and Martin Luther King Junior Boulevard
- Vermont Avenue and 39th Street
- Vermont Avenue and Exposition Boulevard

TABLE 9
WEEKDAY INTERSECTION LEVEL OF SERVICE ANALYSIS
CUMULATIVE BASE AND CUMULATIVE PLUS PROJECT CONDITIONS

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

- Normandie Avenue and Martin Luther King Junior 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 assignment of vehicle trips to the Coliseum revolved around a mode split of 5% transit and an AVO of 2.70, which are conservative estimates. If these 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 to a satisfactory level.

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.

MITIGATION MEASURES

In analyzing the two different scenarios of weekend and weekday games, it was concluded that the weekday games presented the worst traffic conditions of the two. This was due to heavy background flows associated with the p.m. peak hour in Los Angeles.

The weekend traffic analysis considered that the Coliseum played host to the football game of USC Trojans versus Notre Dame. This event had a patronage of 87,944 persons approximately 9,944 persons greater than the maximum, proposed capacity for an NFL game. LADOT has already applied traffic management measures to cope with the demand associated with the weekend USC games and this is reflected in the weekend results. Therefore, these mitigation measures cope well with traffic issues that can be considered far in excess of those an NFL game would present. Figure 11 displays the turn prohibitions used by LADOT on game days

The worst-case scenario for traffic volumes on the roads surrounding the Coliseum would occur occasionally each year on either a Monday or Thursday evening, when the Coliseum would host an NFL football game. The experience from NFL weekday games elsewhere is that the pre-event hour carries around 50% of the inbound traffic to the stadium; hence, that time frame (in this case 5:00 to 6:00 p.m.) contains the most concentrated traffic volumes. As this type of event is occasional throughout the year, permanent physical mitigation was considered inappropriate and thus the approach chosen was that of incident management similar to that used for the weekend games.

The occasional increase in congestion that may result from an NFL weekday game will require mitigation through the implementation of improved traffic management. Los Angeles Police Department (LAPD) personnel and traffic control officers will be required, in the future, to provide the sufficient level of traffic management needed by such an event. Although there is currently a management plan in place for weekend USC football games, there are elements of this new plan that will enhance the existing weekend management.

In order to mitigate the impacts of the occasional weekday NFL game at the Coliseum, the sponsors of the proposed project will collaborate with LADOT, LAPD, California Department of Transportation, and California Highway Patrol on implementation of an incident traffic management plan.

The management plan consists of numerous mitigation measures designed to help manage traffic and minimize the impact in areas surrounding the Coliseum. The areas where most of the significant impacts occur are along the routes that provide access to the parking lots at the Coliseum and USC:

- Figueroa Street
- Martin Luther King Junior Boulevard
- Vermont Avenue
- Normandie Avenue

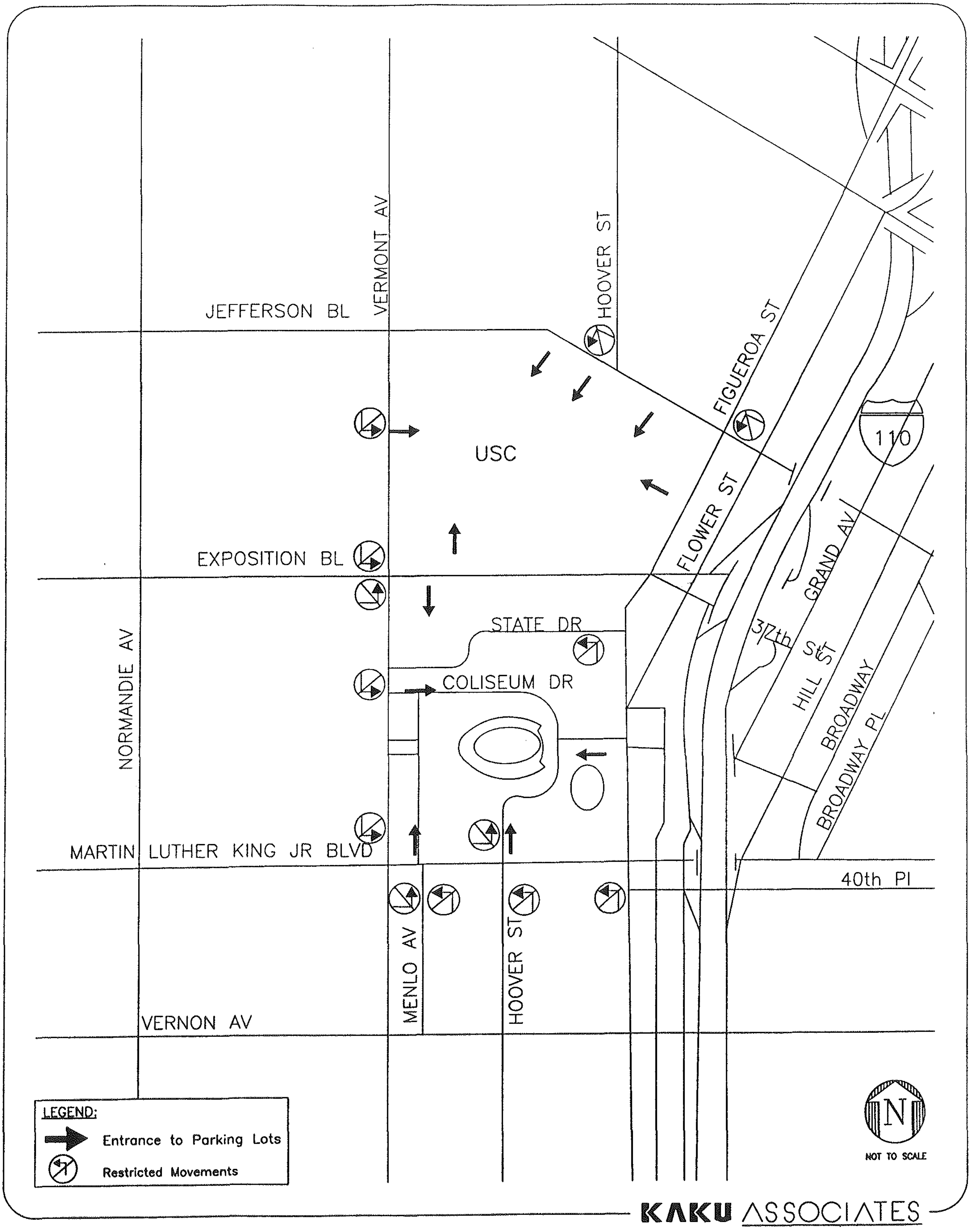


FIGURE 11
PRE EVENT TURN PROHIBITIONS

- Jefferson Boulevard
- Adams Boulevard
- Exposition Boulevard

From 5:00 to 6:00 p.m. the majority of these streets will be very heavily congested, with many intersections operating at LOS F. A series of measures must be put into effect to counteract the increased traffic volume and mitigate the significant impacts. Los Angeles Police and LADOT Traffic Officers will need to be on hand to help implement the management plan. The following steps describe the procedures that are utilized at present or would need to be added or expanded:

1. To facilitate movement of vehicles, the LAPD and LADOT staff must have the authority to implement turn restrictions, parking prohibitions, lane closures, barriers/cones, and flexible signage. A temporary command post shall be made available on the site to control and monitor traffic conditions. The area must 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. The parking lots currently represent a problematic situation. The access to lots in the Coliseum and USC is very slow. Two factors directly attributable to this are the location of driveways and the management of the parking. This can be resolved by having electronic ticketing to replace parking guards at problem area lots and traffic signs on adjacent Coliseum streets that indicate which lots have spaces available. Coupled with this would be further education on directions from the freeways/arterials to the parking lots. This type of education could be in the form of an advance warning to ticket holders (i.e., on the rear of the ticket stubs). 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) are needed. These are portable units and could be located wherever LADOT deems appropriate. These units are particularly useful for incident management and special events such as football games. The units also require very little set up time by trained officers. They can be programmed remotely via cellular telephones, and traditionally have a range of 3-5 miles on an am frequency. Coliseum employees could be trained and authorized to staff the HAR.

4. In conjunction with the aforementioned measures, Changeable Message Signs (CMS) can 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. The signs/messages could consist of advance warning for motorists telling them where they can and cannot park/turn. Whenever permit parking is being used, the signs should be able to inform the public that certain lanes should be avoided and some lots only allow permits. This will cut down unnecessary congestion and queuing.

5. As part of the game day signage, the CMS could be augmented with the addition of favored routes that direct traffic along travel paths that are not immediately obvious. These routes could be designed and linked by colored arrows that direct drivers to specific locations. Temporary signing would indicate these routes. The routes could provide alternate parking locations such as the lesser-utilized USC lots and any designated overspill parking facilities.

6. The Coliseum, the Sports Arena, museums and Exposition Park uses, and other organizations must work in harmony to ensure that large, publicly attended events are not overlapping, thus minimizing possible traffic conflicts.

7. There is also a need to encourage the use of carpools on game days. These measures must be incentivized either by reducing the cost of parking or through ticket pricing. This will have the effect of reducing overall vehicle trips.

8. Encourage the use of alternate parking sites located away from the Coliseum. These could be in downtown Los Angeles where parking capacity is freed up by 5 p.m. or at a location close to the Coliseum. There are also 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 be utilized to cope with the demand for the football game at the Coliseum. Shuttle buses that have specific pick-up and drop-off locations, such as in front of the Peristyle, where there is enough room for buses to circulate and load passengers, could provide access to the stadium. This also limits the pedestrian conflict with vehicles as the pedestrians wait in a designated area away from traffic.

9. In conjunction with the mitigation measures above, Figure 11 shows the pre-event turn prohibitions that are recommend for application in either the weekday or weekend scenarios. These are the restrictions currently applied by LADOT for USC weekend football games.

These are a series of suggested mitigation measures that must be used together to combat the significant traffic impacts generated by the project traffic. They are designed to work together to have the maximum effect on the highway network around the Coliseum study area.

FUTURE RAIL TRANSIT

The Exposition Line rail line is a rail transit service that is under the jurisdiction of the MTA (Metropolitan Transportation Authority). The first section of light rail to Venice Boulevard/Robertson Boulevard has been approved for development. As of this date full funding has 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 track with the Metro Blue Line and connect with the full Los Angeles metrorail network. It will run by the Staples Center, the Convention Center and on to Los Angeles Trade Tech College. Following this it will proceed to Exposition Park (Coliseum) and the University of Southern California. The benefits that it could provide are numerous. It could allow for easy access to the Coliseum and help drivers utilize parking away from the stadium area. It may also have the effect of increasing the transit mode share, thus relieving the parking demand.

V. CMP REGIONAL ANALYSIS

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 project will add 150 or more trips, in either direction, during either the weekday a.m. or p.m. peak hours.

CMP SIGNIFICANT TRAFFIC IMPACT CRITERIA

The LACMTA has established its CMP TIA significance criteria indicating that a significant impact occurs when the proposed project's traffic increases demand at a CMP freeway facility or arterial monitoring location by 2% of capacity (i.e., V/C increase > or equal to 0.02), causing the location to operate at LOS F (V/C > 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.

WEEKDAY PM CMP FREEWAY ANALYSIS

Based on the threshold criteria of the CMP, it was determined that the following CMP monitoring locations needed to be included. In accordance with the CMP TIA requirements, the freeway monitoring station I-10 freeway at Budlong Avenue meets the criteria for analysis. In addition, the

I-110 freeway monitoring station at Slauson Avenue also meets the CMP TIA requirements for analysis. There are no arterial monitoring stations in close proximity to the project site.

The significant impact criteria established by the CMP provides that a project would generate significant regional impacts if the projected level of service is LOS F and the increase in V/C ratio caused by the project traffic is equal to or more than 0.02. Table 10 presents the CMP analysis for the analyzed CMP freeway monitoring station. As shown in Table 10 the proposed project would significantly impact both of the CMP monitoring stations on the I-10 and the I-110.

Proposed CMP Mitigation Measures

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 in Chapter IV 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 (see point 2) 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. Effectively encouraging better route choice amongst attendees (see point 4).

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.

TABLE 10
CMP FREEWAY LEVEL OF SERVICE ANALYSIS - WEEKDAY PM PRE EVENT HOUR

Freeway Route	Location	Direction	Existing Year 2003			
			Demand	Capacity	D/C	LOS
I-10	Budlong Avenue	EB	18,615	12,500	1.49	F(3)
		WB	17,340	12,500	1.39	F(2)
I-110	Slausson Avenue	NB	8,242	8,000	1.03	F(0)
		SB	11,914	8,000	1.49	F(3)

Continued..

Freeway Route	Location	Direction	Cumulative Base Conditions 2006				Cumulative Base + Project Conditions 2006				PROJECT NCREASE IN D/C	SIGNIFICANT PROJECT IMPACT
			Demand	Capacity	D/C	LOS	Demand	Capacity	D/C	LOS		
I-10	Budlong Avenue	EB	19,546	12,500	1.56	F(3)	21193	12,500	1.70	F(3)	0.13	YES
		WB	18,207	12,500	1.46	F(3)	18207	12,500	1.46	F(3)	0.00	NO
I-110	Slausson Avenue	NB	8,654	8,000	1.08	F(0)	9615	8,000	1.20	F(0)	0.12	YES
		SB	12,509	8,000	1.56	F(3)	12509	8,000	1.56	F(3)	0.00	NO

Notes:

Source: "2002 Congestion Management Program for Los Angeles County", Metropolitan Transportation Authority, June 2002

Freeway mainline Levels of Service are based on the Demand to Capacity scale below:

D/C Ratio	LOS
0.000 - 0.350	A
0.351 - 0.540	B
0.541 - 0.770	C
0.771 - 0.930	D
0.931 - 1.000	E
1.001 - 1.250	F(0)
1.251 - 1.350	F(1)
1.351 - 1.450	F(2)
> 1.450	F(3)

VI. PARKING ANALYSIS

In the same way that the proposed project and its reduced seating capacity will reduce maximum potential traffic generation for most events, the project will also reduce parking demands. The basis for this statement concerns that fact that the capacity for Coliseum football games is currently at 92,500 persons. The Proposed Project would redevelop the Coiliseum to provide a maximum of 78,000 seats, a reduction of 14,500 seats, which is a large reduction in terms of overall capacity. The project will also reduce the maximum parking demands, as there will be a decrease in vehicles traveling on game days.

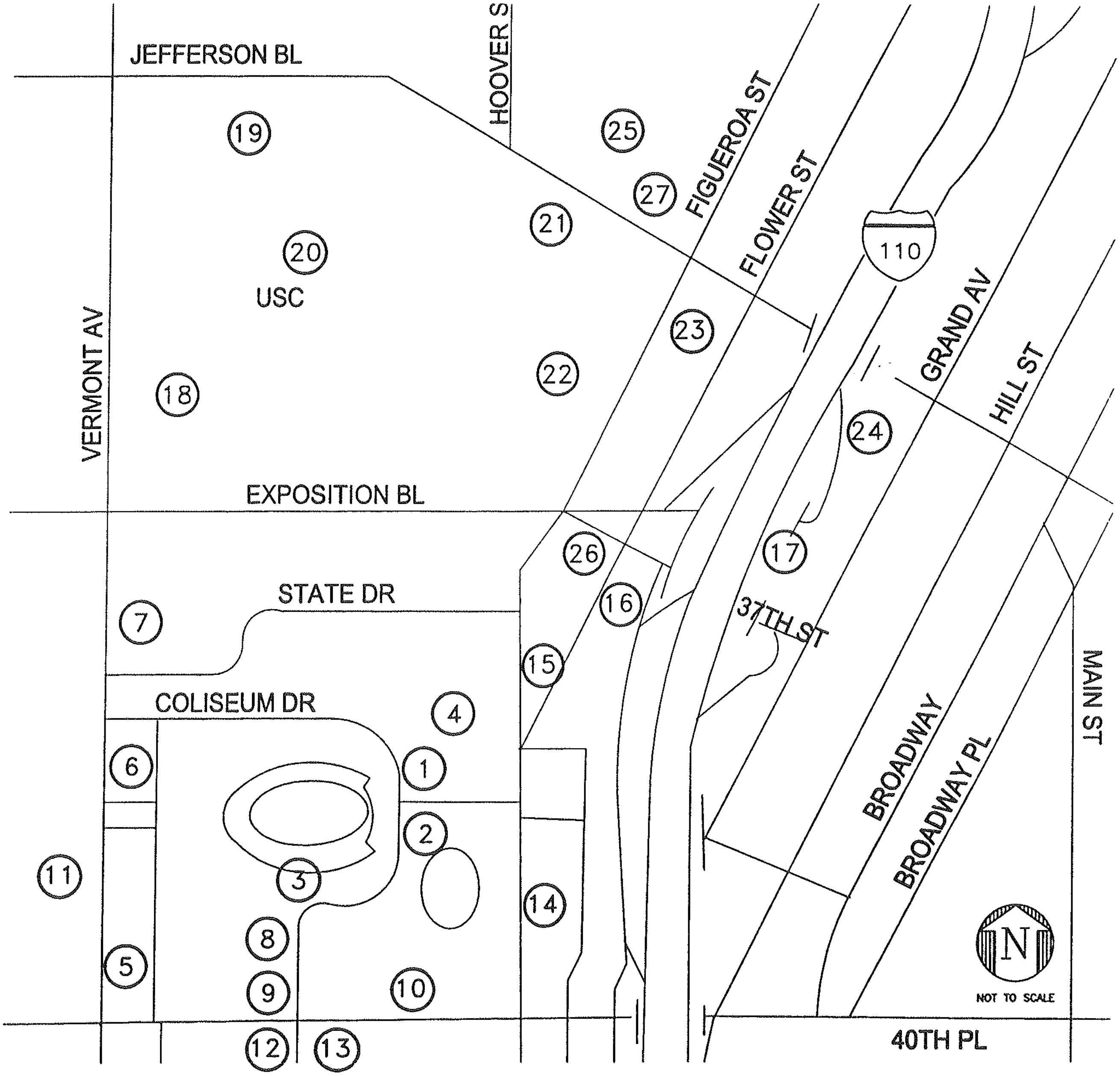
The proposed renovation project does not include any changes to existing parking facilities at the Coliseum, at Exposition Park, or on the USC Campus. Figure 12 depicts the supply of off-street parking available for spectators at events in the Coliseum. The total number of existing parking spaces in the Coliseum-Exposition Park-University Park (USC) combined campus is 19,820.

Compared with USC football games and concerts held at the Coliseum, the impact of the reduced seating capacity at the Coliseum for NFL games could be a reduction in the demand for off-site parking, on-street parking in residential areas or in off-street small private lots, as well as a reduction in the amount of congestion associated with people searching for parking when the preferred close-in parking at Exposition Park is full.

In addition to all the existing parking around the Coliseum, the museum is adding a subterranean parking structure (see location 4 on Figure 12). This structure is due for completion by 2004 and is currently under construction at an advanced stage. It will have a final capacity of 2,210 vehicles. It is not anticipated that there would be any change in the operation policy of museum parking. On game days, 50 of the aforementioned 2,210 spaces will be reserved for Museum Foundation members. Therefore, the Coliseum project will not cause an impact on museum parking different from the current situation. Table 11 illustrates typical maximum parking demands for three types of events and the amount of parking demand that will not be satisfied on-site at the Coliseum, Exposition Park, and USC facilities.

①	North Coliseum Drive	250 Spaces*
②	South Coliseum Drive	210 Spaces
③	Coliseum Service Lot	60 Spaces
④	California Science Center Garage	2,160 Spaces*
⑤	Lot 1, 1A, 1B	930 Spaces*
⑥	Lot 2	880 Spaces
⑦	Lot 3	950 Spaces
⑧	Lot 4	450 Spaces
⑨	Lot 5 - Surface	350 Spaces
⑩	Lot 6 - Surface	1,100 Spaces
⑪	County	180 Spaces
⑫	Private	120 Spaces
⑬	Private	110 Spaces
⑭	Private	300 Spaces
⑮	Private	200 Spaces
⑯	Private	150 Spaces
⑰	DMV	250 Spaces
⑱	USC - A	1,700 Spaces
⑲	USC - B	1,150 Spaces
⑳	USC- Surface	2,000 Spaces
㉑	USC - D	1,350 Spaces
㉒	USC - X	1,050 Spaces
㉓	USC - T	600 Spaces
㉔	USC Parking Center	1,800 Spaces
㉕	Shrine Auditorium	1,000 Spaces
㉖	USC - C	200 Spaces
㉗	Private	320 Spaces

* - Construction zone at the time of survey



KAKU ASSOCIATES

FIGURE 12
PARKING INVENTORY

TABLE 11
PARKING DEMAND SUMMARY

EVENT	MAXIMUM ATTENDANCE	MAXIMUM PARKING DEMAND (typical)	PARKING SUPPLY AT EXPOSITION PARK & USC (see note)	MAXIMUM OVERFLOW FROM EXPOSITION PARK & USC	PERCENTAGE OF DEMAND SATIFIED BY INVENTORY
NFL Game	78,000	25,200	19,820	5,380	79%
USC Game	78,000	25,200	19,820	5,380	79%
Concert	92,500	27,407	19,820	7,587	72%

<u>Note</u>

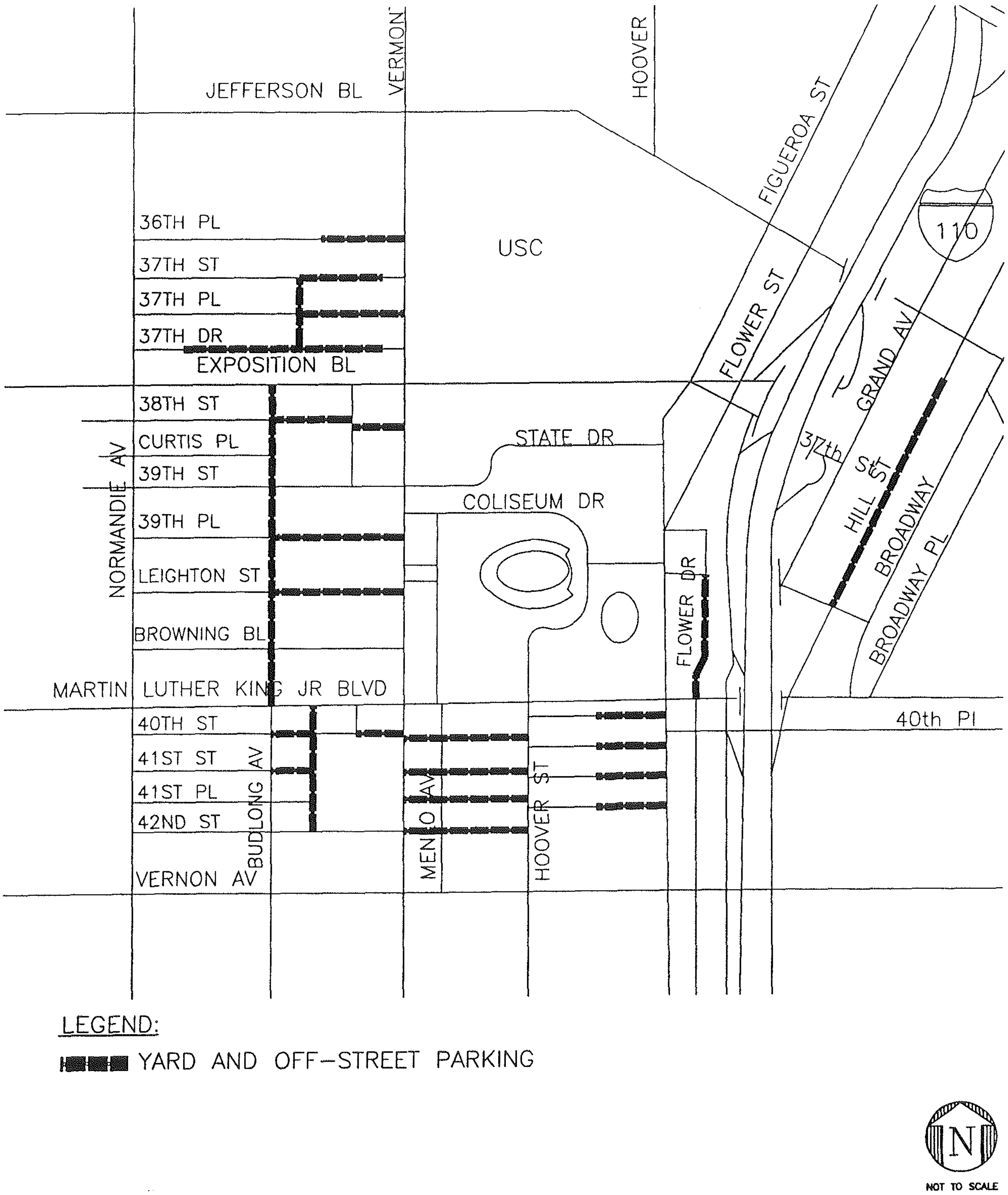
Parking supply based on the inventory in Figure 12

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. For the larger-attendance USC games and concerts, the parking shortfall is greater than that for an NFL game by 1,270 spaces and 3,477 spaces, respectively, at sold out events.

The full complement of non-Coliseum controlled lots may not be available for weekday parking by game time. On game days, these lots may not be completely empty. This could mean that employees of USC and the museum may still be using their spaces as they are at work. Visitors to the surrounding land uses may also be utilizing some of the parking capacity.

This analysis does not mean to indicate that, just as at present, spectators will not still choose to park on-street in residential neighborhoods or in the small private yards/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 or free will continue to do so. There is also a variable amount of on-street parking and, as a matter of choice, some parkers will always park in residential areas. 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 13 has been compiled to show the potential areas where yard and lot parking exists in relation to the project site.

In addition to the parking supplied by the Coliseum, USC and the Museum 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 the football game at the Coliseum. Shuttle buses that have specific pick-up and drop-off locations, such as in front of the Peristyle, where there is enough room for buses to circulate and load passengers, could provide access to the stadium.



KAKU ASSOCIATES

FIGURE 13

LOCATION FOR YARD AND OFF-STREET PARKING

VII. CONCLUSIONS

This study of traffic and parking for the NFL stadium at the Coliseum has concluded the following:

- Under observed weekend conditions, Coliseum traffic just prior to or following a football game at the Coliseum causes as many as three of the 26 analyzed intersections to operate at level of service (LOS) E or F.

- Under weekday early evening peak hour conditions, without Coliseum traffic but with events at Staples Center and the LA Convention Center, as many as seven of the 26 intersections analyzed operate at LOS E or F.

- For the occasional occurrence of a weekday NFL game, adding projected Coliseum traffic to the weekday early evening peak-hour conditions causes as many as 21 of 26 intersections analyzed to operate at LOS E or F. At 23 of the 26 intersections, project traffic would create a significant impact.

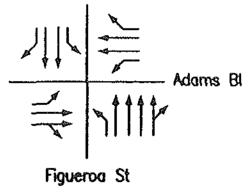
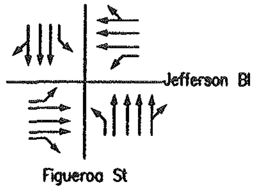
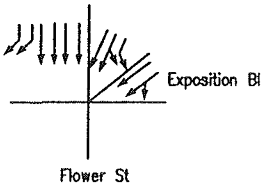
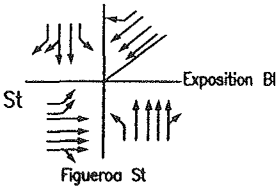
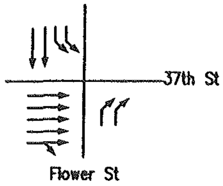
- For the occasional weekday event, a collaborative traffic management plan is proposed for implementation by the project sponsor, LADOT, LAPD, Caltrans and CHP. This plan would enhance the traffic management currently employed for weekend events at the Coliseum.

- The existing inventory of 19,820 parking spaces in the Coliseum - Exposition Park-USC campus, would satisfy 79% of the maximum demand for parking for an NFL or USC game compared to 72% of demand for a typical concert at the Coliseum.

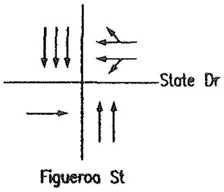
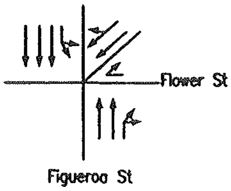
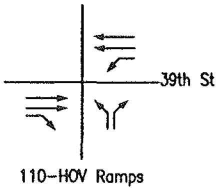
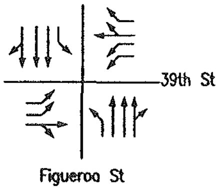
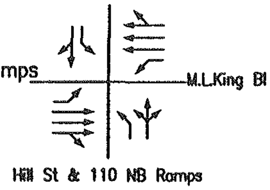
APPENDIX A

INTERSECTION LANE CONFIGURATIONS

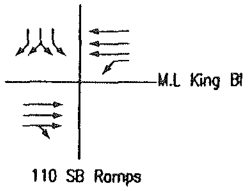
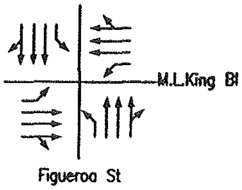
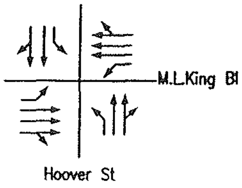
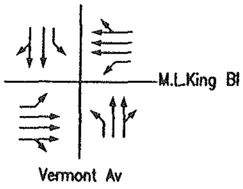
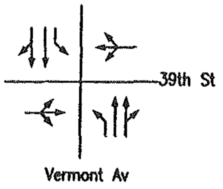
INTERSECTION LANE CONFIGURATIONS

	Existing (2002) Conditions	Cumulative Base	Project Mitigation
1. Figueroa St & Adams Bl		SAME AS EXISTING	SAME AS EXISTING
2. Figueroa St & Jefferson Bl		SAME AS EXISTING	SAME AS EXISTING
3. Flower St & Exposition Bl		SAME AS EXISTING	SAME AS EXISTING
4. Figueroa St Exposition Bl & 37th St		SAME AS EXISTING	SAME AS EXISTING
5. Flower St & 37th St		SAME AS EXISTING	SAME AS EXISTING

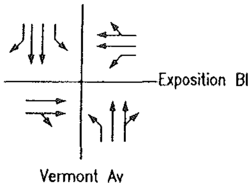
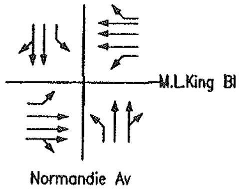
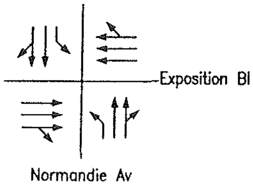
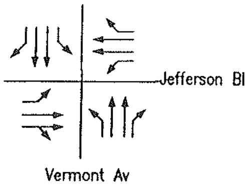
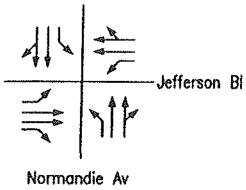
INTERSECTION LANE CONFIGURATIONS

	Existing (2002) Conditions	Cumulative Base	Project Mitigation
6. Figueroa St & State Dr		SAME AS EXISTING	SAME AS EXISTING
7. Figueroa St Flower St & 38th St		SAME AS EXISTING	SAME AS EXISTING
8. 110-HOV Ramps & 39th St		SAME AS EXISTING	SAME AS EXISTING
9. Figueroa St & 39th St		SAME AS EXISTING	SAME AS EXISTING
10. Hill St & 110 NB Ramps M.L.King Bl		SAME AS EXISTING	SAME AS EXISTING

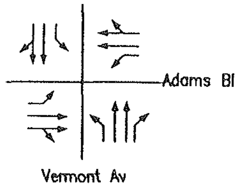
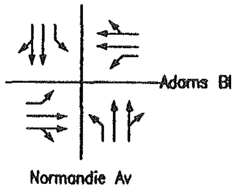
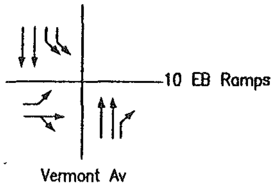
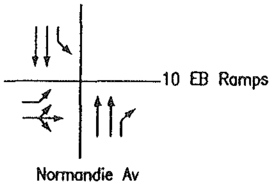
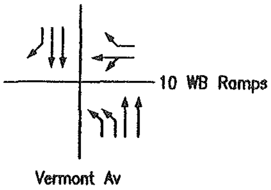
INTERSECTION LANE CONFIGURATIONS

	Existing (2002) Conditions	Cumulative Base	Project Mitigation
11. 110 SB Ramps & M.L.King Bl		SAME AS EXISTING	SAME AS EXISTING
12. Figueroa St & M.L.King Bl		SAME AS EXISTING	SAME AS EXISTING
13. Hoover St M.L.King Bl		SAME AS EXISTING	SAME AS EXISTING
14. Vermont Av & M.L.King Bl		SAME AS EXISTING	SAME AS EXISTING
15. Vermont Av & 39th St		SAME AS EXISTING	SAME AS EXISTING

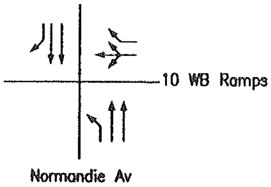
INTERSECTION LANE CONFIGURATIONS

	Existing (2002) Conditions	Cumulative Base	Project Mitigation
16. Vermont Av & Exposition Bl		SAME AS EXISTING	SAME AS EXISTING
17. Normandie Av & M.L.King Bl		SAME AS EXISTING	SAME AS EXISTING
18. Normandie Av & Exposition Bl		SAME AS EXISTING	SAME AS EXISTING
19. Vermont Av & Jefferson Bl		SAME AS EXISTING	SAME AS EXISTING
20. Normandie Av & Jefferson Bl		SAME AS EXISTING	SAME AS EXISTING

INTERSECTION LANE CONFIGURATIONS

	Existing (2002) Conditions	Cumulative Base	Project Mitigation
21. Vermont Av & Adams Bl		SAME AS EXISTING	SAME AS EXISTING
22. Normandie Av & Adams Bl		SAME AS EXISTING	SAME AS EXISTING
23. Vermont Av & 10 EB Ramps		SAME AS EXISTING	SAME AS EXISTING
24. Normadie Av & 10 EB Ramps		SAME AS EXISTING	SAME AS EXISTING
25. Vermont Av 10 WB Ramps		SAME AS EXISTING	SAME AS EXISTING

INTERSECTION LANE CONFIGURATIONS

	Existing (2002) Conditions	Cumulative Base	Project Mitigation
26. Normandie Av 10 WB Ramps		SAME AS EXISTING	SAME AS EXISTING

APPENDIX B

INTERSECTION TURNING MOVEMENTS

Weekend Count Data 2:00-5:00 p.m.

<< ACCUTEK >>
<< 21114 TRIGGER LANE >>
<< DIAMOND BAR, CA 91765 >>
<< (909) 595-6199 FAX: (909) 595-6022 >

CITY:
N/S:
E/W:
CLIENT:

File Name : 319601
Site Code : 00319601
Start Date : 11/30/2002
Page No : 1

Groups Printed- Turning Movement

	S.FIGUEROA ST.				ADAMS BLVD.				S.FIGUEROA ST.				ADAMS BLVD.				
	Southbound				Westbound				Northbound				Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
02:00 PM	39	265	18	322	56	177	71	304	13	167	49	229	40	111	21	172	1027
02:15 PM	52	269	19	340	50	211	66	327	13	160	42	215	55	137	21	213	1095
02:30 PM	50	265	31	346	78	173	84	335	23	186	36	245	53	125	18	196	1122
02:45 PM	41	276	32	349	68	162	78	308	25	136	38	199	57	129	19	205	1061
Total	182	1075	100	1357	252	723	299	1274	74	649	165	888	205	502	79	786	4305
03:00 PM	42	237	26	305	29	200	79	308	10	144	55	209	47	136	19	202	1024
03:15 PM	33	215	21	269	59	223	71	353	17	175	30	222	62	151	31	244	1088
03:30 PM	21	177	17	215	51	248	43	342	19	189	36	244	83	126	10	219	1020
03:45 PM	12	194	20	226	56	229	31	316	11	204	29	244	77	134	26	237	1023
Total	108	823	84	1015	195	900	224	1319	57	712	150	919	269	547	86	902	4155
04:00 PM	16	153	15	184	58	206	39	303	14	229	56	299	55	146	23	224	1010
04:15 PM	15	119	13	147	56	239	28	323	27	295	50	372	57	170	21	248	1090
04:30 PM	13	127	16	156	54	217	19	290	16	311	59	386	59	141	17	217	1049
04:45 PM	12	118	28	158	40	179	32	251	19	239	68	326	50	112	22	184	919
Total	56	517	72	645	208	841	118	1167	76	1074	233	1383	221	569	83	873	4068
*** BREAK ***																	
06:30 PM	16	87	14	117	60	119	24	203	15	142	30	187	24	68	11	103	610
06:45 PM	18	71	16	105	55	130	16	201	16	178	33	227	22	66	4	92	625
Total	34	158	30	222	115	249	40	404	31	320	63	414	46	134	15	195	1235
07:00 PM	11	71	10	92	62	121	18	201	15	138	20	173	36	51	14	101	567
07:15 PM	4	93	12	109	37	122	18	177	16	113	42	171	30	61	16	107	564
07:30 PM	4	60	17	81	27	109	20	156	15	102	33	150	28	59	11	98	485
07:45 PM	6	67	11	84	21	86	17	124	11	100	31	142	15	55	10	80	430
Total	25	291	50	366	147	438	73	658	57	453	126	636	109	226	51	386	2046
08:00 PM	2	89	6	97	22	106	24	152	17	120	39	176	21	48	18	87	512
08:15 PM	1	98	12	111	27	100	19	146	48	206	24	278	28	65	15	108	643
08:30 PM	4	85	14	103	34	91	26	151	58	325	58	441	22	105	29	156	851
08:45 PM	5	112	12	129	32	107	31	170	64	413	48	525	29	164	28	221	1045
Total	12	384	44	440	115	404	100	619	187	1064	169	1420	100	382	90	572	3051
09:00 PM	4	118	12	134	31	104	22	157	68	492	51	611	28	135	39	202	1104
09:15 PM	3	130	10	143	38	120	24	182	99	528	57	684	27	199	28	254	1263
Grand Total	424	3496	402	4322	1101	3779	900	5780	649	5292	1014	6955	1005	2694	471	4170	21227
Apprch %	9.8	80.9	9.3		19.0	65.4	15.6		9.3	76.1	14.6		24.1	64.6	11.3		
Total %	2.0	16.5	1.9	20.4	5.2	17.8	4.2	27.2	3.1	24.9	4.8	32.8	4.7	12.7	2.2	19.6	

	S.FIGUEROA ST.				ADAMS BLVD.				S.FIGUEROA ST.				ADAMS BLVD.				
	Southbound				Westbound				Northbound				Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 02:00 PM to 04:45 PM - Peak 1 of 1																	
Intersection	02:00 PM																
Volume	182	1075	100	1357	252	723	299	1274	74	649	165	888	205	502	79	786	4305
Percent	13.4	79.2	7.4		19.8	56.8	23.5		8.3	73.1	18.6		26.1	63.9	10.1		
02:30 Volume	50	265	31	346	78	173	84	335	23	186	36	245	53	125	18	196	1122
Peak Factor																	0.959
High Int.	02:45 PM				02:30 PM				02:30 PM				02:15 PM				
Volume	41	276	32	349	78	173	84	335	23	186	36	245	55	137	21	213	
Peak Factor				0.972				0.951				0.906				0.923	

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<< DIAMOND BAR, CA 91765 >>
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CLIENT:

File Name : 319601
Site Code : 00319601
Start Date : 11/30/2002
Page No : 2

	S.FIGUEROA ST. Southbound				ADAMS BLVD. Westbound				S.FIGUEROA ST. Northbound				ADAMS BLVD. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 06:30 PM to 09:15 PM - Peak 1 of 1																	
Intersection	08:30 PM																
Volume	16	445	48	509	135	422	103	660	289	1758	214	2261	106	603	124	833	4263
Percent	3.1	87.4	9.4		20.5	63.9	15.6		12.8	77.8	9.5		12.7	72.4	14.9		
09:15 Volume	3	130	10	143	38	120	24	182	99	528	57	684	27	199	28	254	1263
Peak Factor																	0.844
High Int.	09:15 PM				09:15 PM				09:15 PM				09:15 PM				
Volume	3	130	10	143	38	120	24	182	99	528	57	684	27	199	28	254	
Peak Factor				0.890				0.907				0.826				0.820	

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E/W:
CLIENT:

File Name : 319602
Site Code : 00319602
Start Date : 11/30/2002
Page No : 1

Groups Printed- Turning Movement

	FIGUEROA ST. Southbound				JEFFERSON BLVD. Westbound				FIGUEROA ST. Northbound				JEFFERSON BLVD. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
02:00 PM	52	231	30	313	40	154	53	247	86	260	98	444	24	48	11	83	1087
02:15 PM	43	202	14	259	49	141	52	242	158	299	89	546	42	51	20	113	1160
02:30 PM	50	208	40	298	29	157	39	225	100	287	98	485	35	40	9	84	1092
02:45 PM	60	231	43	334	54	164	43	261	118	257	59	434	26	50	9	85	1114
Total	205	872	127	1204	172	616	187	975	462	1103	344	1909	127	189	49	365	4453
03:00 PM	56	200	42	298	51	172	32	255	100	338	2	440	1	71	14	86	1079
03:15 PM	72	179	66	317	41	154	38	233	122	331	1	454	2	108	21	131	1135
03:30 PM	57	190	53	300	36	120	19	175	42	269	0	311	8	107	29	144	930
03:45 PM	48	213	21	282	30	102	17	149	43	317	0	360	12	67	29	108	899
Total	233	782	182	1197	158	548	106	812	307	1255	3	1565	23	353	93	469	4043
04:00 PM	36	204	0	240	39	129	11	179	38	460	0	498	25	98	41	164	1081
04:15 PM	55	224	0	279	41	111	0	152	1	572	0	573	12	71	31	114	1118
04:30 PM	63	241	0	304	37	137	0	174	0	564	0	564	3	2	5	10	1052
04:45 PM	50	208	1	259	46	149	0	195	0	490	0	490	5	2	6	13	957
Total	204	877	1	1082	163	526	11	700	39	2086	0	2125	45	173	83	301	4208
*** BREAK ***																	
06:30 PM	40	110	0	150	18	66	0	84	0	281	0	281	21	97	19	137	652
06:45 PM	62	79	1	142	24	67	0	91	0	275	0	275	28	71	24	123	631
Total	102	189	1	292	42	133	0	175	0	556	0	556	49	168	43	260	1283
07:00 PM	39	96	0	135	8	51	0	59	2	235	9	246	29	75	24	128	568
07:15 PM	50	91	1	142	19	57	0	76	2	223	7	232	22	62	28	112	562
07:30 PM	38	110	0	148	24	57	1	82	7	226	1	234	30	58	15	103	567
07:45 PM	27	82	1	110	16	52	0	68	16	210	1	227	9	52	15	76	481
Total	154	379	2	535	67	217	1	285	27	894	18	939	90	247	82	419	2178
08:00 PM	30	98	4	132	11	18	2	31	5	228	8	241	13	52	8	73	477
08:15 PM	18	142	8	168	17	29	0	46	19	319	2	340	19	31	39	89	643
08:30 PM	13	149	27	189	10	19	0	29	0	356	0	356	0	44	71	115	689
08:45 PM	8	176	41	225	20	17	0	37	0	459	1	460	0	54	70	124	846
Total	69	565	80	714	58	83	2	143	24	1362	11	1397	32	181	188	401	2655
09:00 PM	3	170	49	222	53	13	0	66	1	497	0	498	0	141	47	188	974
09:15 PM	11	202	49	262	41	25	0	66	0	518	0	518	1	165	80	246	1092
Grand Total	981	4036	491	5508	754	2161	307	3222	860	8271	376	9507	367	1617	665	2649	20886
Apprch %	17.8	73.3	8.9		23.4	67.1	9.5		9.0	87.0	4.0		13.9	61.0	25.1		
Total %	4.7	19.3	2.4	26.4	3.6	10.3	1.5	15.4	4.1	39.6	1.8	45.5	1.8	7.7	3.2	12.7	

	FIGUEROA ST. Southbound				JEFFERSON BLVD. Westbound				FIGUEROA ST. Northbound				JEFFERSON BLVD. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 02:00 PM to 04:45 PM - Peak 1 of 1																	
Intersection	02:00 PM																
Volume	205	872	127	1204	172	616	187	975	462	1103	344	1909	127	189	49	365	4453
Percent	17.0	72.4	10.5		17.6	63.2	19.2		24.2	57.8	18.0		34.8	51.8	13.4		
02:15 Volume	43	202	14	259	49	141	52	242	158	299	89	546	42	51	20	113	1160
Peak Factor																	0.960
High Int.	02:45 PM				02:45 PM				02:15 PM				02:15 PM				
Volume	60	231	43	334	54	164	43	261	158	299	89	546	42	51	20	113	
Peak Factor				0.901				0.934				0.874				0.808	

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<< (909) 595-6199 FAX: (909) 595-6022 >

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E/W:
CLIENT:

File Name : 319602
Site Code : 00319602
Start Date : 11/30/2002
Page No : 2

	FIGUEROA ST. Southbound				JEFFERSON BLVD. Westbound				FIGUEROA ST. Northbound				JEFFERSON BLVD. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 06:30 PM to 09:15 PM - Peak 1 of 1																	
Intersection	08:30 PM																
Volume	35	697	166	898	124	74	0	198	1	1830	1	1832	1	404	268	673	3601
Percent	3.9	77.6	18.5		62.6	37.4	0.0		0.1	99.9	0.1		0.1	60.0	39.8		
09:15 Volume	11	202	49	262	41	25	0	66	0	518	0	518	1	165	80	246	1092
Peak Factor																	0.824
High Int.	09:15 PM				09:00 PM				09:15 PM				09:15 PM				
Volume	11	202	49	262	53	13	0	66	0	518	0	518	1	165	80	246	
Peak Factor				0.857				0.750				0.884				0.684	

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<< DIAMOND BAR, CA 91765 >>
<< (909) 595-6199 FAX: (909) 595-6022 >

CITY:
N/S:
E/W:
CLIENT:

File Name : 319603
Site Code : 00319603
Start Date : 11/30/2002
Page No : 1

Groups Printed- Turning Movement

	FLOWER ST. Southbound				EXPOSITION BLVD. Westbound				I-110 OFF RAMP - SOUTHBOUND(not a Northbound) Northbound				EXPOSITION BLVD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
02:00 PM	133	52	0	185	0	112	13	125	0	126	37	163	0	0	0	0	473
02:15 PM	94	38	0	132	0	116	15	131	0	141	54	195	0	0	0	0	458
02:30 PM	107	81	1	189	0	77	7	84	0	160	42	202	0	0	0	0	475
02:45 PM	70	40	0	110	0	45	14	59	0	159	35	194	0	0	0	0	363
Total	404	211	1	616	0	350	49	399	0	586	168	754	0	0	0	0	1769
03:00 PM	62	78	0	140	0	78	9	87	0	138	26	164	0	0	0	0	391
03:15 PM	56	61	0	117	0	86	12	98	0	152	36	188	0	0	0	0	403
03:30 PM	41	58	1	100	1	64	6	71	0	157	32	189	0	0	0	0	360
03:45 PM	35	32	1	68	0	73	11	84	0	126	39	165	0	0	0	0	317
Total	194	229	2	425	1	301	38	340	0	573	133	706	0	0	0	0	1471
04:00 PM	69	51	1	121	0	70	18	88	0	151	35	186	0	0	0	0	395
04:15 PM	49	73	0	122	0	102	13	115	0	206	36	242	0	0	0	0	479
04:30 PM	103	69	0	172	0	98	14	112	0	159	38	197	0	0	0	0	481
04:45 PM	74	36	3	113	0	66	10	76	0	130	40	170	0	0	0	0	359
Total	295	229	4	528	0	336	55	391	0	646	149	795	0	0	0	0	1714
*** BREAK ***																	
06:30 PM	46	24	0	70	0	54	1	55	0	78	8	86	0	0	0	0	211
06:45 PM	40	21	0	61	0	50	3	53	0	87	9	96	0	0	0	0	210
Total	86	45	0	131	0	104	4	108	0	165	17	182	0	0	0	0	421
07:00 PM	24	19	0	43	0	65	6	71	0	80	19	99	0	0	0	0	213
07:15 PM	42	20	0	62	0	56	2	58	0	87	10	97	0	0	0	0	217
07:30 PM	28	20	0	48	0	55	6	61	0	54	13	67	0	0	0	0	176
07:45 PM	42	12	0	54	0	57	0	57	0	61	10	71	0	0	0	0	182
Total	136	71	0	207	0	233	14	247	0	282	52	334	0	0	0	0	788
08:00 PM	39	20	0	59	0	42	3	45	0	67	10	77	0	0	0	0	181
08:15 PM	43	23	0	66	0	40	11	51	0	94	11	105	0	0	0	0	222
08:30 PM	35	54	0	89	0	31	34	65	0	193	15	208	0	0	0	0	362
08:45 PM	44	37	0	81	0	55	22	77	0	238	16	254	0	0	0	0	412
Total	161	134	0	295	0	168	70	238	0	592	52	644	0	0	0	0	1177
09:00 PM	63	24	0	87	0	39	28	67	0	253	20	273	0	0	0	0	427
09:15 PM	63	36	0	99	0	42	24	66	0	270	10	280	0	0	0	0	445
Grand Total	1402	979	7	2388	1	1573	282	1856	0	3367	601	3968	0	0	0	0	8212
Apprch %	58.7	41.0	0.3		0.1	84.8	15.2		0.0	84.9	15.1		0.0	0.0	0.0		
Total %	17.1	11.9	0.1	29.1	0.0	19.2	3.4	22.6	0.0	41.0	7.3	48.3	0.0	0.0	0.0	0.0	

	FLOWER ST. Southbound				EXPOSITION BLVD. Westbound				I-110 OFF RAMP - SOUTHBOUND(not a Northbound) Northbound				EXPOSITION BLVD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 02:00 PM to 04:45 PM - Peak 1 of 1																	
Intersection	02:00 PM																
Volume	404	211	1	616	0	350	49	399	0	586	168	754	0	0	0	0	1769
Percent	65.6	34.3	0.2		0.0	87.7	12.3		0.0	77.7	22.3		0.0	0.0	0.0		
02:30 Volume	107	81	1	189	0	77	7	84	0	160	42	202	0	0	0	0	475
Peak Factor																	0.931
High Int.	02:30 PM				02:15 PM				02:30 PM				1:45:00 PM				
Volume	107	81	1	189	0	116	15	131	0	160	42	202					
Peak Factor				0.815				0.761				0.933					

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<< 21114 TRIGGER LANE >>
<< DIAMOND BAR, CA 91765 >>
<< (909) 595-6199 FAX: (909) 595-6022 >

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E/W:
CLIENT:

File Name : 319603
Site Code : 00319603
Start Date : 11/30/2002
Page No : 2

	FLOWER ST. Southbound				EXPOSITION BLVD. Westbound				I-110 OFF RAMP - SOUTHBOUND(not a Northbound) Northbound				EXPOSITION BLVD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 06:30 PM to 09:15 PM - Peak 1 of 1																	
Intersection	08:30 PM																
Volume	205	151	0	356	0	167	108	275	0	954	61	1015	0	0	0	0	1646
Percent	57.6	42.4	0.0		0.0	60.7	39.3		0.0	94.0	6.0		0.0	0.0	0.0		
09:15 Volume	63	36	0	99	0	42	24	66	0	270	10	280	0	0	0	0	445
Peak Factor																	0.925
High Int.	09:15 PM				08:45 PM				09:15 PM								
Volume	63	36	0	99	0	55	22	77	0	270	10	280					
Peak Factor				0.899				0.893				0.906					

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<< DIAMOND BAR, CA 91765 >>
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CLIENT:

File Name : 319605
Site Code : 00319605
Start Date : 11/30/2002
Page No : 1

Groups Printed- Turning Movement

	FIGUEROA ST. Southbound				EXPOSITION BLVD. Westbound				FIGUEROA ST. Northbound				EXPOSITION BLVD. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
02:00 PM	90	197	36	323	96	198	0	294	13	310	0	323	20	56	48	124	1064
02:15 PM	139	168	36	343	97	181	0	278	12	306	0	318	31	106	50	187	1126
02:30 PM	54	179	33	266	123	127	2	252	25	270	0	295	26	84	43	153	966
02:45 PM	4	182	29	215	109	10	6	125	35	273	1	309	26	89	23	138	787
Total	287	726	134	1147	425	516	8	949	85	1159	1	1245	103	335	164	602	3943
03:00 PM	1	176	23	200	176	4	9	189	25	160	1	186	12	102	28	142	717
03:15 PM	0	196	39	235	168	5	0	173	15	179	1	195	12	79	30	121	724
03:30 PM	0	175	50	225	149	2	1	152	15	140	1	156	10	76	24	110	643
03:45 PM	4	226	44	274	149	5	0	154	17	184	0	201	6	97	32	135	764
Total	5	773	156	934	642	16	10	668	72	663	3	738	40	354	114	508	2848
04:00 PM	0	247	24	271	210	9	2	221	2	179	2	183	2	73	10	85	760
04:15 PM	3	253	40	296	195	7	2	204	17	280	0	297	9	101	36	146	943
04:30 PM	0	199	29	228	245	9	0	254	15	255	0	270	9	66	15	90	842
04:45 PM	0	186	38	224	179	7	1	187	22	242	0	264	3	69	34	106	781
Total	3	885	131	1019	829	32	5	866	56	956	2	1014	23	309	95	427	3326
*** BREAK ***																	
06:30 PM	0	96	21	117	96	0	7	103	6	137	2	145	13	60	15	88	453
06:45 PM	1	72	28	101	104	0	3	107	8	143	1	152	12	69	18	99	459
Total	1	168	49	218	200	0	10	210	14	280	3	297	25	129	33	187	912
07:00 PM	1	63	31	95	104	1	9	114	8	128	2	138	13	78	11	102	449
07:15 PM	3	79	21	103	94	0	5	99	6	113	1	120	13	66	14	93	415
07:30 PM	5	94	28	127	77	1	9	87	3	121	0	124	11	43	9	63	401
07:45 PM	3	57	18	78	78	0	9	87	8	112	0	120	8	63	10	81	366
Total	12	293	98	403	353	2	32	387	25	474	3	502	45	250	44	339	1631
08:00 PM	3	84	29	116	84	2	4	90	25	113	1	139	4	47	12	63	408
08:15 PM	3	95	43	141	82	2	0	84	49	150	1	200	0	35	5	40	465
08:30 PM	5	77	55	137	67	2	0	69	48	158	1	207	0	19	8	27	440
08:45 PM	6	94	53	153	86	0	0	86	36	230	0	266	1	70	8	79	584
Total	17	350	180	547	319	6	4	329	158	651	3	812	5	171	33	209	1897
09:00 PM	10	106	43	159	96	8	7	111	44	206	0	250	2	77	17	96	616
09:15 PM	5	103	57	165	109	2	0	111	54	249	1	304	4	73	16	93	673
Grand Total	340	3404	848	4592	2973	582	76	3631	508	4638	16	5162	247	1698	516	2461	15846
Apprch %	7.4	74.1	18.5		81.9	16.0	2.1		9.8	89.8	0.3		10.0	69.0	21.0		
Total %	2.1	21.5	5.4	29.0	18.8	3.7	0.5	22.9	3.2	29.3	0.1	32.6	1.6	10.7	3.3	15.5	

	FIGUEROA ST. Southbound				EXPOSITION BLVD. Westbound				FIGUEROA ST. Northbound				EXPOSITION BLVD. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 02:00 PM to 04:45 PM - Peak 1 of 1																	
Intersection	02:00 PM																
Volume	287	726	134	1147	425	516	8	949	85	1159	1	1245	103	335	164	602	3943
Percent	25.0	63.3	11.7		44.8	54.4	0.8		6.8	93.1	0.1		17.1	55.6	27.2		
02:15 Volume	139	168	36	343	97	181	0	278	12	306	0	318	31	106	50	187	1126
Peak Factor																	0.875
High Int.	02:15 PM				02:00 PM				02:00 PM				02:15 PM				
Volume	139	168	36	343	96	198	0	294	13	310	0	323	31	106	50	187	
Peak Factor				0.836				0.807				0.964				0.805	

<< ACCUTEK >>
<< 21114 TRIGGER LANE >>
<< DIAMOND BAR, CA 91765 >>
<< (909) 595-6199 FAX: (909) 595-6022 >

CITY:
N/S:
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CLIENT:

File Name : 319604
Site Code : 00319604
Start Date : 11/30/2002
Page No : 1

Groups Printed- Turning Movement

	FLOWER ST. Southbound				Westbound				FLOWER ST. Northbound				37TH ST. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
02:00 PM	0	114	100	214	0	0	0	0	61	0	0	61	25	82	0	107	382
02:15 PM	0	98	114	212	0	0	0	0	68	0	0	68	38	122	0	160	440
02:30 PM	0	141	120	261	0	0	0	0	63	0	0	63	27	117	0	144	468
02:45 PM	0	104	135	239	0	0	0	0	58	0	0	58	24	126	0	150	447
Total	0	457	469	926	0	0	0	0	250	0	0	250	114	447	0	561	1737
03:00 PM	0	130	105	235	0	0	0	0	81	0	0	81	35	113	0	148	464
03:15 PM	0	132	131	263	0	0	0	0	98	0	0	98	21	112	0	133	494
03:30 PM	0	120	109	229	0	0	0	0	75	0	0	75	14	124	0	138	442
03:45 PM	0	117	107	224	0	0	0	0	67	0	0	67	20	130	0	150	441
Total	0	499	452	951	0	0	0	0	321	0	0	321	90	479	0	569	1841
04:00 PM	0	123	132	255	0	0	0	0	65	0	0	65	4	88	0	92	412
04:15 PM	0	155	142	297	0	0	0	0	70	0	0	70	14	119	0	133	500
04:30 PM	0	123	125	248	0	0	0	0	48	0	0	48	12	96	0	108	404
04:45 PM	0	78	121	199	0	0	0	0	19	0	0	19	17	113	0	130	348
Total	0	479	520	999	0	0	0	0	202	0	0	202	47	416	0	463	1664
*** BREAK ***																	
06:30 PM	0	24	78	102	0	0	0	0	11	0	0	11	8	83	0	91	204
06:45 PM	0	28	73	101	0	0	0	0	6	0	0	6	10	99	0	109	216
Total	0	52	151	203	0	0	0	0	17	0	0	17	18	182	0	200	420
07:00 PM	0	22	76	98	0	0	0	0	9	0	0	9	7	113	0	120	227
07:15 PM	0	34	74	108	0	0	0	0	5	0	0	5	4	82	0	86	199
07:30 PM	0	23	64	87	0	0	0	0	9	0	0	9	7	65	0	72	168
07:45 PM	0	25	54	79	0	0	0	0	17	0	0	17	10	79	0	89	185
Total	0	104	268	372	0	0	0	0	40	0	0	40	28	339	0	367	779
08:00 PM	0	35	68	103	0	0	0	0	21	0	0	21	21	67	0	88	212
08:15 PM	0	34	107	141	0	0	0	0	81	0	0	81	20	102	0	122	344
08:30 PM	0	62	232	294	0	0	0	0	103	0	0	103	1	108	0	109	506
08:45 PM	0	36	271	307	0	0	0	0	82	0	0	82	10	128	0	138	527
Total	0	167	678	845	0	0	0	0	287	0	0	287	52	405	0	457	1589
09:00 PM	0	42	271	313	0	0	0	0	120	0	0	120	14	131	0	145	578
09:15 PM	0	71	270	341	0	0	0	0	97	0	0	97	4	172	0	176	614
Grand Total	0	1871	3079	4950	0	0	0	0	1334	0	0	1334	367	2571	0	2938	9222
Apprch %	0.0	37.8	62.2		0.0	0.0	0.0		100.0	0.0	0.0		12.5	87.5	0.0		
Total %	0.0	20.3	33.4	53.7	0.0	0.0	0.0	0.0	14.5	0.0	0.0	14.5	4.0	27.9	0.0	31.9	

	FLOWER ST. Southbound				Westbound				FLOWER ST. Northbound				37TH ST. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 02:00 PM to 04:45 PM - Peak 1 of 1																	
Intersection	02:30 PM																
Volume	0	507	491	998	0	0	0	0	300	0	0	300	107	468	0	575	1873
Percent	0.0	50.8	49.2		0.0	0.0	0.0		100.0	0.0	0.0		18.6	81.4	0.0		
03:15 Volume	0	132	131	263	0	0	0	0	98	0	0	98	21	112	0	133	494
Peak Factor																	0.948
High Int.	03:15 PM				1:45:00 PM				03:15 PM				02:45 PM				
Volume	0	132	131	263	0	0	0	0	98	0	0	98	24	126	0	150	
Peak Factor				0.949								0.765				0.958	

CITY:
N/S:
E/W:
CLIENT:

File Name : 319604
Site Code : 00319604
Start Date : 11/30/2002

	FLOWER ST. Southbound				Westbound				FLOWER ST. Northbound				37TH ST. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 06:30 PM to 09:15 PM - Peak 1 of 1																	
Intersection	08:30 PM																
Volume	0	211	1044	1255	0	0	0	0	402	0	0	402	29	539	0	568	2225
Percent	0.0	16.8	83.2		0.0	0.0	0.0		100.0	0.0	0.0		5.1	94.9	0.0		
09:15 Volume	0	71	270	341	0	0	0	0	97	0	0	97	4	172	0	176	614
Peak Factor																	0.906
High Int.	09:15 PM								09:00 PM				09:15 PM				
Volume	0	71	270	341	0	0	0	0	120	0	0	120	4	172	0	176	
Peak Factor				0.920								0.838				0.807	

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CLIENT:

File Name : 319606
Site Code : 00319606
Start Date : 11/30/2002
Page No : 1

Groups Printed- Turning Movement

	FIGUEROA ST. Southbound				Westbound				FIGUEROA ST. Northbound				STATE DRIVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
02:00 PM	0	280	0	280	0	0	0	0	0	305	0	305	0	0	0	0	585
02:15 PM	0	220	0	220	0	0	0	0	0	319	0	319	0	0	0	0	539
02:30 PM	0	203	0	203	0	0	0	0	0	274	1	275	0	0	0	0	478
02:45 PM	1	185	0	186	0	0	0	0	0	304	0	304	0	0	0	0	490
Total	1	888	0	889	0	0	0	0	0	1202	1	1203	0	0	0	0	2092
03:00 PM	1	225	0	226	0	0	0	0	0	168	0	168	1	0	0	1	395
03:15 PM	0	225	0	225	0	0	0	0	0	221	0	221	0	0	1	1	447
03:30 PM	0	198	0	198	0	0	0	0	0	152	0	152	0	0	0	0	350
03:45 PM	0	220	0	220	0	0	0	0	0	184	0	184	1	0	0	1	405
Total	1	868	0	869	0	0	0	0	0	725	0	725	2	0	1	3	1597
04:00 PM	0	221	0	221	0	0	0	0	0	201	1	202	0	0	0	0	423
04:15 PM	0	235	0	235	0	0	0	0	0	257	0	257	2	0	1	3	495
04:30 PM	0	210	0	210	0	0	0	0	0	250	0	250	0	0	0	0	460
04:45 PM	0	195	0	195	0	0	0	0	0	267	0	267	0	0	0	0	462
Total	0	861	0	861	0	0	0	0	0	975	1	976	2	0	1	3	1840
*** BREAK ***																	
06:30 PM	2	119	0	121	0	0	0	0	0	151	0	151	0	0	2	2	274
06:45 PM	1	94	0	95	0	0	0	0	0	146	1	147	2	0	0	2	244
Total	3	213	0	216	0	0	0	0	0	297	1	298	2	0	2	4	518
07:00 PM	0	96	0	96	0	0	0	0	0	135	0	135	0	0	1	1	232
07:15 PM	0	108	0	108	0	0	0	0	0	122	0	122	0	0	0	0	230
07:30 PM	1	124	0	125	0	0	0	0	0	122	0	122	0	0	0	0	247
07:45 PM	0	85	0	85	0	0	0	0	0	124	0	124	1	0	1	2	211
Total	1	413	0	414	0	0	0	0	0	503	0	503	1	0	2	3	920
08:00 PM	0	100	0	100	0	0	0	0	0	141	0	141	2	0	0	2	243
08:15 PM	0	103	0	103	0	0	0	0	0	197	0	197	1	0	0	1	301
08:30 PM	0	69	0	69	0	0	0	0	0	219	0	219	2	0	2	4	292
08:45 PM	0	118	0	118	0	0	0	0	0	232	0	232	3	0	9	12	362
Total	0	390	0	390	0	0	0	0	0	789	0	789	8	0	11	19	1198
09:00 PM	0	135	0	135	0	0	0	0	0	187	0	187	0	0	2	2	324
09:15 PM	0	147	0	147	0	0	0	0	0	225	0	225	2	0	7	9	381
Grand Total	6	3915	0	3921	0	0	0	0	0	4903	3	4906	17	0	26	43	8870
Apprch %	0.2	99.8	0.0		0.0	0.0	0.0		0.0	99.9	0.1		39.5	0.0	60.5		
Total %	0.1	44.1	0.0	44.2	0.0	0.0	0.0	0.0	0.0	55.3	0.0	55.3	0.2	0.0	0.3	0.5	

	FIGUEROA ST. Southbound				Westbound				FIGUEROA ST. Northbound				STATE DRIVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 02:00 PM to 04:45 PM - Peak 1 of 1																	
Intersection	02:00 PM																
Volume	1	888	0	889	0	0	0	0	0	1202	1	1203	0	0	0	0	2092
Percent	0.1	99.9	0.0		0.0	0.0	0.0		0.0	99.9	0.1		0.0	0.0	0.0		
02:00 Volume	0	280	0	280	0	0	0	0	0	305	0	305	0	0	0	0	585
Peak Factor																	0.894
High Int.	02:00 PM				1:45:00 PM				02:15 PM				1:45:00 PM				
Volume	0	280	0	280	0	0	0	0	0	319	0	319					
Peak Factor				0.794								0.943					

CITY:
N/S:
E/W:
CLIENT:

File Name : 319606
Site Code : 00319606
Start Date : 11/30/2002

	FIGUEROA ST.								FIGUEROA ST.				STATE DRIVE				
	Southbound				Westbound				Northbound				Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 06:30 PM to 09:15 PM - Peak 1 of 1																	
Intersection	08:30 PM																
Volume	0	469	0	469	0	0	0	0	0	863	0	863	7	0	20	27	1359
Percent	0.0	100.0	0.0		0.0	0.0	0.0		0.0	100.0	0.0		25.9	0.0	74.1		
09:15 Volume	0	147	0	147	0	0	0	0	0	225	0	225	2	0	7	9	381
Peak Factor																	0.892
High Int.	09:15 PM								08:45 PM				08:45 PM				
Volume	0	147	0	147	0	0	0	0	0	232	0	232	3	0	9	12	
Peak Factor				0.798								0.930				0.563	

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES
PROJECT: L.A. COLISEUM COINTS
DATE: SATURDAY, NOVEMBER 30, 2002
PERIOD: 2:00 PM TO 5:00 PM
INTERSECTION N/S FIGUEROA ST/ FLOWER ST.
E/W 38TH PL
FILE NUMBER: 1-PM

15 MINUTE	2	3/38TH	3F	4FI	5	6	4F	7F	7/38TH	8
TOTALS	SBTH	SBLT	SBLT	WBRT	WBTH	WBLT	WBRT	NBTR	NBRT	NBTH
200-215	177	7	10	8	67	8	8	8	67	139
215-230	165	6	7	13	74	4	10	10	75	133
230-245	152	2	8	10	85	3	14	9	64	128
245-300	177	7	10	8	65	2	11	12	82	161
300-315	167	8	8	15	111	11	17	16	65	135
315-330	185	6	7	10	75	13	7	8	76	138
330-345	187	8	6	16	102	10	11	7	85	149
345-400	175	8	10	18	95	7	13	11	62	159
400-415	185	8	12	20	85	4	12	13	72	170
415-430	195	7	8	20	94	7	15	13	51	168
430-445	175	3	6	22	105	3	13	15	42	160
445-500	167	2	6	18	74	5	12	9	46	142

1 HOUR	2	3/38TH	3F	4FI	5	6	4F	7F	7/38TH	8	
TOTALS	SBTH	SBLT	SBLT	WBRT	WBTH	WBLT	WBRT	NBTR	NBRT	NBTH	TOTALS
200-300	671	22	35	39	291	17	43	39	288	561	2006
215-315	661	23	33	46	335	20	52	47	286	557	2060
230-330	681	23	33	43	336	29	49	45	287	562	2088
245-345	716	29	31	49	353	36	46	43	308	583	2194
300-400	714	30	31	59	383	41	48	42	288	581	2217
315-415	732	30	35	64	357	34	43	39	295	616	2245
330-430	742	31	36	74	376	28	51	44	270	646	2298
345-445	730	26	36	80	379	21	53	52	227	657	2261
400-500	722	20	32	80	358	19	52	50	211	640	2184

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES
PROJECT: L.A. COLISEUM COINTS
DATE: SATURDAY, NOVEMBER 30, 2002
PERIOD: 2:00 PM TO 5:00 PM
INTERSECTION N/S I-110 NB OFF AND SB ON RAMP
E/W 39TH ST.
FILE NUMBER: 4-PM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
200-215	0	0	0	0	51	7	31	0	155	7	37	0
215-230	0	0	0	0	53	13	29	0	132	17	49	0
230-245	0	0	0	0	42	4	25	0	152	9	26	0
245-300	0	0	0	0	51	8	17	0	146	4	70	0
300-315	0	0	0	0	52	10	21	0	136	9	60	0
315-330	0	0	0	0	51	14	24	0	115	17	75	0
330-345	0	0	0	0	67	12	45	0	119	18	88	0
345-400	0	0	0	0	65	9	48	0	107	9	59	0
400-415	0	0	0	0	66	11	55	0	101	11	66	0
415-430	0	0	0	0	84	20	29	0	77	18	69	0
430-445	0	0	0	0	77	11	18	0	87	11	59	0
445-500	0	0	0	0	75	16	15	0	91	14	46	0

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
200-300	0	0	0	0	197	32	102	0	585	37	182	0	1135
215-315	0	0	0	0	198	35	92	0	566	39	205	0	1135
230-330	0	0	0	0	196	36	87	0	549	39	231	0	1138
245-345	0	0	0	0	221	44	107	0	516	48	293	0	1229
300-400	0	0	0	0	235	45	138	0	477	53	282	0	1230
315-415	0	0	0	0	249	46	172	0	442	55	288	0	1252
330-430	0	0	0	0	282	52	177	0	404	56	282	0	1253
345-445	0	0	0	0	292	51	150	0	372	49	253	0	1167
400-500	0	0	0	0	302	58	117	0	356	54	240	0	1127

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES
PROJECT: L.A. COLISEUM COINTS
DATE: SATURDAY, NOVEMBER 30, 2002
PERIOD: 2:00 PM TO 5:00 PM
INTERSECTION N/S FIGUEROA ST.
E/W 39TH ST/COLISEUM DR.
FILE NUMBER: 2-PM

15 MINUTE TOTALS	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
200-215	7	139	28	52	10	98	51	125	1	0	10	0
215-230	8	175	19	42	8	88	48	138	0	0	8	0
230-245	10	142	22	94	7	101	44	151	1	0	9	0
245-300	19	190	21	65	8	91	40	161	0	5	11	2
300-315	15	167	25	95	21	61	43	153	1	2	10	0
315-330	8	129	20	70	11	99	48	159	1	1	7	1
330-345	11	158	30	64	16	94	46	157	0	1	8	2
345-400	5	183	22	55	20	111	39	167	0	0	5	1
400-415	8	196	25	45	15	104	48	170	2	0	6	0
415-430	4	188	33	48	17	97	40	162	1	0	9	0
430-445	19	175	19	71	11	79	46	165	0	1	11	1
445-500	5	167	22	40	9	67	38	144	0	0	5	0

1 HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
200-300	44	646	90	253	33	378	183	575	2	5	38	2	2249
215-315	52	674	87	296	44	341	175	603	2	7	38	2	2321
230-330	52	628	88	324	47	352	175	624	3	8	37	3	2341
245-345	53	644	96	294	56	345	177	630	2	9	36	5	2347
300-400	39	637	97	284	68	365	176	636	2	4	30	4	2342
315-415	32	666	97	234	62	408	181	653	3	2	26	4	2368
330-430	28	725	110	212	68	406	173	656	3	1	28	3	2413
345-445	36	742	99	219	63	391	173	664	3	1	31	2	2424
400-500	36	726	99	204	52	347	172	641	3	1	31	1	2313

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES
PROJECT: L.A. COLISEUM COINTS
DATE: SATURDAY, NOVEMBER 30, 2002
PERIOD: 2:00 PM TO 5:00 PM
INTERSECTION N/S I-110 NB OFF-RAMP/ HILL ST.
E/W M.L. KING BLVD.
FILE NUMBER: 6-PM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
200-215	16	67	16	28	153	3	64	85	22	21	142	28
215-230	28	45	17	35	128	2	36	97	18	33	140	34
230-245	16	36	19	62	162	6	28	111	16	38	158	42
245-300	25	75	25	45	142	5	66	103	26	36	166	52
300-315	17	66	16	36	128	2	48	137	21	35	156	34
315-330	27	7	31	19	128	16	50	177	9	61	167	19
330-345	10	12	40	0	12	0	61	204	0	60	152	21
345-400	0	10	31	0	15	0	39	151	0	63	150	21
400-415	0	4	30	0	2	0	37	142	0	87	134	40
415-430	0	4	43	0	3	0	37	115	0	67	124	26
430-445	0	9	37	0	5	0	32	86	0	82	129	26
445-500	0	4	32	0	10	0	33	55	0	43	123	16

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
200-300	85	223	77	170	585	16	194	396	82	128	606	156	2718
215-315	86	222	77	178	560	15	178	448	81	142	620	162	2769
230-330	85	184	91	162	560	29	192	528	72	170	647	147	2867
245-345	79	160	112	100	410	23	225	621	56	192	641	126	2745
300-400	54	95	118	55	283	18	198	669	30	219	625	95	2459
315-415	37	33	132	19	157	16	187	674	9	271	603	101	2239
330-430	10	30	144	0	32	0	174	612	0	277	560	108	1947
345-445	0	27	141	0	25	0	145	494	0	299	537	113	1781
400-500	0	21	142	0	20	0	139	398	0	279	510	108	1617

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES
PROJECT: L.A. COLISEUM COINTS
DATE: SATURDAY, NOVEMBER 30, 2002
PERIOD: 2:00 PM TO 5:00 PM
INTERSECTION N/S FLOWER ST.
E/W M.L. KING BLVD.
FILE NUMBER: 5-PM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
200-215	67	8	40	0	218	14	0	0	0	58	212	0
215-230	99	5	48	0	193	26	0	0	0	69	203	0
230-245	129	0	42	0	149	20	0	0	0	51	229	0
245-300	63	1	26	0	120	21	0	0	0	38	200	0
300-315	117	0	54	0	157	22	0	0	0	36	220	0
315-330	95	0	17	0	142	17	0	0	0	77	201	0
330-345	142	0	21	0	23	3	0	0	0	18	218	0
345-400	125	0	33	0	2	3	0	0	0	44	212	0
400-415	110	0	50	0	3	0	0	0	0	40	196	0
415-430	91	0	37	0	3	0	0	0	0	67	193	0
430-445	120	0	40	0	8	0	0	0	0	76	209	0
445-500	56	0	19	0	17	0	0	0	0	75	197	0

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
200-300	358	14	156	0	680	81	0	0	0	216	844	0	2349
215-315	408	6	170	0	619	89	0	0	0	194	852	0	2338
230-330	404	1	139	0	568	80	0	0	0	202	850	0	2244
245-345	417	1	118	0	442	63	0	0	0	169	839	0	2049
300-400	479	0	125	0	324	45	0	0	0	175	851	0	1999
315-415	472	0	121	0	170	23	0	0	0	179	827	0	1792
330-430	468	0	141	0	31	6	0	0	0	169	819	0	1634
345-445	446	0	160	0	16	3	0	0	0	227	810	0	1662
400-500	377	0	146	0	31	0	0	0	0	258	795	0	1607

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES
PROJECT: L.A. COLISEUM COINTS
DATE: SATURDAY, NOVEMBER 30, 2002
PERIOD: 2:00 PM TO 5:00 PM
INTERSECTION N/S FIGUEROA ST.
E/W M.L.KINGBLVD.
FILE NUMBER: 3-PM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
200-215	91	93	16	20	204	11	28	93	1	19	138	41
215-230	97	91	28	18	216	16	39	108	2	15	152	46
230-245	107	73	37	30	213	19	47	97	3	23	132	43
245-300	103	106	52	63	151	25	60	111	3	49	178	59
300-315	96	103	40	94	143	21	42	93	6	31	176	39
315-330	95	115	33	60	138	30	46	92	2	24	137	31
330-345	85	115	53	82	103	36	55	105	0	23	157	33
345-400	81	129	80	52	83	13	56	98	0	12	140	37
400-415	85	130	62	47	78	12	66	106	0	18	155	42
415-430	100	134	48	24	63	10	47	109	0	15	170	38
430-445	94	113	65	30	57	8	39	90	2	28	159	48
445-500	85	120	43	17	48	7	28	85	1	22	137	56

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
200-300	398	363	133	131	784	71	174	409	9	106	600	189	3367
215-315	403	373	157	205	723	81	188	409	14	118	638	187	3496
230-330	401	397	162	247	645	95	195	393	14	127	623	172	3471
245-345	379	439	178	299	535	112	203	401	11	127	648	162	3494
300-400	357	462	206	288	467	100	199	388	8	90	610	140	3315
315-415	346	489	228	241	402	91	223	401	2	77	589	143	3232
330-430	351	508	243	205	327	71	224	418	0	68	622	150	3187
345-445	360	506	255	153	281	43	208	403	2	73	624	165	3073
400-500	364	497	218	118	246	37	180	390	3	83	621	184	2941

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

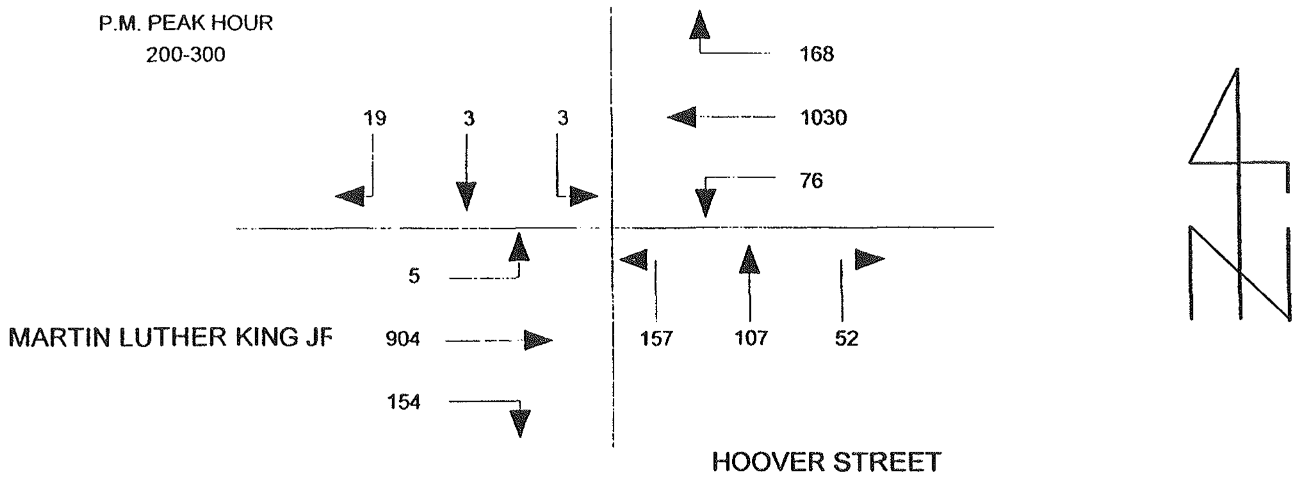
CLIENT: KAKU ASSOCIATES
PROJECT: LOS ANGELES COLISEUM TRAFFIC COUNTS
DATE: SATURDAY, NOVEMBER 30th, 2002
PERIOD: 2:00 PM TO 5:00 PM
INTERSECTION: N/S HOOVER STREET
E/W MARTIN LUTHER KING JR. BOULEVARD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
200-215	3	0	0	77	239	15	21	35	33	42	214	2	681
215-230	5	1	3	68	276	34	10	56	41	35	240	0	769
230-245	8	1	0	12	259	18	16	11	36	26	225	0	612
245-300	3	1	0	11	256	9	5	5	47	51	225	3	616
300-315	5	3	0	10	251	17	2	7	45	39	239	1	619
315-330	10	4	0	17	178	19	2	14	38	45	248	0	575
330-345	3	0	2	18	217	29	4	11	33	55	229	1	602
345-400	9	2	0	13	229	63	1	3	28	37	236	2	623
400-415	4	5	0	8	147	47	9	16	29	61	205	2	533
415-430	5	1	1	15	309	35	7	5	47	46	215	0	686
430-445	0	3	2	8	252	19	17	7	46	32	234	1	621
445-500	5	0	0	10	195	29	14	8	34	28	181	1	505

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
200-300	19	3	3	168	1030	76	52	107	157	154	904	5	2678
215-315	21	6	3	101	1042	78	33	79	169	151	929	4	2616
230-330	26	9	0	50	944	63	25	37	166	161	937	4	2422
245-345	21	8	2	56	902	74	13	37	163	190	941	5	2412
300-400	27	9	2	58	875	128	9	35	144	176	952	4	2419
315-415	26	11	2	56	771	158	16	44	128	198	918	5	2333
330-430	21	8	3	54	902	174	21	35	137	199	885	5	2444
345-445	18	11	3	44	937	164	34	31	150	176	890	5	2463
400-500	14	9	3	41	903	130	47	36	156	167	835	4	2345



WILTEC Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES
PROJECT: LOS ANGELES COLISEUM TRAFFIC COUNTS
DATE: SATURDAY, NOVEMBER 30th, 2002
PERIOD: 2:00 PM TO 5:00 PM
INTERSECTION: N/S VERMONT AVENUE
E/W MARTIN LUTHER KING JR. BOULEVARD

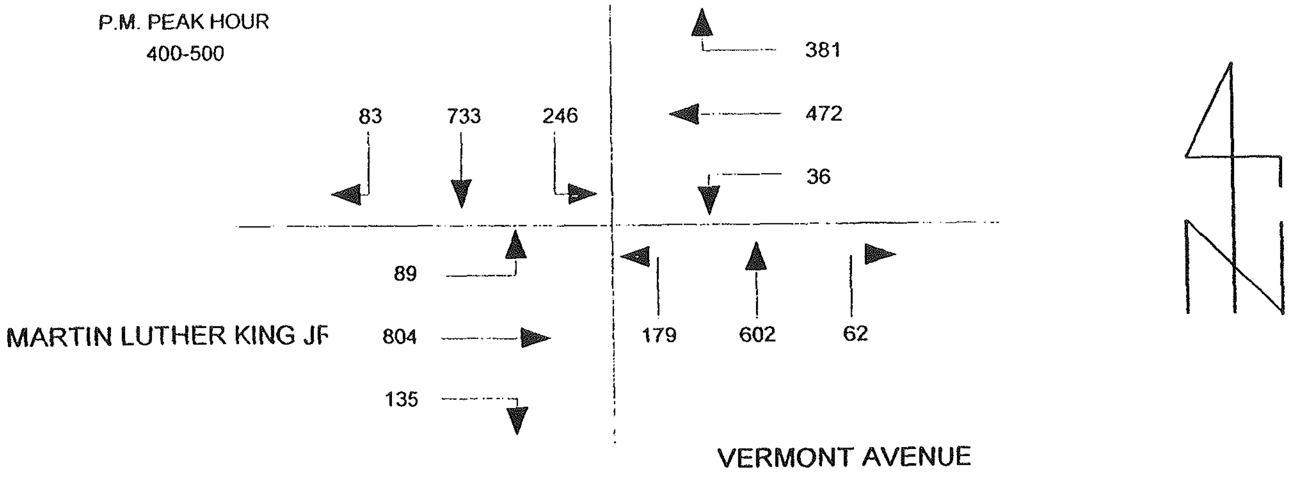
15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
200-215	8	100	73	92	125	12	10	129	32	14	212	30	837
215-230	28	119	65	129	134	9	18	142	26	27	196	38	931
230-245	15	138	79	84	78	10	12	127	42	31	194	32	842
245-300	23	115	84	103	95	10	9	134	39	45	208	32	897
300-315	20	141	87	85	66	6	10	158	31	48	212	29	893
315-330	21	134	66	92	71	4	10	176	36	30	193	24	857
330-345	29	107	88	85	53	5	13	131	28	24	208	24	795
345-400	25	133	78	99	65	5	11	127	48	37	223	21	872
400-415	21	172	79	69	62	3	11	174	49	30	211	30	911
415-430	19	182	46	126	111	11	11	177	48	33	188	20	972
430-445	18	178	54	105	151	11	17	120	48	31	193	21	947
445-500	25	201	67	81	148	11	23	131	34	41	212	18	992

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
200-300	74	472	301	408	432	41	49	532	139	117	810	132	3507
215-315	86	513	315	401	373	35	49	561	138	151	810	131	3563
230-330	79	528	316	364	310	30	41	595	148	154	807	117	3489
245-345	93	497	325	365	285	25	42	599	134	147	821	109	3442
300-400	95	515	319	361	255	20	44	592	143	139	836	98	3417
315-415	96	546	311	345	251	17	45	608	161	121	835	99	3435
330-430	94	594	291	379	291	24	46	609	173	124	830	95	3550
345-445	83	665	257	399	389	30	50	598	193	131	815	92	3702
400-500	83	733	246	381	472	36	62	602	179	135	804	89	3822

P.M. PEAK HOUR
400-500



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Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

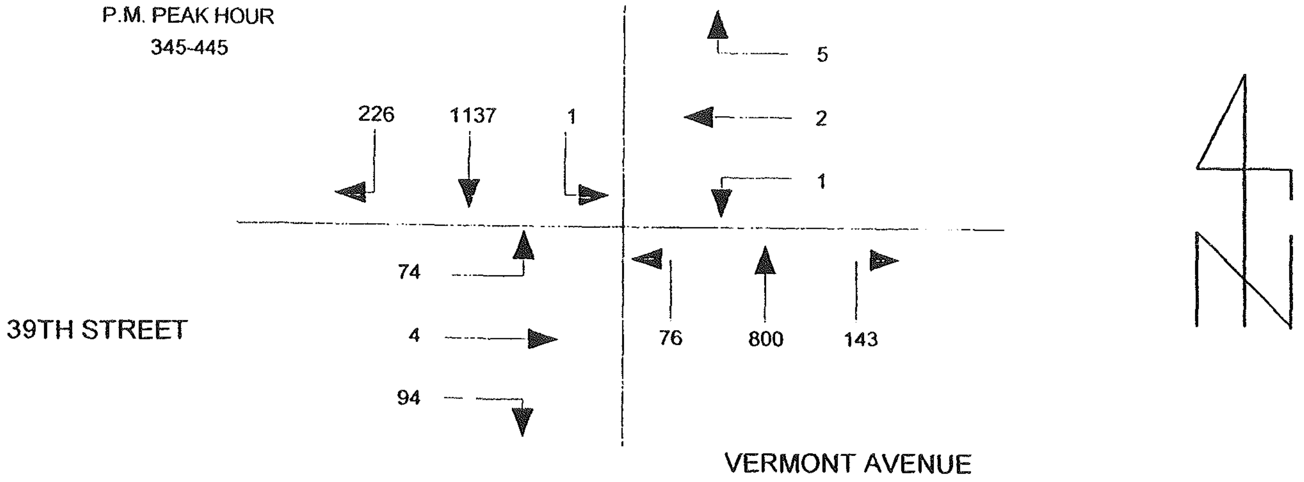
CLIENT: KAKU ASSOCIATES
PROJECT: LOS ANGELES COLISEUM TRAFFIC COUNTS
DATE: SATURDAY, NOVEMBER 30th, 2002
PERIOD: 2:00 PM TO 5:00 PM
INTERSECTION: N/S VERMONT AVENUE
E/W 39TH STREET

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
200-215	35	226	2	1	1	0	11	237	27	18	3	6	567
215-230	44	244	0	0	0	0	9	235	32	23	3	10	600
230-245	56	230	0	0	0	0	7	235	28	33	3	17	609
245-300	60	227	2	1	0	0	9	236	25	26	0	31	617
300-315	50	233	0	0	0	1	9	244	24	21	6	8	596
315-330	71	224	2	2	0	1	11	258	28	27	4	12	640
330-345	75	212	2	3	0	0	5	215	27	22	2	18	581
345-400	66	272	1	1	1	1	7	226	16	30	0	21	642
400-415	55	310	0	2	1	0	12	231	29	15	2	12	669
415-430	57	250	0	1	0	0	40	205	17	28	2	20	620
430-445	48	305	0	1	0	0	84	138	14	21	0	21	632
445-500	41	263	0	2	1	0	51	193	28	8	1	16	604

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
200-300	195	927	4	2	1	0	36	943	112	100	9	64	2393
215-315	210	934	2	1	0	1	34	950	109	103	12	66	2422
230-330	237	914	4	3	0	2	36	973	105	107	13	68	2462
245-345	256	896	6	6	0	2	34	953	104	96	12	69	2434
300-400	262	941	5	6	1	3	32	943	95	100	12	59	2459
315-415	267	1018	5	8	2	2	35	930	100	94	8	63	2532
330-430	253	1044	3	7	2	1	64	877	89	95	6	71	2512
345-445	226	1137	1	5	2	1	143	800	76	94	4	74	2563
400-500	201	1128	0	6	2	0	187	767	88	72	5	69	2525



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Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

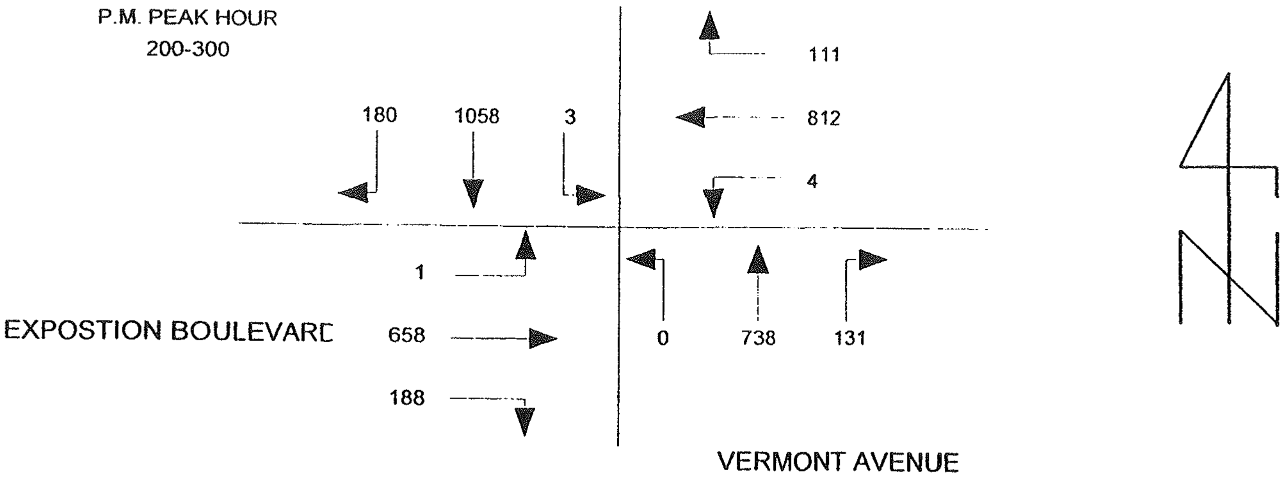
CLIENT:		KAKU ASSOCIATES
PROJECT:		LOS ANGELES COLISEUM TRAFFIC COUNTS
DATE:		SATURDAY, NOVEMBER 30th, 2002
PERIOD:		2:00 PM TO 5:00 PM
INTERSECTION:	N/S	VERMONT AVENUE
	E/W	EXPOSTION BOULEVARD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
200-215	46	255	1	40	168	1	27	196	0	51	199	1	985
215-230	48	272	0	28	255	1	32	192	0	42	146	0	1016
230-245	35	257	1	33	313	1	37	172	0	45	152	0	1046
245-300	51	274	1	10	76	1	35	178	0	50	161	0	837
300-315	56	301	0	4	13	1	12	213	0	50	145	0	795
315-330	59	297	0	12	8	2	9	276	0	40	127	0	830
330-345	57	335	2	6	7	1	6	213	0	28	106	0	761
345-400	46	330	0	13	13	0	4	222	0	28	113	0	769
400-415	55	336	1	2	11	1	1	210	0	31	54	32	734
415-430	55	352	1	6	3	0	2	188	0	24	111	0	742
430-445	75	346	6	8	7	2	8	141	0	23	115	0	731
445-500	70	312	0	4	4	1	5	114	0	47	33	25	615

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
200-300	180	1058	3	111	812	4	131	738	0	188	658	1	3884
215-315	190	1104	2	75	657	4	116	755	0	187	604	0	3694
230-330	201	1129	2	59	410	5	93	839	0	185	585	0	3508
245-345	223	1207	3	32	104	5	62	880	0	168	539	0	3223
300-400	218	1263	2	35	41	4	31	924	0	146	491	0	3155
315-415	217	1298	3	33	39	4	20	921	0	127	400	32	3094
330-430	213	1353	4	27	34	2	13	833	0	111	384	32	3006
345-445	231	1364	8	29	34	3	15	761	0	106	393	32	2976
400-500	255	1346	8	20	25	4	16	653	0	125	313	57	2822



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INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES
PROJECT: LOS ANGELES COLISEUM TRAFFIC COUNTS
DATE: SATURDAY, NOVEMBER 30th, 2002
PERIOD: 2:00 PM TO 5:00 PM
INTERSECTION: N/S NORMANDIE AVENUE
E/W MARTIN LUTHER KING JR. BOULEVARD

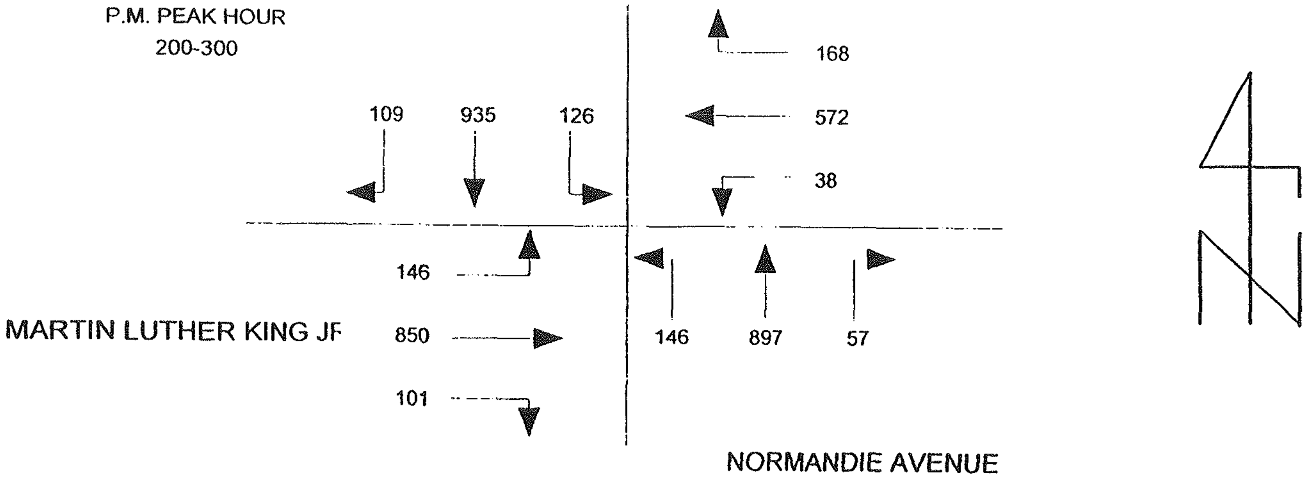
15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
200-215	29	251	34	49	164	7	10	207	39	30	220	37	1077
215-230	32	214	29	42	148	6	13	256	35	25	202	31	1033
230-245	26	216	29	38	134	15	19	217	34	20	216	35	999
245-300	22	254	34	39	126	10	15	217	38	26	212	43	1036
300-315	34	262	39	41	129	13	19	212	34	32	220	36	1071
315-330	26	178	26	24	90	11	15	243	36	30	206	35	920
330-345	27	265	38	24	109	11	18	215	42	25	207	26	1007
345-400	26	223	29	32	105	11	17	225	39	25	233	33	998
400-415	31	288	24	37	107	9	16	202	42	34	197	37	1024
415-430	32	225	20	22	148	25	14	196	43	30	204	36	995
430-445	24	260	30	42	169	20	14	191	29	32	205	38	1054
445-500	39	192	29	32	179	18	18	202	33	26	204	34	1006

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
200-300	109	935	126	168	572	38	57	897	146	101	850	146	4145
215-315	114	946	131	160	537	44	66	902	141	103	850	145	4139
230-330	108	910	128	142	479	49	68	889	142	108	854	149	4026
245-345	109	959	137	128	454	45	67	887	150	113	845	140	4034
300-400	113	928	132	121	433	46	69	895	151	112	866	130	3996
315-415	110	954	117	117	411	42	66	885	159	114	843	131	3949
330-430	116	1001	111	115	469	56	65	838	166	114	841	132	4024
345-445	113	996	103	133	529	65	61	814	153	121	839	144	4071
400-500	126	965	103	133	603	72	62	791	147	122	810	145	4079

P.M. PEAK HOUR
200-300



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

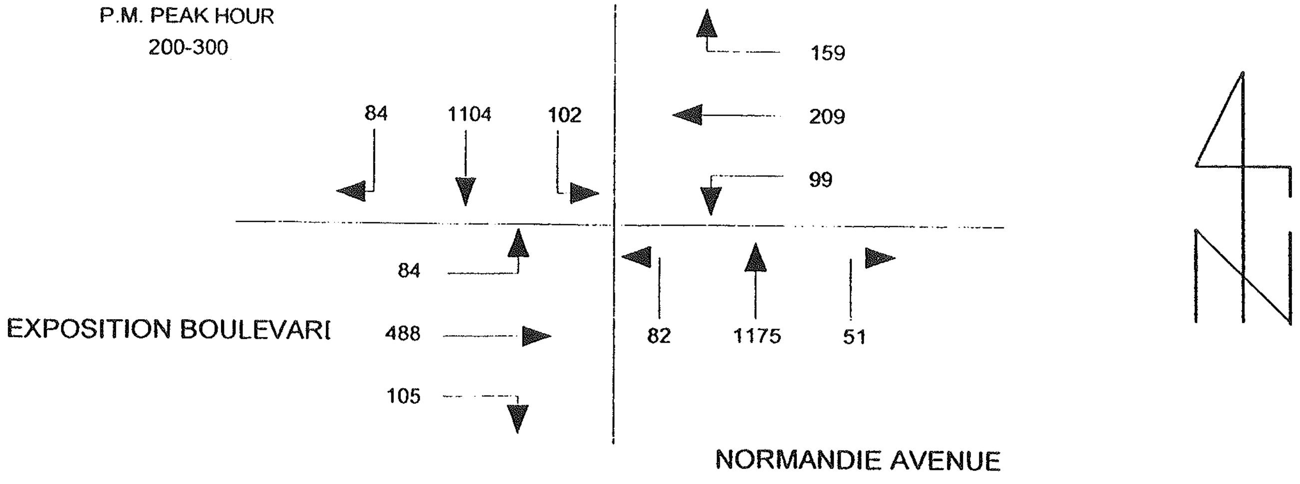
CLIENT: KAKU ASSOCIATES
PROJECT: LOS ANGELES COLISEUM TRAFFIC COUNTS
DATE: SATURDAY, NOVEMBER 30th, 2002
PERIOD: 2:00 PM TO 5:00 PM
INTERSECTION: N/S NORMANDIE AVENUE
E/W EXPOSITION BOULEVARD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
200-215	18	257	26	49	65	29	8	300	20	28	117	25	942
215-230	21	259	22	49	46	24	17	297	22	20	120	18	915
230-245	22	282	27	38	70	29	14	291	23	27	131	17	971
245-300	23	306	27	23	28	17	12	287	17	30	120	24	914
300-315	18	298	34	13	32	10	16	290	22	28	110	10	881
315-330	15	323	29	13	29	19	11	292	23	22	93	20	889
330-345	13	280	30	23	25	14	14	239	30	20	100	18	806
345-400	20	335	19	20	32	14	10	268	23	21	120	21	903
400-415	29	324	22	22	38	15	15	254	23	16	96	24	878
415-430	20	290	23	15	18	18	11	239	24	16	80	15	769
430-445	23	296	12	22	24	17	17	266	21	26	103	15	842
445-500	19	271	15	15	29	11	12	295	33	27	89	22	838

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
200-300	84	1104	102	159	209	99	51	1175	82	105	488	84	3742
215-315	84	1145	110	123	176	80	59	1165	84	105	481	69	3681
230-330	78	1209	117	87	159	75	53	1160	85	107	454	71	3655
245-345	69	1207	120	72	114	60	53	1108	92	100	423	72	3490
300-400	66	1236	112	69	118	57	51	1089	98	91	423	69	3479
315-415	77	1262	100	78	124	62	50	1053	99	79	409	83	3476
330-430	82	1229	94	80	113	61	50	1000	100	73	396	78	3356
345-445	92	1245	76	79	112	64	53	1027	91	79	399	75	3392
400-500	91	1181	72	74	109	61	55	1054	101	85	368	76	3327



Intersection Turning Movement Count

Prepared by: Southland Car Counters

Prepared For: KAKU Associates *Client's Project Name*

Saturday, November 30, 2002 *Client's Ref:* P3084 *Project No* 02-1514-002

N-S Street *Vermont Ave.* *E-W Street* *Jefferson Blvd.* *Area:* *Los Angeles*

	NorthBound			SouthBound			EastBound			WestBound			
	NL	*NT*	*NR*	*SL*	*ST*	*SR*	*EL*	*ET*	*ER*	*WL*	*WT*	*WR*	*Total*
Lanes:	1	2	1	1	2	1	1	1.5	.5	1	2	1	
2:00 PM	7	151	72	34	264	12	40	109	22	75	140	22	948
2:15 PM	9	164	91	39	282	16	41	115	26	84	145	23	1035
2:30 PM	15	191	71	39	255	16	26	120	23	73	207	30	1066
2:45 PM	20	182	49	50	247	12	26	95	20	81	161	37	980
3:00 PM	19	208	62	45	250	12	29	82	21	81	201	24	1034
3:15 PM	16	221	67	45	283	18	37	125	38	75	203	25	1153
3:30 PM	19	217	64	42	346	25	36	119	39	86	191	25	1209
3:45 PM	21	217	63	41	360	29	35	92	41	84	188	27	1198
4:00 PM	16	209	104	37	338	34	32	84	26	111	147	32	1170
4:15 PM	13	146	69	29	326	37	29	86	33	110	201	41	1120
4:30 PM	11	128	56	28	317	42	28	87	40	107	227	46	1117
4:45 PM	11	198	89	23	278	31	31	74	47	107	240	44	1173
Totals:	177	2232	857	452	3546	284	390	1188	376	1074	2251	376	13203

MD Peak Hour Begins at 3:15 PM *15 Min. Peak :* 3:30 PM

Peak Volumes:	72	864	298	165	1327	106	140	420	144	356	729	109	4730

Intersection Control: Signalized

Intersection Turning Movement Count

Prepared by: Southland Car Counters

Prepared For: KAKU Associates *Client's Project Name*

Saturday, November 30, 2002 *Client's Ref:* P3084 *Project No* 02-1514-001

N-S Street *Normandie Ave.* *E-W Street* *Jefferson Blvd.* *Area:* *Los Angeles*

	NorthBound			*SouthBound*			*EastBound*			*WestBound*			
	NL	*NT*	*NR*	*SL*	*ST*	*SR*	*EL*	*ET*	*ER*	*WL*	*WT*	*WR*	*Total*
Lanes:													
2:00 PM	26	231	29	22	256	11	19	121	29	61	117	11	933
2:15 PM	29	253	33	26	271	8	17	132	27	65	134	9	1004
2:30 PM	31	297	36	19	289	10	21	125	31	75	126	10	1070
2:45 PM	27	267	31	21	265	9	16	113	28	67	112	8	964
3:00 PM	20	284	39	25	278	13	20	105	33	70	107	13	1007
3:15 PM	19	223	32	17	251	9	15	97	26	75	98	11	873
3:30 PM	22	304	40	20	337	16	22	123	23	78	119	15	1119
3:45 PM	25	285	35	23	313	17	24	119	24	81	125	11	1082
4:00 PM	31	268	29	25	324	18	20	108	19	73	138	9	1062
4:15 PM	33	240	27	18	269	15	21	112	21	69	146	12	983
4:30 PM	30	255	34	15	256	20	23	129	25	75	129	14	1005
4:45 PM	24	241	29	17	238	18	17	111	22	71	121	9	918
Totals:	317	3148	394	248	3347	164	235	1395	308	860	1472	132	12020

MD Peak Hour Begins at 3:30 PM *15 Min. Peak :* 3:30 PM

Peak Volumes:	111	1097	131	86	1243	66	87	462	87	301	528	47	4246

Intersection Control: Signalized; At 7:40 PM EB Jefferson was closed to all traffic

Intersection Turning Movement Count

Prepared by: Southland Car Counters

Prepared For: KAKU Associates *Client's Project Name*

Saturday, November 30, 2002 *Client's Ref:* P3084 *Project No* 02-1514-004

N-S Street *Vermont Ave.* *E-W Street* *Adams Blvd.* *Area:* *Los Angeles*

	NorthBound			*SouthBound*			*EastBound*			*WestBound*			
	NL	*NT*	*NR*	*SL*	*ST*	*SR*	*EL*	*ET*	*ER*	*WL*	*WT*	*WR*	*Total*
Lanes:	1	2	1	1	2	0	1	2	0	1	2	0	
2:00 PM	29	138	30	33	302	13	38	87	19	38	68	24	819
2:15 PM	36	122	51	29	231	11	35	74	34	32	69	31	755
2:30 PM	27	153	50	42	321	19	39	147	28	37	151	26	1040
2:45 PM	39	175	62	53	343	35	42	184	27	45	165	28	1198
3:00 PM	41	189	69	58	266	46	56	132	29	50	168	29	1133
3:15 PM	32	186	48	60	338	35	35	124	28	48	192	32	1158
3:30 PM	48	183	52	71	395	24	37	113	32	56	186	27	1224
3:45 PM	36	191	55	69	368	32	41	81	31	51	206	33	1194
4:00 PM	32	199	35	54	320	34	44	113	23	58	192	29	1133
4:15 PM	35	162	28	41	244	22	37	103	12	50	182	45	961
4:30 PM	22	173	39	44	248	35	45	117	24	62	209	53	1071
4:45 PM	31	232	48	52	266	33	42	101	30	32	176	51	1094
Totals:	408	2103	567	606	3642	339	491	1376	317	559	1964	408	12780

MD Peak Hour Begins at 2:45 PM *15 Min. Peak :* 3:30 PM

Peak Volumes:	160	733	231	242	1342	140	170	553	116	199	711	116	4713

Intersection Control: Signalized; Officer directing traffic at 8:00 PM

Intersection Turning Movement Count

Prepared by: Southland Car Counters

Prepared For: KAKU Associates *Client's Project Name*

Saturday, November 30, 2002 *Client's Ref:* P3084 *Project No* 02-1514-003

N-S Street *Normandie Ave.* *E-W Street* *Adams Blvd.* *Area:* *Los Angeles*

	NorthBound			*SouthBound*			*EastBound*			*WestBound*			
	NL	*NT*	*NR*	*SL*	*ST*	*SR*	*EL*	*ET*	*ER*	*WL*	*WT*	*WR*	*Total*
Lanes:	1	2	0	1	2	0	1	2	0	1	2	0	
2:00 PM	11	248	23	19	241	22	24	173	25	30	139	32	987
2:15 PM	9	276	21	22	238	19	19	161	20	32	153	25	995
2:30 PM	19	303	27	25	261	26	31	150	27	26	175	40	1110
2:45 PM	14	259	20	21	292	24	23	124	21	39	156	29	1022
3:00 PM	18	225	24	27	229	29	17	184	16	24	143	21	957
3:15 PM	9	211	19	25	297	23	31	203	15	40	137	28	1038
3:30 PM	22	287	26	19	289	24	25	198	19	32	169	25	1135
3:45 PM	18	251	19	17	290	19	29	213	18	34	145	18	1071
4:00 PM	11	270	23	22	305	22	34	224	21	33	189	20	1174
4:15 PM	18	249	18	25	261	32	36	184	29	39	179	24	1094
4:30 PM	14	263	26	20	246	30	31	163	23	34	159	30	1039
4:45 PM	12	232	23	22	212	25	22	152	22	28	163	28	941
Totals:	175	3074	269	264	3161	295	322	2129	256	391	1907	320	12563

MD Peak Hour Begins at 3:30 PM *15 Min. Peak :* 4:00 PM

Peak Volumes:	69	1057	86	83	1145	97	124	819	87	138	682	87	4474

Intersection Control: Signalized

Intersection Turning Movement Count

Prepared by: Southland Car Counters

Prepared For: KAKU Associates *Client's Project Name*

Saturday, November 30, 2002 *Client's Ref:* P3084 *Project No* 02-1514-007

N-S Street *Vermont Ave.* *E-W Street* *I-10 EB Ramps* *Area:* *Los Angeles*

	NorthBound			*SouthBound*			*EastBound*			*WestBound*			
	NL	*NT*	*NR*	*SL*	*ST*	*SR*	*EL*	*ET*	*ER*	*WL*	*WT*	*WR*	*Total*
Lanes:		2	0	2	2		.5	.5	1				
2:00 PM		182	30	91	203		48	2	156				712
2:15 PM		154	22	161	264		38	1	150				790
2:30 PM		208	40	114	299		62	3	123				849
2:45 PM		194	39	117	303		32	0	115				800
3:00 PM		189	48	139	286		35	3	116				816
3:15 PM		209	36	144	265		57	1	128				840
3:30 PM		210	35	117	252		103	4	183				904
3:45 PM		182	24	101	243		96	6	147				799
4:00 PM		197	34	136	247		75	3	119				811
4:15 PM		235	46	112	257		81	1	88				820
4:30 PM		217	99	131	236		103	1	69				856
4:45 PM		252	23	112	233		71	2	65				758
Totals:		2429	476	1475	3088		801	27	1459				9755
MD Peak Hour Begins at		2:45 PM			*15 Min. Peak :*			3:30 PM					
Peak Volumes:		802	158	517	1106		227	8	542				3360

Intersection Control: Signalized

Intersection Turning Movement Count

Prepared by: Southland Car Counters

Prepared For: KAKU Associates *Client's Project Name*

Saturday, November 30, 2002 *Client's Ref:* P3084 *Project No* 02-1514-005

N-S Street *Normandie Ave.* ***E-W Street*** *I-10 EB Ramps* ***Area:*** *Los Angeles*

	NorthBound			*SouthBound*			*EastBound*			*WestBound*			
	NL	*NT*	*NR*	*SL*	*ST*	*SR*	*EL*	*ET*	*ER*	*WL*	*WT*	*WR*	*Total*
Lanes:		2	1	1	2		1.3	.3	.3				
2:00 PM		249	64	103	195		46		38				695
2:15 PM		268	72	109	219		52		35				755
2:30 PM		265	65	108	238		58		64				798
2:45 PM		221	26	109	247		99		140				842
3:00 PM		282	36	131	238		105		136				928
3:15 PM		229	40	98	204		137		143				851
3:30 PM		207	43	83	220		149		172				874
3:45 PM		201	53	109	230		39		91				723
4:00 PM		283	46	92	265		39		82				807
4:15 PM		239	43	102	261		48		52				745
4:30 PM		246	44	91	252		36		59				728
4:45 PM		228	47	84	262		39		53				713
Totals:		2918	579	1219	2831		847		1065				9459

MD Peak Hour Begins at 2:45 PM *15 Min. Peak :* 3:00 PM

Peak Volumes:		939	145	421	909		490		591				3495

Intersection Control: Signalized

Intersection Turning Movement Count

Prepared by: Southland Car Counters

Prepared For: KAKU Associates *Client's Project Name*

Saturday, November 30, 2002 *Client's Ref:* P3084 *Project No* 02-1514-008

N-S Street *Vermont Ave.* *E-W Street* *I-10 WB Ramps* *Area:* *Los Angeles*

	NorthBound			*SouthBound*			*EastBound*			*WestBound*			
	NL	*NT*	*NR*	*SL*	*ST*	*SR*	*EL*	*ET*	*ER*	*WL*	*WT*	*WR*	*Total*
Lanes:	2	2			2	0				.5	.5	1	
2:00 PM	34	175			174	24				82	0	50	539
2:15 PM	60	297			463	27				104	1	119	1071
2:30 PM	21	135			208	33				90	0	50	537
2:45 PM	31	167			308	80				93	0	118	797
3:00 PM	39	211			396	75				114	0	82	917
3:15 PM	33	191			285	78				56	0	75	718
3:30 PM	46	250			271	92				57	0	87	803
3:45 PM	27	227			257	71				114	0	181	877
4:00 PM	61	265			333	119				83	0	154	1015
4:15 PM	30	223			264	46				57	0	72	692
4:30 PM	65	288			325	106				62	1	88	935
4:45 PM	83	270			287	78				66	0	104	888
Totals:	530	2699			3571	829				978	2	1180	9789

MD Peak Hour Begins at 4:00 PM *15 Min. Peak :* 4:00 PM

Peak Volumes:	239	1046			1209	349				268	1	418	3530

Intersection Control: Signalized;

Intersection Turning Movement Count

Prepared by: Southland Car Counters

Prepared For: KAKU Associates *Client's Project Name*

Saturday, November 30, 2002 *Client's Ref:* P3084 *Project No* 02-1514-006

N-S Street *Normandie Ave.* *E-W Street* *I-10 WB Ramps* *Area:* *Los Angeles*

	NorthBound			SouthBound			EastBound			WestBound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	Total
Lanes:	1	2			2	1				1.3	.3	.3	
2:00 PM	63	230			264	37				34	0	49	677
2:15 PM	75	246			287	53				37	1	66	765
2:30 PM	61	263			299	56				57	0	86	822
2:45 PM	52	271			308	58				69	2	97	857
3:00 PM	57	330			316	58				67	1	102	931
3:15 PM	48	321			246	45				62	0	111	833
3:30 PM	51	305			262	38				55	0	102	813
3:45 PM	64	184			286	41				58	1	87	721
4:00 PM	66	251			315	38				56	1	90	817
4:15 PM	65	219			336	39				43	0	82	784
4:30 PM	58	227			302	37				51	0	89	764
4:45 PM	60	204			308	33				46	0	83	734
Totals:	720	3051			3529	533				635	6	1044	9518

MD Peak Hour Begins at 2:30 PM *15 Min. Peak :* 3:00 PM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	Total
Peak Volumes:	218	1185			1169	217				255	3	396	3443

Intersection Control: Signalized

Weekend Count Data 6:30-9:30 p.m.

<< ACCUTEK >>
<< 21114 TRIGGER LANE >>
<< DIAMOND BAR, CA 91765 >>
<< (909) 595-6199 FAX: (909) 595-6022 >

CITY:
N/S:
E/W:
CLIENT:

File Name : 319601
Site Code : 00319601
Start Date : 11/30/2002
Page No : 1

Groups Printed- Turning Movement

	S.FIGUEROA ST. Southbound				ADAMS BLVD. Westbound				S.FIGUEROA ST. Northbound				ADAMS BLVD. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
02:00 PM	39	265	18	322	56	177	71	304	13	167	49	229	40	111	21	172	1027
02:15 PM	52	269	19	340	50	211	66	327	13	160	42	215	55	137	21	213	1095
02:30 PM	50	265	31	346	78	173	84	335	23	186	36	245	53	125	18	196	1122
02:45 PM	41	276	32	349	68	162	78	308	25	136	38	199	57	129	19	205	1061
Total	182	1075	100	1357	252	723	299	1274	74	649	165	888	205	502	79	786	4305
03:00 PM	42	237	26	305	29	200	79	308	10	144	55	209	47	136	19	202	1024
03:15 PM	33	215	21	269	59	223	71	353	17	175	30	222	62	151	31	244	1088
03:30 PM	21	177	17	215	51	248	43	342	19	189	36	244	83	126	10	219	1020
03:45 PM	12	194	20	226	56	229	31	316	11	204	29	244	77	134	26	237	1023
Total	108	823	84	1015	195	900	224	1319	57	712	150	919	269	547	86	902	4155
04:00 PM	16	153	15	184	58	206	39	303	14	229	56	299	55	146	23	224	1010
04:15 PM	15	119	13	147	56	239	28	323	27	295	50	372	57	170	21	248	1090
04:30 PM	13	127	16	156	54	217	19	290	16	311	59	386	59	141	17	217	1049
04:45 PM	12	118	28	158	40	179	32	251	19	239	68	326	50	112	22	184	919
Total	56	517	72	645	208	841	118	1167	76	1074	233	1383	221	569	83	873	4068
*** BREAK ***																	
06:30 PM	16	87	14	117	60	119	24	203	15	142	30	187	24	68	11	103	610
06:45 PM	18	71	16	105	55	130	16	201	16	178	33	227	22	66	4	92	625
Total	34	158	30	222	115	249	40	404	31	320	63	414	46	134	15	195	1235
07:00 PM	11	71	10	92	62	121	18	201	15	138	20	173	36	51	14	101	567
07:15 PM	4	93	12	109	37	122	18	177	16	113	42	171	30	61	16	107	564
07:30 PM	4	60	17	81	27	109	20	156	15	102	33	150	28	59	11	98	485
07:45 PM	6	67	11	84	21	86	17	124	11	100	31	142	15	55	10	80	430
Total	25	291	50	366	147	438	73	658	57	453	126	636	109	226	51	386	2046
08:00 PM	2	89	6	97	22	106	24	152	17	120	39	176	21	48	18	87	512
08:15 PM	1	98	12	111	27	100	19	146	48	206	24	278	28	65	15	108	643
08:30 PM	4	85	14	103	34	91	26	151	58	325	58	441	22	105	29	156	851
08:45 PM	5	112	12	129	32	107	31	170	64	413	48	525	29	164	28	221	1045
Total	12	384	44	440	115	404	100	619	187	1064	169	1420	100	382	90	572	3051
09:00 PM	4	118	12	134	31	104	22	157	68	492	51	611	28	135	39	202	1104
09:15 PM	3	130	10	143	38	120	24	182	99	528	57	684	27	199	28	254	1263
Grand Total	424	3496	402	4322	1101	3779	900	5780	649	5292	1014	6955	1005	2694	471	4170	21227
Apprch %	9.8	80.9	9.3		19.0	65.4	15.6		9.3	76.1	14.6		24.1	64.6	11.3		
Total %	2.0	16.5	1.9	20.4	5.2	17.8	4.2	27.2	3.1	24.9	4.8	32.8	4.7	12.7	2.2	19.6	

	S.FIGUEROA ST. Southbound				ADAMS BLVD. Westbound				S.FIGUEROA ST. Northbound				ADAMS BLVD. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 02:00 PM to 04:45 PM - Peak 1 of 1																	
Intersection	02:00 PM																
Volume	182	1075	100	1357	252	723	299	1274	74	649	165	888	205	502	79	786	4305
Percent	13.4	79.2	7.4		19.8	56.8	23.5		8.3	73.1	18.6		26.1	63.9	10.1		
02:30 Volume	50	265	31	346	78	173	84	335	23	186	36	245	53	125	18	196	1122
Peak Factor																	0.959
High Int.	02:45 PM				02:30 PM				02:30 PM				02:15 PM				
Volume	41	276	32	349	78	173	84	335	23	186	36	245	55	137	21	213	
Peak Factor				0.972				0.951				0.906				0.923	

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File Name : 319601
Site Code : 00319601
Start Date : 11/30/2002

	S.FIGUEROA ST. Southbound				ADAMS BLVD. Westbound				S.FIGUEROA ST. Northbound				ADAMS BLVD. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 06:30 PM to 09:15 PM - Peak 1 of 1																	
Intersection	08:30 PM																
Volume	16	445	48	509	135	422	103	660	289	1758	214	2261	106	603	124	833	4263
Percent	3.1	87.4	9.4		20.5	63.9	15.6		12.8	77.8	9.5		12.7	72.4	14.9		
09:15 Volume	3	130	10	143	38	120	24	182	99	528	57	684	27	199	28	254	1263
Peak Factor																	0.844
High Int.	09:15 PM				09:15 PM				09:15 PM				09:15 PM				
Volume	3	130	10	143	38	120	24	182	99	528	57	684	27	199	28	254	
Peak Factor				0.890				0.907				0.826				0.820	

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File Name : 319602
Site Code : 00319602
Start Date : 11/30/2002
Page No : 1

Groups Printed- Turning Movement

	FIGUEROA ST.				JEFFERSON BLVD.				FIGUEROA ST.				JEFFERSON BLVD.				
	Southbound				Westbound				Northbound				Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
02:00 PM	52	231	30	313	40	154	53	247	86	260	98	444	24	48	11	83	1087
02:15 PM	43	202	14	259	49	141	52	242	158	299	89	546	42	51	20	113	1160
02:30 PM	50	208	40	298	29	157	39	225	100	287	98	485	35	40	9	84	1092
02:45 PM	60	231	43	334	54	164	43	261	118	257	59	434	26	50	9	85	1114
Total	205	872	127	1204	172	616	187	975	462	1103	344	1909	127	189	49	365	4453
03:00 PM	56	200	42	298	51	172	32	255	100	338	2	440	1	71	14	86	1079
03:15 PM	72	179	66	317	41	154	38	233	122	331	1	454	2	108	21	131	1135
03:30 PM	57	190	53	300	36	120	19	175	42	269	0	311	8	107	29	144	930
03:45 PM	48	213	21	282	30	102	17	149	43	317	0	360	12	67	29	108	899
Total	233	782	182	1197	158	548	106	812	307	1255	3	1565	23	353	93	469	4043
04:00 PM	36	204	0	240	39	129	11	179	38	460	0	498	25	98	41	164	1081
04:15 PM	55	224	0	279	41	111	0	152	1	572	0	573	12	71	31	114	1118
04:30 PM	63	241	0	304	37	137	0	174	0	564	0	564	3	2	5	10	1052
04:45 PM	50	208	1	259	46	149	0	195	0	490	0	490	5	2	6	13	957
Total	204	877	1	1082	163	526	11	700	39	2086	0	2125	45	173	83	301	4208
*** BREAK ***																	
06:30 PM	40	110	0	150	18	66	0	84	0	281	0	281	21	97	19	137	652
06:45 PM	62	79	1	142	24	67	0	91	0	275	0	275	28	71	24	123	631
Total	102	189	1	292	42	133	0	175	0	556	0	556	49	168	43	260	1283
07:00 PM	39	96	0	135	8	51	0	59	2	235	9	246	29	75	24	128	568
07:15 PM	50	91	1	142	19	57	0	76	2	223	7	232	22	62	28	112	562
07:30 PM	38	110	0	148	24	57	1	82	7	226	1	234	30	58	15	103	567
07:45 PM	27	82	1	110	16	52	0	68	16	210	1	227	9	52	15	76	481
Total	154	379	2	535	67	217	1	285	27	894	18	939	90	247	82	419	2178
08:00 PM	30	98	4	132	11	18	2	31	5	228	8	241	13	52	8	73	477
08:15 PM	18	142	8	168	17	29	0	46	19	319	2	340	19	31	39	89	643
08:30 PM	13	149	27	189	10	19	0	29	0	356	0	356	0	44	71	115	689
08:45 PM	8	176	41	225	20	17	0	37	0	459	1	460	0	54	70	124	846
Total	69	565	80	714	58	83	2	143	24	1362	11	1397	32	181	188	401	2655
09:00 PM	3	170	49	222	53	13	0	66	1	497	0	498	0	141	47	188	974
09:15 PM	11	202	49	262	41	25	0	66	0	518	0	518	1	165	80	246	1092
Grand Total	981	4036	491	5508	754	2161	307	3222	860	8271	376	9507	367	1617	665	2649	20886
Apprch %	17.8	73.3	8.9		23.4	67.1	9.5		9.0	87.0	4.0		13.9	61.0	25.1		
Total %	4.7	19.3	2.4	26.4	3.6	10.3	1.5	15.4	4.1	39.6	1.8	45.5	1.8	7.7	3.2	12.7	

	FIGUEROA ST.				JEFFERSON BLVD.				FIGUEROA ST.				JEFFERSON BLVD.				
	Southbound				Westbound				Northbound				Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 02:00 PM to 04:45 PM - Peak 1 of 1																	
Intersection	02:00 PM																
Volume	205	872	127	1204	172	616	187	975	462	1103	344	1909	127	189	49	365	4453
Percent	17.0	72.4	10.5		17.6	63.2	19.2		24.2	57.8	18.0		34.8	51.8	13.4		
02:15 Volume	43	202	14	259	49	141	52	242	158	299	89	546	42	51	20	113	1160
Peak Factor																	0.960
High Int.	02:45 PM				02:45 PM				02:15 PM				02:15 PM				
Volume	60	231	43	334	54	164	43	261	158	299	89	546	42	51	20	113	
Peak Factor				0.901				0.934				0.874				0.808	

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	FIGUEROA ST. Southbound				JEFFERSON BLVD. Westbound				FIGUEROA ST. Northbound				JEFFERSON BLVD. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 06:30 PM to 09:15 PM - Peak 1 of 1																	
Intersection	08:30 PM																
Volume	35	697	166	898	124	74	0	198	1	1830	1	1832	1	404	268	673	3601
Percent	3.9	77.6	18.5		62.6	37.4	0.0		0.1	99.9	0.1		0.1	60.0	39.8		
09:15 Volume	11	202	49	262	41	25	0	66	0	518	0	518	1	165	80	246	1092
Peak Factor																	0.824
High Int.	09:15 PM				09:00 PM				09:15 PM				09:15 PM				
Volume	11	202	49	262	53	13	0	66	0	518	0	518	1	165	80	246	
Peak Factor				0.857				0.750				0.884				0.684	

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CLIENT:

File Name : 319603
Site Code : 00319603
Start Date : 11/30/2002
Page No : 1

Groups Printed- Turning Movement

	FLOWER ST. Southbound				EXPOSITION BLVD. Westbound				I-110 OFF RAMP - SOUTHBOUND(not a Northbound) Northbound				EXPOSITION BLVD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
02:00 PM	133	52	0	185	0	112	13	125	0	126	37	163	0	0	0	0	473
02:15 PM	94	38	0	132	0	116	15	131	0	141	54	195	0	0	0	0	458
02:30 PM	107	81	1	189	0	77	7	84	0	160	42	202	0	0	0	0	475
02:45 PM	70	40	0	110	0	45	14	59	0	159	35	194	0	0	0	0	363
Total	404	211	1	616	0	350	49	399	0	586	168	754	0	0	0	0	1769
03:00 PM	62	78	0	140	0	78	9	87	0	138	26	164	0	0	0	0	391
03:15 PM	56	61	0	117	0	86	12	98	0	152	36	188	0	0	0	0	403
03:30 PM	41	58	1	100	1	64	6	71	0	157	32	189	0	0	0	0	360
03:45 PM	35	32	1	68	0	73	11	84	0	126	39	165	0	0	0	0	317
Total	194	229	2	425	1	301	38	340	0	573	133	706	0	0	0	0	1471
04:00 PM	69	51	1	121	0	70	18	88	0	151	35	186	0	0	0	0	395
04:15 PM	49	73	0	122	0	102	13	115	0	206	36	242	0	0	0	0	479
04:30 PM	103	69	0	172	0	98	14	112	0	159	38	197	0	0	0	0	481
04:45 PM	74	36	3	113	0	66	10	76	0	130	40	170	0	0	0	0	359
Total	295	229	4	528	0	336	55	391	0	646	149	795	0	0	0	0	1714
*** BREAK ***																	
06:30 PM	46	24	0	70	0	54	1	55	0	78	8	86	0	0	0	0	211
06:45 PM	40	21	0	61	0	50	3	53	0	87	9	96	0	0	0	0	210
Total	86	45	0	131	0	104	4	108	0	165	17	182	0	0	0	0	421
07:00 PM	24	19	0	43	0	65	6	71	0	80	19	99	0	0	0	0	213
07:15 PM	42	20	0	62	0	56	2	58	0	87	10	97	0	0	0	0	217
07:30 PM	28	20	0	48	0	55	6	61	0	54	13	67	0	0	0	0	176
07:45 PM	42	12	0	54	0	57	0	57	0	61	10	71	0	0	0	0	182
Total	136	71	0	207	0	233	14	247	0	282	52	334	0	0	0	0	788
08:00 PM	39	20	0	59	0	42	3	45	0	67	10	77	0	0	0	0	181
08:15 PM	43	23	0	66	0	40	11	51	0	94	11	105	0	0	0	0	222
08:30 PM	35	54	0	89	0	31	34	65	0	193	15	208	0	0	0	0	362
08:45 PM	44	37	0	81	0	55	22	77	0	238	16	254	0	0	0	0	412
Total	161	134	0	295	0	168	70	238	0	592	52	644	0	0	0	0	1177
09:00 PM	63	24	0	87	0	39	28	67	0	253	20	273	0	0	0	0	427
09:15 PM	63	36	0	99	0	42	24	66	0	270	10	280	0	0	0	0	445
Grand Total	1402	979	7	2388	1	1573	282	1856	0	3367	601	3968	0	0	0	0	8212
Apprch %	58.7	41.0	0.3		0.1	84.8	15.2		0.0	84.9	15.1		0.0	0.0	0.0		
Total %	17.1	11.9	0.1	29.1	0.0	19.2	3.4	22.6	0.0	41.0	7.3	48.3	0.0	0.0	0.0	0.0	

	FLOWER ST. Southbound				EXPOSITION BLVD. Westbound				I-110 OFF RAMP - SOUTHBOUND(not a Northbound) Northbound				EXPOSITION BLVD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 02:00 PM to 04:45 PM - Peak 1 of 1																	
Intersection	02:00 PM																
Volume	404	211	1	616	0	350	49	399	0	586	168	754	0	0	0	0	1769
Percent	65.6	34.3	0.2		0.0	87.7	12.3		0.0	77.7	22.3		0.0	0.0	0.0		
02:30 Volume	107	81	1	189	0	77	7	84	0	160	42	202	0	0	0	0	475
Peak Factor																	0.931
High Int.	02:30 PM				02:15 PM				02:30 PM				1:45:00 PM				
Volume	107	81	1	189	0	116	15	131	0	160	42	202					
Peak Factor				0.815				0.761				0.933					

CITY:
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E/W:
CLIENT:

File Name : 319603
Site Code : 00319603
Start Date : 11/30/2002
Page No : 2

	FLOWER ST. Southbound				EXPOSITION BLVD. Westbound				I-110 OFF RAMP - SOUTHBOUND(not a Northbound) Northbound				EXPOSITION BLVD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 06:30 PM to 09:15 PM - Peak 1 of 1																	
Intersection	08:30 PM																
Volume	205	151	0	356	0	167	108	275	0	954	61	1015	0	0	0	0	1646
Percent	57.6	42.4	0.0		0.0	60.7	39.3		0.0	94.0	6.0		0.0	0.0	0.0		
09:15 Volume	63	36	0	99	0	42	24	66	0	270	10	280	0	0	0	0	445
Peak Factor																	0.925
High Int.	09:15 PM				08:45 PM				09:15 PM								
Volume	63	36	0	99	0	55	22	77	0	270	10	280					
Peak Factor				0.899				0.893				0.906					

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File Name : 319605
Site Code : 00319605
Start Date : 11/30/2002
Page No : 1

Groups Printed- Turning Movement

	FIGUEROA ST.				EXPOSITION BLVD.				FIGUEROA ST.				EXPOSITION BLVD.				
	Southbound				Westbound				Northbound				Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
02:00 PM	90	197	36	323	96	198	0	294	13	310	0	323	20	56	48	124	1064
02:15 PM	139	168	36	343	97	181	0	278	12	306	0	318	31	106	50	187	1126
02:30 PM	54	179	33	266	123	127	2	252	25	270	0	295	26	84	43	153	966
02:45 PM	4	182	29	215	109	10	6	125	35	273	1	309	26	89	23	138	787
Total	287	726	134	1147	425	516	8	949	85	1159	1	1245	103	335	164	602	3943
03:00 PM	1	176	23	200	176	4	9	189	25	160	1	186	12	102	28	142	717
03:15 PM	0	196	39	235	168	5	0	173	15	179	1	195	12	79	30	121	724
03:30 PM	0	175	50	225	149	2	1	152	15	140	1	156	10	76	24	110	643
03:45 PM	4	226	44	274	149	5	0	154	17	184	0	201	6	97	32	135	764
Total	5	773	156	934	642	16	10	668	72	663	3	738	40	354	114	508	2848
04:00 PM	0	247	24	271	210	9	2	221	2	179	2	183	2	73	10	85	760
04:15 PM	3	253	40	296	195	7	2	204	17	280	0	297	9	101	36	146	943
04:30 PM	0	199	29	228	245	9	0	254	15	255	0	270	9	66	15	90	842
04:45 PM	0	186	38	224	179	7	1	187	22	242	0	264	3	69	34	106	781
Total	3	885	131	1019	829	32	5	866	56	956	2	1014	23	309	95	427	3326
*** BREAK ***																	
06:30 PM	0	96	21	117	96	0	7	103	6	137	2	145	13	60	15	88	453
06:45 PM	1	72	28	101	104	0	3	107	8	143	1	152	12	69	18	99	459
Total	1	168	49	218	200	0	10	210	14	280	3	297	25	129	33	187	912
07:00 PM	1	63	31	95	104	1	9	114	8	128	2	138	13	78	11	102	449
07:15 PM	3	79	21	103	94	0	5	99	6	113	1	120	13	66	14	93	415
07:30 PM	5	94	28	127	77	1	9	87	3	121	0	124	11	43	9	63	401
07:45 PM	3	57	18	78	78	0	9	87	8	112	0	120	8	63	10	81	366
Total	12	293	98	403	353	2	32	387	25	474	3	502	45	250	44	339	1631
08:00 PM	3	84	29	116	84	2	4	90	25	113	1	139	4	47	12	63	408
08:15 PM	3	95	43	141	82	2	0	84	49	150	1	200	0	35	5	40	465
08:30 PM	5	77	55	137	67	2	0	69	48	158	1	207	0	19	8	27	440
08:45 PM	6	94	53	153	86	0	0	86	36	230	0	266	1	70	8	79	584
Total	17	350	180	547	319	6	4	329	158	651	3	812	5	171	33	209	1897
09:00 PM	10	106	43	159	96	8	7	111	44	206	0	250	2	77	17	96	616
09:15 PM	5	103	57	165	109	2	0	111	54	249	1	304	4	73	16	93	673
Grand Total	340	3404	848	4592	2973	582	76	3631	508	4638	16	5162	247	1698	516	2461	15846
Apprch %	7.4	74.1	18.5		81.9	16.0	2.1		9.8	89.8	0.3		10.0	69.0	21.0		
Total %	2.1	21.5	5.4	29.0	18.8	3.7	0.5	22.9	3.2	29.3	0.1	32.6	1.6	10.7	3.3	15.5	

	FIGUEROA ST.				EXPOSITION BLVD.				FIGUEROA ST.				EXPOSITION BLVD.				
	Southbound				Westbound				Northbound				Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 02:00 PM to 04:45 PM - Peak 1 of 1																	
Intersection	02:00 PM																
Volume	287	726	134	1147	425	516	8	949	85	1159	1	1245	103	335	164	602	3943
Percent	25.0	63.3	11.7		44.8	54.4	0.8		6.8	93.1	0.1		17.1	55.6	27.2		
02:15 Volume	139	168	36	343	97	181	0	278	12	306	0	318	31	106	50	187	1126
Peak Factor																	0.875
High Int.	02:15 PM				02:00 PM				02:00 PM				02:15 PM				
Volume	139	168	36	343	96	198	0	294	13	310	0	323	31	106	50	187	
Peak Factor				0.836				0.807				0.964				0.805	

CITY:
N/S:
E/W:
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File Name : 319605
Site Code : 00319605
Start Date : 11/30/2002

	FIGUEROA ST. Southbound				EXPOSITION BLVD. Westbound				FIGUEROA ST. Northbound				EXPOSITION BLVD. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 06:30 PM to 09:15 PM - Peak 1 of 1																	
Intersection	08:30 PM																
Volume	26	380	208	614	358	12	7	377	182	843	2	1027	7	239	49	295	2313
Percent	4.2	61.9	33.9		95.0	3.2	1.9		17.7	82.1	0.2		2.4	81.0	16.6		
09:15 Volume	5	103	57	165	109	2	0	111	54	249	1	304	4	73	16	93	673
Peak Factor																	0.859
High Int.	09:15 PM				09:00 PM				09:15 PM				09:00 PM				
Volume	5	103	57	165	96	8	7	111	54	249	1	304	2	77	17	96	
Peak Factor				0.930				0.849				0.845				0.768	

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File Name : 319604
Site Code : 00319604
Start Date : 11/30/2002
Page No : 1

Groups Printed- Turning Movement

	FLOWER ST. Southbound				Westbound				FLOWER ST. Northbound				37TH ST. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
02:00 PM	0	114	100	214	0	0	0	0	61	0	0	61	25	82	0	107	382
02:15 PM	0	98	114	212	0	0	0	0	68	0	0	68	38	122	0	160	440
02:30 PM	0	141	120	261	0	0	0	0	63	0	0	63	27	117	0	144	468
02:45 PM	0	104	135	239	0	0	0	0	58	0	0	58	24	126	0	150	447
Total	0	457	469	926	0	0	0	0	250	0	0	250	114	447	0	561	1737
03:00 PM	0	130	105	235	0	0	0	0	81	0	0	81	35	113	0	148	464
03:15 PM	0	132	131	263	0	0	0	0	98	0	0	98	21	112	0	133	494
03:30 PM	0	120	109	229	0	0	0	0	75	0	0	75	14	124	0	138	442
03:45 PM	0	117	107	224	0	0	0	0	67	0	0	67	20	130	0	150	441
Total	0	499	452	951	0	0	0	0	321	0	0	321	90	479	0	569	1841
04:00 PM	0	123	132	255	0	0	0	0	65	0	0	65	4	88	0	92	412
04:15 PM	0	155	142	297	0	0	0	0	70	0	0	70	14	119	0	133	500
04:30 PM	0	123	125	248	0	0	0	0	48	0	0	48	12	96	0	108	404
04:45 PM	0	78	121	199	0	0	0	0	19	0	0	19	17	113	0	130	348
Total	0	479	520	999	0	0	0	0	202	0	0	202	47	416	0	463	1664
*** BREAK ***																	
06:30 PM	0	24	78	102	0	0	0	0	11	0	0	11	8	83	0	91	204
06:45 PM	0	28	73	101	0	0	0	0	6	0	0	6	10	99	0	109	216
Total	0	52	151	203	0	0	0	0	17	0	0	17	18	182	0	200	420
07:00 PM	0	22	76	98	0	0	0	0	9	0	0	9	7	113	0	120	227
07:15 PM	0	34	74	108	0	0	0	0	5	0	0	5	4	82	0	86	199
07:30 PM	0	23	64	87	0	0	0	0	9	0	0	9	7	65	0	72	168
07:45 PM	0	25	54	79	0	0	0	0	17	0	0	17	10	79	0	89	185
Total	0	104	268	372	0	0	0	0	40	0	0	40	28	339	0	367	779
08:00 PM	0	35	68	103	0	0	0	0	21	0	0	21	21	67	0	88	212
08:15 PM	0	34	107	141	0	0	0	0	81	0	0	81	20	102	0	122	344
08:30 PM	0	62	232	294	0	0	0	0	103	0	0	103	1	108	0	109	506
08:45 PM	0	36	271	307	0	0	0	0	82	0	0	82	10	128	0	138	527
Total	0	167	678	845	0	0	0	0	287	0	0	287	52	405	0	457	1589
09:00 PM	0	42	271	313	0	0	0	0	120	0	0	120	14	131	0	145	578
09:15 PM	0	71	270	341	0	0	0	0	97	0	0	97	4	172	0	176	614
Grand Total	0	1871	3079	4950	0	0	0	0	1334	0	0	1334	367	2571	0	2938	9222
Apprch %	0.0	37.8	62.2		0.0	0.0	0.0		100.0	0.0	0.0		12.5	87.5	0.0		
Total %	0.0	20.3	33.4	53.7	0.0	0.0	0.0	0.0	14.5	0.0	0.0	14.5	4.0	27.9	0.0	31.9	

	FLOWER ST. Southbound				Westbound				FLOWER ST. Northbound				37TH ST. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 02:00 PM to 04:45 PM - Peak 1 of 1																	
Intersection	02:30 PM																
Volume	0	507	491	998	0	0	0	0	300	0	0	300	107	468	0	575	1873
Percent	0.0	50.8	49.2		0.0	0.0	0.0		100.0	0.0	0.0		18.6	81.4	0.0		
03:15 Volume	0	132	131	263	0	0	0	0	98	0	0	98	21	112	0	133	494
Peak Factor																	0.948
High Int.	03:15 PM				1:45:00 PM				03:15 PM				02:45 PM				
Volume	0	132	131	263	0	0	0	0	98	0	0	98	24	126	0	150	
Peak Factor				0.949								0.765				0.958	

CITY:
N/S:
E/W:
CLIENT:

File Name : 319604
Site Code : 00319604
Start Date : 11/30/2002

	FLOWER ST. Southbound				Westbound				FLOWER ST. Northbound				37TH ST. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 06:30 PM to 09:15 PM - Peak 1 of 1																	
Intersection	08:30 PM																
Volume	0	211	1044	1255	0	0	0	0	402	0	0	402	29	539	0	568	2225
Percent	0.0	16.8	83.2		0.0	0.0	0.0		100.0	0.0	0.0		5.1	94.9	0.0		
09:15 Volume	0	71	270	341	0	0	0	0	97	0	0	97	4	172	0	176	614
Peak Factor																	0.906
High Int.	09:15 PM								09:00 PM				09:15 PM				
Volume	0	71	270	341	0	0	0	0	120	0	0	120	4	172	0	176	
Peak Factor				0.920								0.838				0.807	

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<< 21114 TRIGGER LANE >>
<< DIAMOND BAR, CA 91765 >>
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CITY:
N/S:
E/W:
CLIENT:

File Name : 319606
Site Code : 00319606
Start Date : 11/30/2002
Page No : 1

Groups Printed- Turning Movement

	FIGUEROA ST. Southbound				Westbound				FIGUEROA ST. Northbound				STATE DRIVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
02:00 PM	0	280	0	280	0	0	0	0	0	305	0	305	0	0	0	0	585
02:15 PM	0	220	0	220	0	0	0	0	0	319	0	319	0	0	0	0	539
02:30 PM	0	203	0	203	0	0	0	0	0	274	1	275	0	0	0	0	478
02:45 PM	1	185	0	186	0	0	0	0	0	304	0	304	0	0	0	0	490
Total	1	888	0	889	0	0	0	0	0	1202	1	1203	0	0	0	0	2092
03:00 PM	1	225	0	226	0	0	0	0	0	168	0	168	1	0	0	1	395
03:15 PM	0	225	0	225	0	0	0	0	0	221	0	221	0	0	1	1	447
03:30 PM	0	198	0	198	0	0	0	0	0	152	0	152	0	0	0	0	350
03:45 PM	0	220	0	220	0	0	0	0	0	184	0	184	1	0	0	1	405
Total	1	868	0	869	0	0	0	0	0	725	0	725	2	0	1	3	1597
04:00 PM	0	221	0	221	0	0	0	0	0	201	1	202	0	0	0	0	423
04:15 PM	0	235	0	235	0	0	0	0	0	257	0	257	2	0	1	3	495
04:30 PM	0	210	0	210	0	0	0	0	0	250	0	250	0	0	0	0	460
04:45 PM	0	195	0	195	0	0	0	0	0	267	0	267	0	0	0	0	462
Total	0	861	0	861	0	0	0	0	0	975	1	976	2	0	1	3	1840
*** BREAK ***																	
06:30 PM	2	119	0	121	0	0	0	0	0	151	0	151	0	0	2	2	274
06:45 PM	1	94	0	95	0	0	0	0	0	146	1	147	2	0	0	2	244
Total	3	213	0	216	0	0	0	0	0	297	1	298	2	0	2	4	518
07:00 PM	0	96	0	96	0	0	0	0	0	135	0	135	0	0	1	1	232
07:15 PM	0	108	0	108	0	0	0	0	0	122	0	122	0	0	0	0	230
07:30 PM	1	124	0	125	0	0	0	0	0	122	0	122	0	0	0	0	247
07:45 PM	0	85	0	85	0	0	0	0	0	124	0	124	1	0	1	2	211
Total	1	413	0	414	0	0	0	0	0	503	0	503	1	0	2	3	920
08:00 PM	0	100	0	100	0	0	0	0	0	141	0	141	2	0	0	2	243
08:15 PM	0	103	0	103	0	0	0	0	0	197	0	197	1	0	0	1	301
08:30 PM	0	69	0	69	0	0	0	0	0	219	0	219	2	0	2	4	292
08:45 PM	0	118	0	118	0	0	0	0	0	232	0	232	3	0	9	12	362
Total	0	390	0	390	0	0	0	0	0	789	0	789	8	0	11	19	1198
09:00 PM	0	135	0	135	0	0	0	0	0	187	0	187	0	0	2	2	324
09:15 PM	0	147	0	147	0	0	0	0	0	225	0	225	2	0	7	9	381
Grand Total	6	3915	0	3921	0	0	0	0	0	4903	3	4906	17	0	26	43	8870
Apprch %	0.2	99.8	0.0		0.0	0.0	0.0		0.0	99.9	0.1		39.5	0.0	60.5		
Total %	0.1	44.1	0.0	44.2	0.0	0.0	0.0	0.0	0.0	55.3	0.0	55.3	0.2	0.0	0.3	0.5	

	FIGUEROA ST. Southbound				Westbound				FIGUEROA ST. Northbound				STATE DRIVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 02:00 PM to 04:45 PM - Peak 1 of 1																	
Intersection	02:00 PM																
Volume	1	888	0	889	0	0	0	0	0	1202	1	1203	0	0	0	0	2092
Percent	0.1	99.9	0.0		0.0	0.0	0.0		0.0	99.9	0.1		0.0	0.0	0.0		
02:00 Volume	0	280	0	280	0	0	0	0	0	305	0	305	0	0	0	0	585
Peak Factor																	0.894
High Int.	02:00 PM				1:45:00 PM				02:15 PM				1:45:00 PM				
Volume	0	280	0	280	0	0	0	0	0	319	0	319					
Peak Factor				0.794								0.943					

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CITY:
N/S:
E/W:
CLIENT:

File Name : 319606
Site Code : 00319606
Start Date : 11/30/2002
Page No : 2

	FIGUEROA ST. Southbound				Westbound				FIGUEROA ST. Northbound				STATE DRIVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 06:30 PM to 09:15 PM - Peak 1 of 1																	
Intersection	08:30 PM																
Volume	0	469	0	469	0	0	0	0	0	863	0	863	7	0	20	27	1359
Percent	0.0	100.0	0.0		0.0	0.0	0.0		0.0	100.0	0.0		25.9	0.0	74.1		
09:15 Volume	0	147	0	147	0	0	0	0	0	225	0	225	2	0	7	9	381
Peak Factor																	0.892
High Int.	09:15 PM								08:45 PM				08:45 PM				
Volume	0	147	0	147	0	0	0	0	0	232	0	232	3	0	9	12	
Peak Factor				0.798								0.930				0.563	

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES
PROJECT: L.A. COLISEUM COINTS
DATE: SATURDAY, NOVEMBER 30, 2002
PERIOD: 6:30 PM TO 9:30 PM
INTERSECTION N/S FIGUEROA ST/ FLOWER ST.
E/W 38TH PL
FILE NUMBER: 1-PM

15 MINUTE TOTALS	2	3/38TH	3F	4FI	5	6	4F	7F	7/38TH	8
	SBTH	SBLT	SBLT	WBRT	WBTH	WBLT	WBRT	NBTR	NBRT	NBTH
630-645	120	1	2	1	33	3	3	6	8	105
645-700	126	2	3	2	28	2	5	4	10	112
700-715	124	4	2	2	35	4	6	8	15	109
715-730	133	3	1	2	40	2	3	6	13	111
730-745	134	2	2	3	34	3	1	4	19	105
745-800	128	4	0	3	28	2	4	7	18	104
800-815	126	3	2	5	33	10	8	6	20	112
815-830	112	5	2	7	45	9	10	10	50	118
830-845	100	10	2	8	38	8	16	10	49	122
845-900	105	8	3	5	60	18	12	8	69	112
900-915	119	7	7	3	42	7	19	7	50	105
915-930	109	6	5	6	52	10	16	7	37	112

1 HOUR TOTALS	2	3/38TH	3F	4FI	5	6	4F	7F	7/38TH	8	
	SBTH	SBLT	SBLT	WBRT	WBTH	WBLT	WBRT	NBTR	NBRT	NBTH	TOTALS
0630-0730	503	10	8	7	136	11	17	24	46	437	1199
0645-0745	517	11	8	9	137	11	15	22	57	437	1224
0700-0800	519	13	5	10	137	11	14	25	65	429	1228
0715-0815	521	12	5	13	135	17	16	23	70	432	1244
0730-0830	500	14	6	18	140	24	23	27	107	439	1298
0745-0845	466	22	6	23	144	29	38	33	137	456	1354
0800-0900	443	26	9	25	176	45	46	34	188	464	1456
0815-0915	436	30	14	23	185	42	57	35	218	457	1497
0830-0930	433	31	17	22	192	43	63	32	205	451	1489

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES
PROJECT: L.A. COLISEUM COINTS
DATE: SATURDAY, NOVEMBER 30, 2002
PERIOD: 6:30 PM TO 9:30 PM
INTERSECTION N/S I-110 NB OFF AND SB ON RAMP.
E/W 39TH ST.
FILE NUMBER: 4-PM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
630-645	0	0	0	0	10	1	3	0	38	10	6	0
645-700	0	0	0	0	4	3	5	0	26	13	4	0
700-715	0	0	0	0	9	8	6	0	36	5	8	0
715-730	0	0	0	0	5	0	3	0	15	9	7	0
730-745	0	0	0	0	8	6	1	0	22	6	6	0
745-800	0	0	0	0	18	5	4	0	15	7	9	0
800-815	0	0	0	0	7	18	8	0	24	18	11	0
815-830	0	0	0	0	12	9	10	0	8	14	10	0
830-845	0	0	0	0	9	28	26	0	12	19	23	0
845-900	0	0	0	0	11	16	22	0	17	5	18	0
900-915	0	0	0	0	8	18	29	0	8	15	22	0
915-930	0	0	0	0	7	10	17	0	8	10	8	0

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0630-0730	0	0	0	0	28	12	17	0	115	37	25	0	234
0645-0745	0	0	0	0	26	17	15	0	99	33	25	0	215
0700-0800	0	0	0	0	40	19	14	0	88	27	30	0	218
0715-0815	0	0	0	0	38	29	16	0	76	40	33	0	232
0730-0830	0	0	0	0	45	38	23	0	69	45	36	0	256
0745-0845	0	0	0	0	46	60	48	0	59	58	53	0	324
0800-0900	0	0	0	0	39	71	66	0	61	56	62	0	355
0815-0915	0	0	0	0	40	71	87	0	45	53	73	0	369
0830-0930	0	0	0	0	35	72	94	0	45	49	71	0	366

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT:		KAKU ASSOCIATES
PROJECT:		L.A. COLISEUM COINTS
DATE:		SATURDAY, NOVEMBER 30, 2002
PERIOD:		6:30 PM TO 9:30 PM
INTERSECTION	N/S	FIGUEROA ST.
	E/W	39TH ST / COLISEUM.
FILE NUMBER:		2-PM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
630-645	9	110	10	18	1	9	3	111	1	0	1	7
645-700	11	94	7	28	2	7	5	99	2	0	2	8
700-715	6	100	6	25	1	8	6	105	3	2	1	6
715-730	6	107	8	19	2	7	3	81	0	0	3	6
730-745	9	132	8	17	2	10	1	91	0	1	2	3
745-800	1	128	6	16	0	2	4	82	1	0	10	2
800-815	7	127	10	16	0	10	8	92	2	0	6	8
815-830	8	119	7	35	1	8	10	152	0	0	10	8
830-845	1	113	17	37	1	10	16	132	1	1	24	0
845-900	5	102	10	25	1	20	12	103	0	0	13	1
900-915	5	107	22	33	2	13	19	113	0	0	12	2
915-930	4	87	19	40	1	16	16	112	2	1	8	3

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0630-0730	32	411	31	90	6	31	17	396	6	2	7	27	1056
0645-0745	32	433	29	89	7	32	15	376	5	3	8	23	1052
0700-0800	22	467	28	77	5	27	14	359	4	3	16	17	1039
0715-0815	23	494	32	68	4	29	16	346	3	1	21	19	1056
0730-0830	25	506	31	84	3	30	23	417	3	1	28	21	1172
0745-0845	17	487	40	104	2	30	38	458	4	1	50	18	1249
0800-0900	21	461	44	113	3	48	46	479	3	1	53	17	1289
0815-0915	19	441	56	130	5	51	57	500	1	1	59	11	1331
0830-0930	15	409	68	135	5	59	63	460	3	2	57	6	1282

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES
PROJECT: L.A. COLISEUM COINTS
DATE: SATURDAY, NOVEMBER 30, 2002
PERIOD: 6:30 PM TO 9:300 PM
INTERSECTION N/S I-110 NB OFF-RAMP/HILL ST.
E/W M.L. KING BLVD.
FILE NUMBER: 6-PM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
630-645	10	0	3	11	124	23	3	11	68	47	150	5
645-700	9	0	2	3	85	31	5	2	76	45	104	3
700-715	8	1	1	1	123	27	6	4	77	45	98	2
715-730	8	1	1	4	77	23	3	4	56	50	99	1
730-745	6	2	1	3	112	38	1	4	72	34	121	3
745-800	10	2	3	3	111	34	4	3	68	44	106	2
800-815	13	3	0	3	92	20	8	4	59	79	93	9
815-830	18	3	3	6	87	20	10	2	65	77	69	3
830-845	44	8	5	2	119	43	16	2	65	132	115	7
845-900	30	6	4	3	97	50	12	5	60	134	57	4
900-915	56	12	7	8	110	52	19	6	66	130	66	8
915-930	32	4	3	5	106	34	16	1	73	137	62	12

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0630-0730	35	2	7	19	409	104	17	21	277	187	451	11	1540
0645-0745	31	4	5	11	397	119	15	14	281	174	422	9	1482
0700-0800	32	6	6	11	423	122	14	15	273	173	424	8	1507
0715-0815	37	8	5	13	392	115	16	15	255	207	419	15	1497
0730-0830	47	10	7	15	402	112	23	13	264	234	389	17	1533
0745-0845	85	16	11	14	409	117	38	11	257	332	383	21	1694
0800-0900	105	20	12	14	395	133	46	13	249	422	334	23	1766
0815-0915	148	29	19	19	413	165	57	15	256	473	307	22	1923
0830-0930	162	30	19	18	432	179	63	14	264	533	300	31	2045

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES
PROJECT: L.A. COLISEUM COINTS
DATE: SATURDAY, NOVEMBER 30, 2002
PERIOD: 6:30 PM TO 9:30 PM
INTERSECTION N/S FLOWER ST.
E/W M.L. KING BLVD.
FILE NUMBER: 5-PM

15 MINUTE TOTALS	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
630-645	51	0	39	0	133	20	0	0	0	75	112	0
645-700	57	0	38	0	130	18	0	0	0	88	121	0
700-715	54	0	37	0	130	26	0	0	0	82	108	0
715-730	60	0	41	0	133	25	0	0	0	76	123	0
730-745	58	0	38	0	145	33	0	0	0	87	107	0
745-800	57	0	33	0	152	18	0	0	0	105	113	0
800-815	60	0	37	0	162	22	0	0	0	95	132	0
815-830	38	0	42	0	160	23	0	0	0	98	140	0
830-845	40	0	51	0	155	14	0	0	0	95	112	0
845-900	39	0	39	0	163	22	0	0	0	67	107	0
900-915	38	0	35	0	190	23	0	0	0	56	127	0
915-930	45	0	35	0	192	15	0	0	0	64	140	0

1 HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0630-0730	222	0	155	0	526	89	0	0	0	321	464	0	1777
0645-0745	229	0	154	0	538	102	0	0	0	333	459	0	1815
0700-0800	229	0	149	0	560	102	0	0	0	350	451	0	1841
0715-0815	235	0	149	0	592	98	0	0	0	363	475	0	1912
0730-0830	213	0	150	0	619	96	0	0	0	385	492	0	1955
0745-0845	195	0	163	0	629	77	0	0	0	393	497	0	1954
0800-0900	177	0	169	0	640	81	0	0	0	355	491	0	1913
0815-0915	155	0	167	0	668	82	0	0	0	316	486	0	1874
0830-0930	162	0	160	0	700	74	0	0	0	282	486	0	1864

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES
PROJECT: L.A. COLISEUM COINTS
DATE: SATURDAY, NOVEMBER 30, 2002
PERIOD: 6:30 PM TO 9:30 PM
INTERSECTION N/S FIGUEROA ST.
E/W M.L. KING BLVD.
FILE NUMBER: 3-PM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
630-645	56	76	24	18	183	26	3	86	2	19	192	22
645-700	27	74	27	12	169	17	5	81	0	23	172	27
700-715	59	56	26	12	171	23	6	70	1	28	187	24
715-730	39	82	22	35	149	26	3	60	4	21	170	27
730-745	79	62	28	16	182	42	1	72	0	21	209	31
745-800	46	58	10	15	158	28	4	60	0	17	171	17
800-815	31	75	0	10	147	23	8	53	0	12	214	24
815-830	41	111	5	26	151	26	10	95	2	16	225	28
830-845	47	117	0	36	162	31	16	98	0	27	206	25
845-900	33	88	5	26	158	20	12	128	0	8	166	28
900-915	48	78	2	17	139	31	19	98	0	2	189	48
915-930	76	77	7	26	110	24	16	103	0	10	196	42

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0630-0730	181	288	99	77	672	92	17	297	7	91	721	100	2642
0645-0745	204	274	103	75	671	108	15	283	5	93	738	109	2678
0700-0800	223	258	86	78	660	119	14	262	5	87	737	99	2628
0715-0815	195	277	60	76	636	119	16	245	4	71	764	99	2562
0730-0830	197	306	43	67	638	119	23	280	2	66	819	100	2660
0745-0845	165	361	15	87	618	108	38	306	2	72	816	94	2682
0800-0900	152	391	10	98	618	100	46	374	2	63	811	105	2770
0815-0915	169	394	12	105	610	108	57	419	2	53	786	129	2844
0830-0930	204	360	14	105	569	106	63	427	0	47	757	143	2795

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES
PROJECT: LOS ANGELES COLISEUM TRAFFIC COUNTS
DATE: SATURDAY, NOVEMBER 30th, 2002
PERIOD: 6:30 PM TO 9:30 PM
INTERSECTION: N/S HOOVER STREET
E/W MARTIN LUTHER KING JR. BOULEVARD

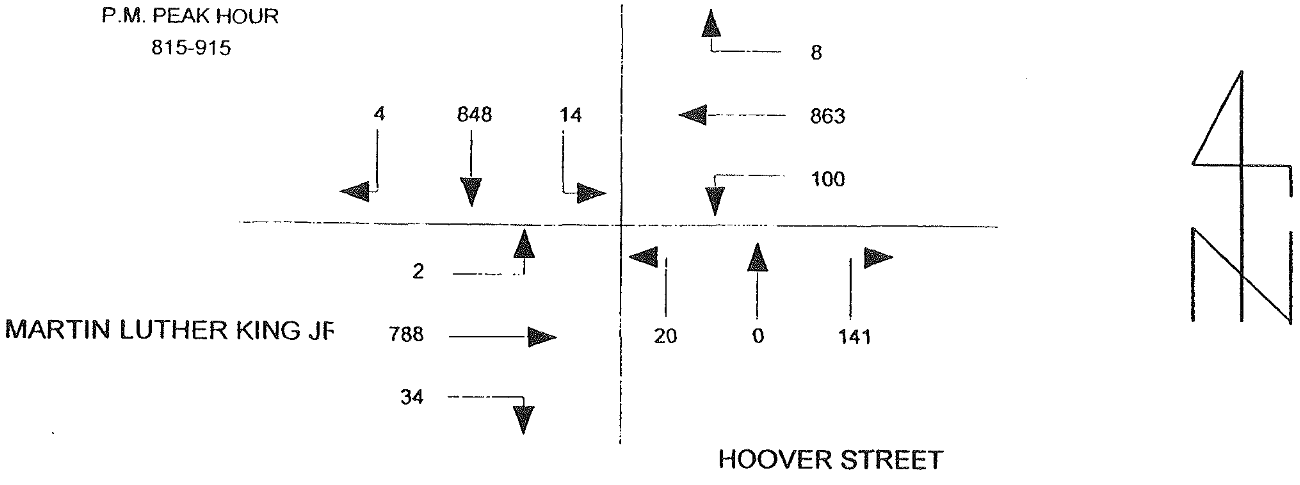
15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
630-645	2	1	3	5	216	12	38	6	31	41	104	0	459
645-700	1	4	3	6	186	15	21	2	29	24	137	0	428
700-715	4	2	11	7	207	17	10	2	33	19	197	0	509
715-730	3	0	3	9	182	10	17	3	45	21	208	2	503
730-745	6	2	1	8	199	6	20	2	26	28	168	1	467
745-800	4	4	8	14	190	36	15	1	20	29	202	5	528
800-815	9	48	4	4	172	17	16	4	8	25	204	1	512
815-830	0	147	0	5	201	22	46	0	6	22	252	2	703
830-845	4	202	0	3	211	24	54	0	4	9	230	0	741
845-900	0	288	1	0	226	23	14	0	7	0	153	0	712
900-915	0	211	13	0	225	31	27	0	3	3	153	0	666
915-930	12	105	17	0	257	33	30	0	0	4	79	0	537

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
630-730	10	7	20	27	791	54	86	13	138	105	646	2	1899
645-745	14	8	18	30	774	48	68	9	133	92	710	3	1907
700-800	17	8	23	38	778	69	62	8	124	97	775	8	2007
715-815	22	54	16	35	743	69	68	10	99	103	782	9	2010
730-830	19	201	13	31	762	81	97	7	60	104	826	9	2210
745-845	17	401	12	26	774	99	131	5	38	85	888	8	2484
800-900	13	685	5	12	810	86	130	4	25	56	839	3	2668
815-915	4	848	14	8	863	100	141	0	20	34	788	2	2822
830-930	16	806	31	3	919	111	125	0	14	16	615	0	2656

P.M. PEAK HOUR
815-915



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

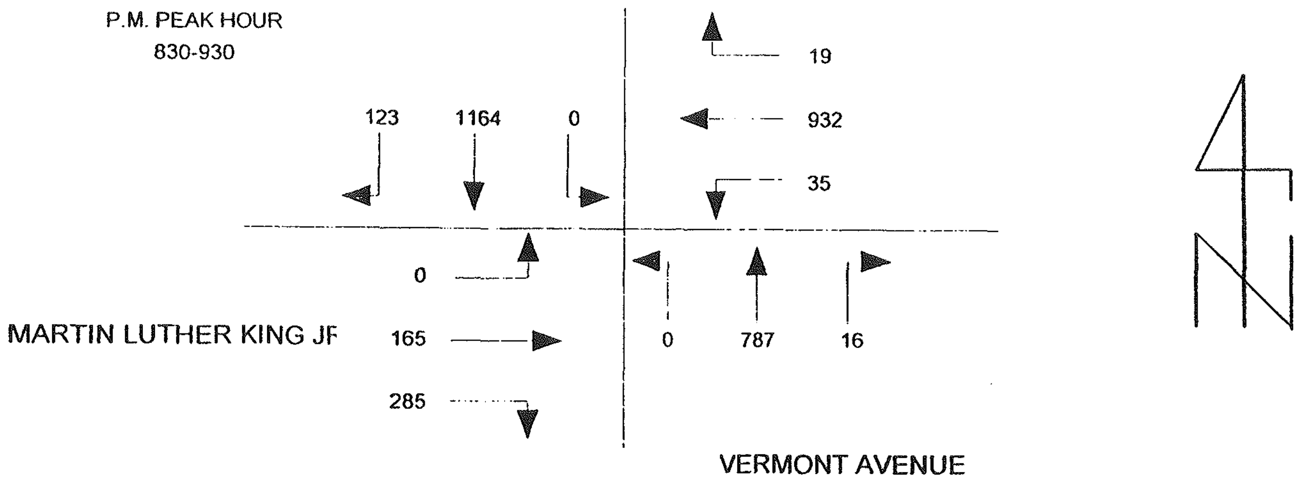
CLIENT:		KAKU ASSOCIATES
PROJECT:		LOS ANGELES COLISEUM TRAFFIC COUNTS
DATE:		SATURDAY, NOVEMBER 30th, 2002
PERIOD:		6:30 PM TO 9:30 PM
INTERSECTION:	N/S	VERMONT AVENUE
	E/W	MARTIN LUTHER KING JR. BOULEVARD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
630-645	15	134	34	46	190	10	15	104	28	26	202	17	821
645-700	16	132	49	48	177	11	16	122	24	39	151	20	805
700-715	17	131	37	50	178	9	8	112	28	25	192	29	816
715-730	22	126	44	55	175	8	7	114	30	25	154	18	778
730-745	19	110	31	49	166	7	9	94	28	29	146	20	708
745-800	20	98	49	39	156	6	14	96	23	27	174	23	725
800-815	25	159	8	30	147	10	30	112	41	19	182	9	772
815-830	21	240	9	28	138	4	36	126	0	20	177	0	799
830-845	25	283	0	16	223	12	15	220	0	27	162	0	983
845-900	38	283	0	0	263	5	1	193	0	68	2	0	853
900-915	32	284	0	1	233	12	0	194	0	77	1	0	834
915-930	28	314	0	2	213	6	0	180	0	113	0	0	856

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
630-730	70	523	164	199	720	38	46	452	110	115	699	84	3220
645-745	74	499	161	202	696	35	40	442	110	118	643	87	3107
700-800	78	465	161	193	675	30	38	416	109	106	666	90	3027
715-815	86	493	132	173	644	31	60	416	122	100	656	70	2983
730-830	85	607	97	146	607	27	89	428	92	95	679	52	3004
745-845	91	780	66	113	664	32	95	554	64	93	695	32	3279
800-900	109	965	17	74	771	31	82	651	41	134	523	9	3407
815-915	116	1090	9	45	857	33	52	733	0	192	342	0	3469
830-930	123	1164	0	19	932	35	16	787	0	285	165	0	3526



WILTEC Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

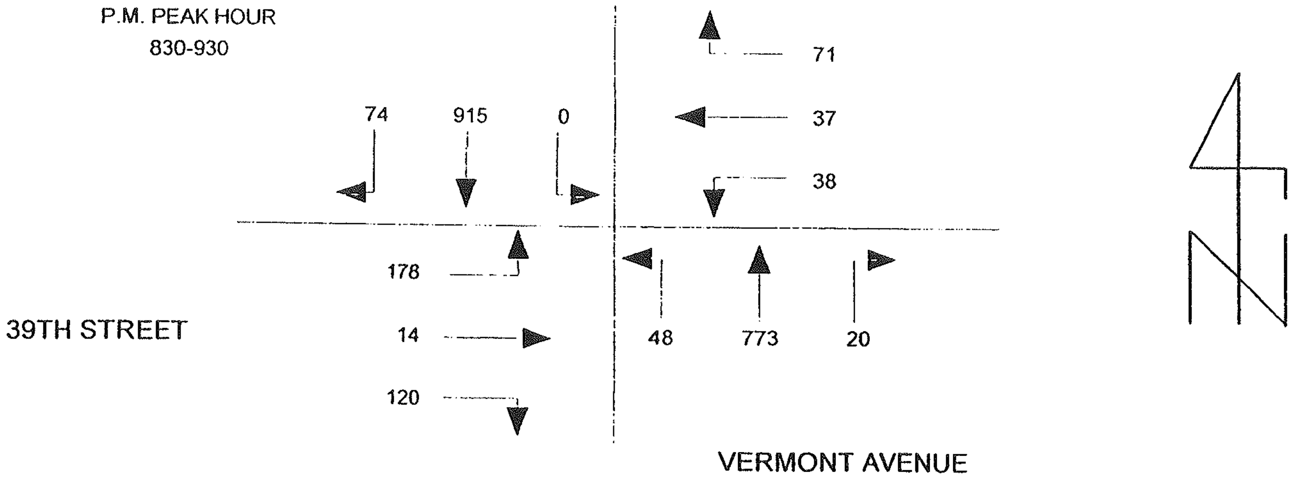
CLIENT: KAKU ASSOCIATES
PROJECT: LOS ANGELES COLISEUM TRAFFIC COUNTS
DATE: SATURDAY, NOVEMBER 30th, 2002
PERIOD: 6:30 PM TO 9:30 PM
INTERSECTION: N/S VERMONT AVENUE
E/W 39TH STREET

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
630-645	14	144	2	1	0	0	1	136	15	10	0	11	334
645-700	14	168	2	6	2	2	11	159	9	15	2	11	401
700-715	12	158	1	4	0	1	4	203	11	18	2	18	432
715-730	9	165	0	2	2	3	2	117	13	11	0	15	339
730-745	14	137	1	1	0	0	4	131	7	18	1	11	325
745-800	8	128	0	2	0	3	7	158	16	16	2	16	356
800-815	10	153	1	16	0	4	4	134	9	28	0	29	388
815-830	15	204	0	1	2	10	2	118	10	27	0	29	388
830-845	15	214	0	16	6	3	7	202	10	34	0	32	421
845-900	20	249	0	26	11	13	2	272	13	47	2	33	542
900-915	17	200	0	14	18	19	4	111	8	17	3	75	731
915-930	22	252	0	15	2	3	7	188	17	22	5	36	569

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
630-730	49	635	5	13	4	6	18	615	48	54	4	55	1506
645-745	49	628	4	13	4	6	21	610	40	62	5	55	1497
700-800	43	588	2	9	2	7	17	609	47	63	5	60	1452
715-815	41	583	2	21	2	10	17	540	45	73	3	71	1408
730-830	47	622	2	20	2	17	17	541	42	89	3	88	1490
745-845	48	699	1	35	8	20	20	612	45	105	4	110	1707
800-900	60	820	1	59	19	30	15	726	42	136	5	169	2082
815-915	67	867	0	57	37	45	15	703	41	125	9	174	2140
830-930	74	915	0	71	37	38	20	773	48	120	14	178	2288



WILTEC Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

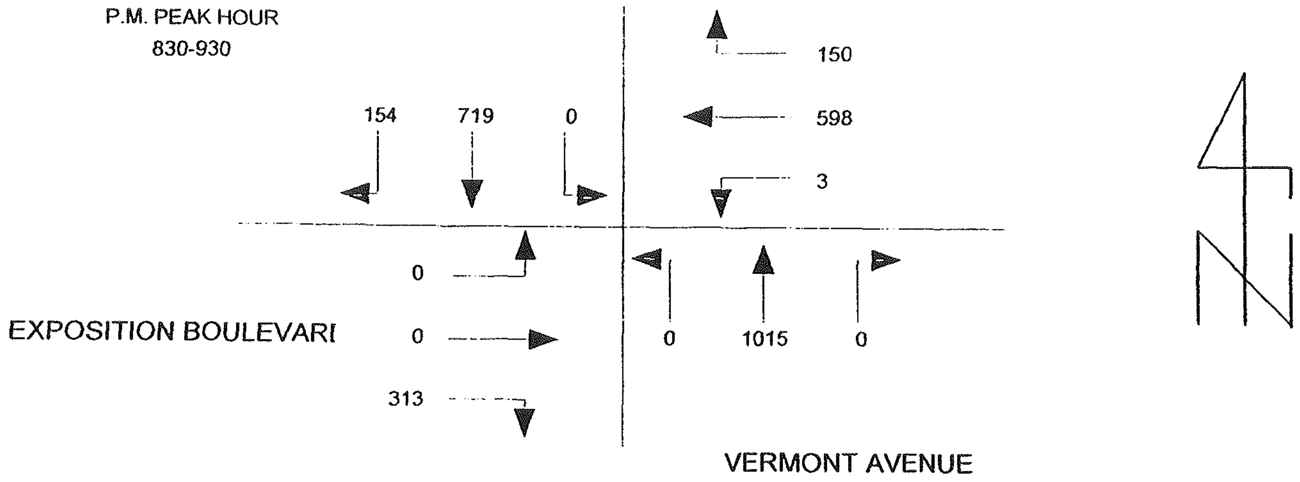
CLIENT:		KAKU ASSOCIATES
PROJECT:		LOS ANGELES COLISEUM TRAFFIC COUNTS
DATE:		SATURDAY, NOVEMBER 30th, 2002
PERIOD:		6:30 PM TO 9:30 PM
INTERSECTION:	N/S	VERMONT AVENUE
	E/W	EXPOSITION BOULEVARD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
630-645	32	160	2	7	1	2	16	143	0	17	87	0	467
645-700	22	164	1	3	2	1	8	155	1	17	90	3	467
700-715	30	164	0	10	6	1	19	172	2	19	111	0	534
715-730	31	153	2	10	5	1	11	180	3	8	70	1	475
730-745	41	163	0	1	1	1	8	90	0	8	61	0	374
745-800	21	125	0	4	5	1	10	144	1	7	57	3	378
800-815	33	161	0	5	9	0	9	151	1	14	19	1	403
815-830	27	161	1	20	9	4	1	210	0	54	0	1	488
830-845	40	152	0	1	167	3	0	285	0	69	0	0	717
845-900	35	172	0	11	157	0	0	238	0	61	0	0	674
900-915	32	185	0	37	194	0	0	276	0	91	0	0	815
915-930	47	210	0	101	80	0	0	216	0	92	0	0	746

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
630-730	115	641	5	30	14	5	54	650	6	61	358	4	1943
645-745	124	644	3	24	14	4	46	597	6	52	332	4	1850
700-800	123	605	2	25	17	4	48	586	6	42	299	4	1761
715-815	126	602	2	20	20	3	38	565	5	37	207	5	1630
730-830	122	610	1	30	24	6	28	595	2	83	137	5	1643
745-845	121	599	1	30	190	8	20	790	2	144	76	5	1986
800-900	135	646	1	37	342	7	10	884	1	198	19	2	2282
815-915	134	670	1	69	527	7	1	1009	0	275	0	1	2694
830-930	154	719	0	150	598	3	0	1015	0	313	0	0	2952



WILTEC Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES
PROJECT: LOS ANGELES COLISEUM TRAFFIC COUNTS
DATE: SATURDAY, NOVEMBER 30th, 2002
PERIOD: 6:30 PM TO 9:30 PM
INTERSECTION: N/S NORMANDIE AVENUE
E/W MARTIN LUTHER KING JR. BOULEVARD

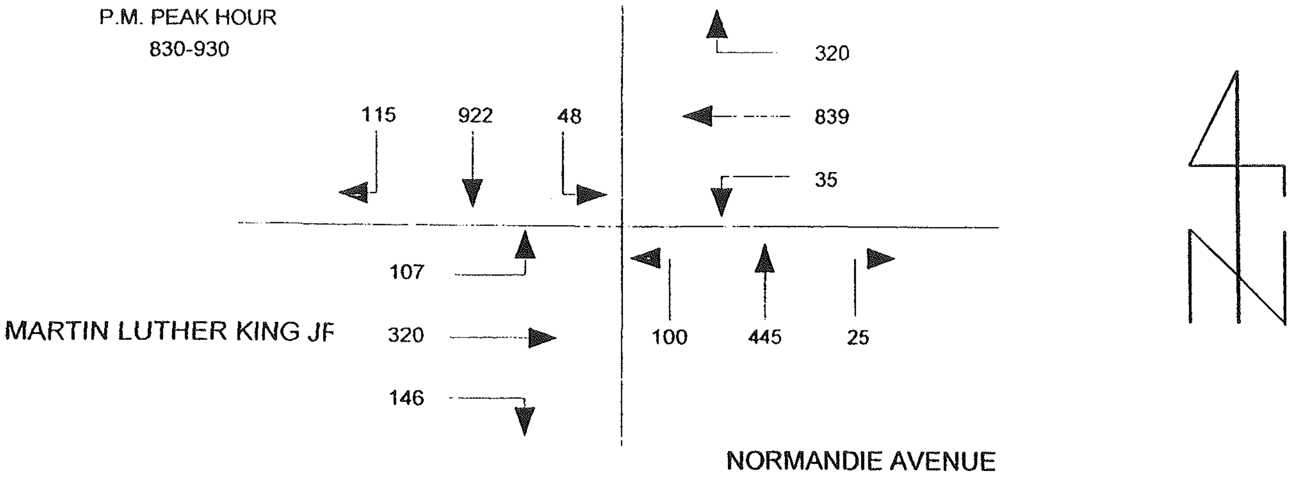
15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
630-645	10	82	12	22	135	11	17	173	25	21	182	28	718
645-700	22	127	14	30	140	14	11	130	23	22	164	22	719
700-715	23	161	23	23	205	13	5	126	22	11	129	25	766
715-730	17	127	16	24	124	17	5	128	15	12	134	21	640
730-745	16	107	14	25	164	6	6	77	16	8	151	26	616
745-800	26	116	32	19	145	10	8	99	21	14	126	18	634
800-815	19	140	40	25	152	8	10	100	21	9	137	19	680
815-830	26	139	41	35	167	12	9	76	18	14	86	20	643
830-845	31	170	44	57	196	16	10	115	22	13	90	21	785
845-900	20	213	4	87	192	5	7	94	24	17	98	23	784
900-915	38	285	0	89	257	7	4	114	29	62	49	29	963
915-930	26	254	0	87	194	7	4	122	25	54	83	34	890

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
630-730	72	497	65	99	604	55	38	557	85	66	609	96	2843
645-745	78	522	67	102	633	50	27	461	76	53	578	94	2741
700-800	82	511	85	91	638	46	24	430	74	45	540	90	2656
715-815	78	490	102	93	585	41	29	404	73	43	548	84	2570
730-830	87	502	127	104	628	36	33	352	76	45	500	83	2573
745-845	102	565	157	136	660	46	37	390	82	50	439	78	2742
800-900	96	662	129	204	707	41	36	385	85	53	411	83	2892
815-915	115	807	89	268	812	40	30	399	93	106	323	93	3175
830-930	115	922	48	320	839	35	25	445	100	146	320	107	3422

P.M. PEAK HOUR
830-930



WILTEC Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT:		KAKU ASSOCIATES
PROJECT:		LOS ANGELES COLISEUM TRAFFIC COUNTS
DATE:		SATURDAY, NOVEMBER 30th, 2002
PERIOD:		6:30 PM TO 9:30 PM
INTERSECTION:	N/S	NORMANDIE AVENUE
	E/W	EXPOSITION BOULEVARD

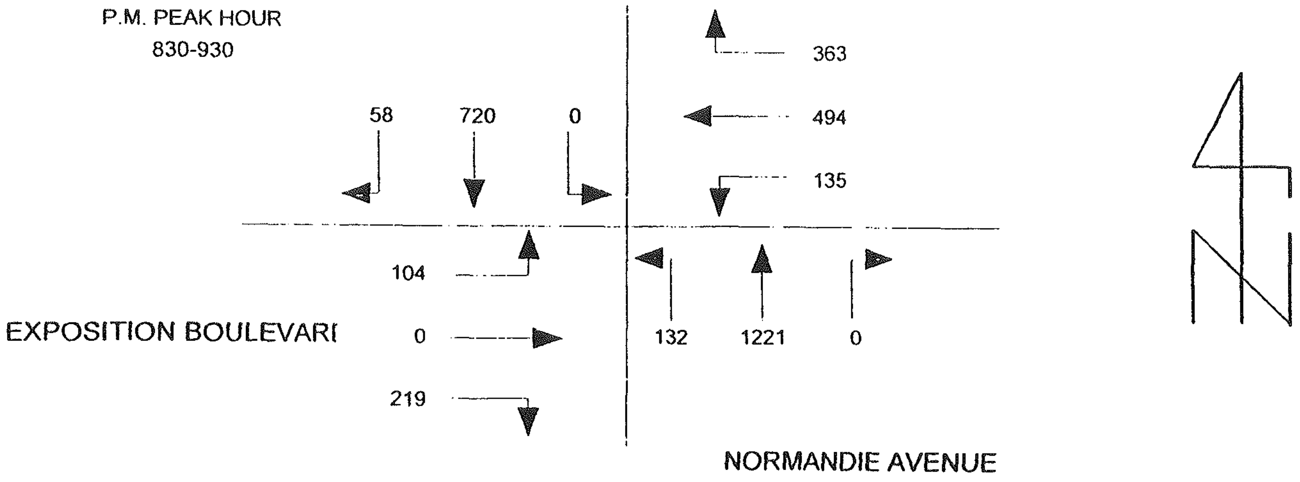
15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
630-645	26	165	18	7	20	5	8	185	15	13	57	22	541
645-700	23	208	12	9	29	6	9	184	10	15	79	13	597
700-715	19	216	14	6	35	3	15	177	12	16	67	15	595
715-730	8	186	11	8	27	7	12	183	20	12	50	15	539
730-745	15	146	16	9	26	1	13	125	16	15	51	12	445
745-800	12	166	3	6	21	3	4	150	7	21	37	16	446
800-815	15	185	0	6	18	5	0	155	13	51	0	30	478
815-830	15	168	1	56	53	13	0	206	10	33	0	45	600
830-845	12	171	0	114	96	21	0	295	23	52	0	36	820
845-900	15	201	0	106	106	30	0	305	20	48	0	23	854
900-915	15	179	0	104	209	56	0	338	54	59	0	19	1033
915-930	16	169	0	39	83	28	0	283	35	60	0	26	739

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
630-730	76	775	55	30	111	21	44	729	57	56	253	65	2272
645-745	65	756	53	32	117	17	49	669	58	58	247	55	2176
700-800	54	714	44	29	109	14	44	635	55	64	205	58	2025
715-815	50	683	30	29	92	16	29	613	56	99	138	73	1908
730-830	57	665	20	77	118	22	17	636	46	120	88	103	1969
745-845	54	690	4	182	188	42	4	806	53	157	37	127	2344
800-900	57	725	1	282	273	69	0	961	66	184	0	134	2752
815-915	57	719	1	380	464	120	0	1144	107	192	0	123	3307
830-930	58	720	0	363	494	135	0	1221	132	219	0	104	3446

P.M. PEAK HOUR
830-930



Intersection Turning Movement Count

Prepared by: Southland Car Counters

Prepared For: KAKU Associates *Client's Project Name*

Saturday, November 30, 2002 *Client's Ref:* P3084 *Project No* 02-1514-002

N-S Street *Vermont Ave.* *E-W Street* *Jefferson Blvd.* *Area:* *Los Angeles*

	NorthBound			SouthBound			EastBound			WestBound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	Total
Lanes:	1	2	1	1	2	1	1	1.5	.5	1	2	1	
6:30 PM	5	168	20	7	142	15	21	77	16	55	116	19	661
6:45 PM	12	172	23	9	154	18	24	81	17	61	124	20	715
7:00 PM	6	167	28	13	138	22	21	75	15	65	121	22	693
7:15 PM	7	137	25	15	173	20	19	66	14	60	99	20	655
7:30 PM	7	128	24	17	184	19	19	57	13	56	96	22	642
7:45 PM	9	136	27	12	120	20	11	38	8	45	102	18	546
8:00 PM	9	208	6	1	157	20	0	30	16	24	154	13	638
8:15 PM	5	375	6	0	146	21	0	55	18	10	162	42	840
8:30 PM	4	457	5	1	134	24	0	61	23	1	190	52	952
8:45 PM	16	508	0	0	157	41	1	57	17	5	198	0	1000
9:00 PM	22	442	3	0	125	32	0	91	17	3	198	2	935
9:15 PM	11	427	2	0	122	21	0	62	15	1	181	0	842
Totals:	113	3325	169	75	1752	273	116	750	189	386	1741	230	9119

PM Peak Hour Begins at 8:30 PM 15 Min. Peak : 8:45 PM

Peak Volumes:	53	1834	10	1	538	118	1	271	72	10	767	54	3729

Intersection Control: Signalized

Intersection Turning Movement Count

Prepared by: Southland Car Counters

Prepared For: KAKU Associates *Client's Project Name*

Saturday, November 30, 2002 *Client's Ref:* P3084 *Project No* 02-1514-001

N-S Street *Normandie Ave.* *E-W Street* *Jefferson Blvd.* *Area:* *Los Angeles*

	NorthBound			*SouthBound*			*EastBound*			*WestBound*			
	NL	*NT*	*NR*	*SL*	*ST*	*SR*	*EL*	*ET*	*ER*	*WL*	*WT*	*WR*	*Total*
Lanes:													
6:30 PM	23	150	28	16	175	13	14	99	21	44	103	11	697
6:45 PM	19	140	31	14	187	19	9	85	24	47	96	13	684
7:00 PM	31	172	35	23	191	22	16	91	27	41	85	9	743
7:15 PM	25	158	24	20	206	25	25	97	31	52	108	15	786
7:30 PM	27	132	16	13	182	17	20	63	33	48	91	12	654
7:45 PM	18	139	2	3	156	19	37	13	29	39	86	11	552
8:00 PM	15	170	1	0	135	13	35	10	35	46	81	9	550
8:15 PM	21	238	1	2	156	11	33	12	28	41	73	16	632
8:30 PM	28	478	2	1	132	14	52	16	39	58	144	37	1001
8:45 PM	31	445	0	0	193	10	51	21	48	64	136	39	1038
9:00 PM	33	431	1	0	172	15	49	15	45	56	154	45	1016
9:15 PM	30	410	3	1	151	16	42	8	38	49	129	50	927
Totals:	301	3063	144	93	2036	194	383	530	398	585	1286	267	9280

PM Peak Hour Begins at 8:30 PM *15 Min. Peak :* 8:45 PM

Peak Volumes:	122	1764	6	2	648	55	194	60	170	227	563	171	3982

Intersection Control: Signalized; At 7:40 PM EB Jefferson was closed to all traffic

Intersection Turning Movement Count

Prepared by: Southland Car Counters

Prepared For: KAKU Associates *Client's Project Name*

Saturday, November 30, 2002 *Client's Ref:* P3084 *Project No* 02-1514-004

N-S Street *Vermont Ave.* *E-W Street* *Adams Blvd.* *Area:* *Los Angeles*

	NorthBound			*SouthBound*			*EastBound*			*WestBound*			
	NL	*NT*	*NR*	*SL*	*ST*	*SR*	*EL*	*ET*	*ER*	*WL*	*WT*	*WR*	*Total*
Lanes:	1	2	1	1	2	0	1	2	0	1	2	0	
6:30 PM	19	141	27	24	136	25	31	86	21	23	124	21	678
6:45 PM	21	156	29	28	155	16	29	77	13	24	87	24	659
7:00 PM	24	145	25	39	131	19	34	62	14	26	94	32	645
7:15 PM	23	136	26	30	198	25	37	74	16	18	127	36	746
7:30 PM	19	146	14	42	156	31	29	59	11	21	96	18	642
7:45 PM	18	130	32	33	127	14	32	72	26	35	111	19	649
8:00 PM	25	228	38	29	140	28	27	75	17	22	85	23	737
8:15 PM	30	382	67	46	155	26	33	79	18	36	106	34	1012
8:30 PM	16	346	53	41	117	25	35	68	20	41	93	47	902
8:45 PM	11	422	62	35	138	23	63	121	17	37	134	56	1119
9:00 PM	14	385	76	47	121	18	61	108	15	42	129	44	1060
9:15 PM	18	351	54	41	120	21	46	133	12	28	163	74	1061
Totals:	238	2968	503	435	1694	271	457	1014	200	353	1349	428	9910

PM Peak Hour Begins at 8:30 PM *15 Min. Peak :* 8:45 PM

Peak Volumes:	59	1504	245	164	496	87	205	430	64	148	519	221	4142

Intersection Control: Signalized; Officer directing traffic at 8:00 PM

Intersection Turning Movement Count

Prepared by: Southland Car Counters

Prepared For: KAKU Associates *Client's Project Name*

Saturday, November 30, 2002 *Client's Ref:* P3084 *Project No* 02-1514-003

N-S Street *Normandie Ave.* *E-W Street* *Adams Blvd.* *Area:* *Los Angeles*

	NorthBound			*SouthBound*			*EastBound*			*WestBound*			
	NL	*NT*	*NR*	*SL*	*ST*	*SR*	*EL*	*ET*	*ER*	*WL*	*WT*	*WR*	*Total*
Lanes:	1	2	0	1	2	0	1	2	0	1	2	0	
6:30 PM	17	175	19	23	166	19	20	113	17	19	111	28	727
6:45 PM	13	149	23	20	171	17	14	118	15	22	90	26	678
7:00 PM	16	187	20	21	148	21	18	133	18	17	117	23	739
7:15 PM	18	178	18	17	182	20	12	118	14	15	132	20	744
7:30 PM	21	152	17	19	158	18	19	120	7	13	114	21	679
7:45 PM	24	160	15	21	172	15	22	121	10	16	129	19	724
8:00 PM	26	181	28	25	160	20	19	128	23	32	138	24	804
8:15 PM	29	249	30	23	158	28	21	116	25	45	120	30	874
8:30 PM	31	439	39	20	149	30	19	109	28	30	98	22	1014
8:45 PM	27	411	42	34	141	27	14	97	24	23	107	32	979
9:00 PM	28	402	36	26	151	21	16	91	20	24	112	38	965
9:15 PM	26	375	34	22	125	22	17	89	21	20	101	26	878
Totals:	276	3058	321	271	1881	258	211	1353	222	276	1369	309	9805

PM Peak Hour Begins at 8:30 PM *15 Min. Peak :* 8:30 PM

Peak Volumes:	112	1627	151	102	566	100	66	386	93	97	418	118	3836

Intersection Control: Signalized

Intersection Turning Movement Count

Prepared by: Southland Car Counters

Prepared For: KAKU Associates *Client's Project Name*

Saturday, November 30, 2002 *Client's Ref:* P3084 *Project No* 02-1514-007

N-S Street *Vermont Ave.* *E-W Street* *I-10 EB Ramps* *Area:* *Los Angeles*

	NorthBound			*SouthBound*			*EastBound*			*WestBound*			
	NL	*NT*	*NR*	*SL*	*ST*	*SR*	*EL*	*ET*	*ER*	*WL*	*WT*	*WR*	*Total*
Lanes:		2	0	2	2		.5	.5	1				
6:30 PM		197	26	142	152		70	0	32				619
6:45 PM		194	47	121	156		67	1	31				617
7:00 PM		212	29	145	167		78	0	46				677
7:15 PM		196	22	132	182		76	1	25				634
7:30 PM		186	48	131	208		68	0	43				684
7:45 PM		157	35	125	162		65	1	27				572
8:00 PM		184	31	138	153		61	1	40				608
8:15 PM		283	65	113	168		50	0	36				715
8:30 PM		314	125	111	152		45	0	33				780
8:45 PM		341	134	92	165		47	1	41				821
9:00 PM		394	122	123	120		40	0	87				886
9:15 PM		339	45	102	136		40	0	50				712
Totals:		2997	729	1475	1921		707	5	491				8325

PM Peak Hour Begins at 8:15 PM *15 Min. Peak :* 9:00 PM

Peak Volumes:		1332	446	439	605		182	1	197				3202

Intersection Control: Signalized

Intersection Turning Movement Count

Prepared by: Southland Car Counters

Prepared For: KAKU Associates *Client's Project Name*

Saturday, November 30, 2002 *Client's Ref:* P3084 *Project No* 02-1514-005

N-S Street *Normandie Ave.* *E-W Street* *I-10 EB Ramps* *Area:* *Los Angeles*

	NorthBound			SouthBound			EastBound			WestBound			
	NL	*NT*	*NR*	*SL*	*ST*	*SR*	*EL*	*ET*	*ER*	*WL*	*WT*	*WR*	*Total*
Lanes:		2	1	1	2		1.3	.3	.3				
6:30 PM		157	50	89	176		53		27				552
6:45 PM		150	50	99	189		49		32				569
7:00 PM		186	54	108	185		57		30				620
7:15 PM		215	58	99	210		46		47				675
7:30 PM		187	49	96	181		48		69				630
7:45 PM		157	64	79	155		39		39				533
8:00 PM		214	56	80	169		31		48				598
8:15 PM		184	56	152	168		33		27				620
8:30 PM		268	106	79	175		39		46				713
8:45 PM		290	121	90	109		49		32				691
9:00 PM		299	115	86	113		41		28				682
9:15 PM		277	107	82	101		37		31				635
Totals:		2584	886	1139	1931		522		456				7518

PM Peak Hour Begins at 8:30 PM *15 Min. Peak :* 8:30 PM

Peak Volumes:		1134	449	337	498		166		137				2721

Intersection Control: Signalized

Intersection Turning Movement Count

Prepared by: Southland Car Counters

Prepared For: KAKU Associates *Client's Project Name*

Saturday, November 30, 2002 *Client's Ref:* P3084 *Project No* 02-1514-008

N-S Street *Vermont Ave.* *E-W Street* *I-10 WB Ramps* *Area:* *Los Angeles*

	NorthBound			*SouthBound*			*EastBound*			*WestBound*			
	NL	*NT*	*NR*	*SL*	*ST*	*SR*	*EL*	*ET*	*ER*	*WL*	*WT*	*WR*	*Total*
Lanes:	2	2			2	0				.5	.5	1	
6:30 PM	43	207			219	72				31	0	102	674
6:45 PM	32	254			226	52				36	0	118	718
7:00 PM	43	232			256	78				30	0	74	713
7:15 PM	31	215			237	49				55	0	55	642
7:30 PM	44	246			299	75				32	0	120	816
7:45 PM	32	167			227	66				43	1	84	620
8:00 PM	66	159			266	74				32	0	79	676
8:15 PM	112	189			190	49				30	0	55	625
8:30 PM	193	261			265	67				54	0	80	920
8:45 PM	162	202			189	95				48	0	92	788
9:00 PM	202	186			266	81				94	1	159	989
9:15 PM	197	191			217	70				49	0	158	882
Totals:	1157	2509			2857	828				534	2	1176	9063

PM Peak Hour Begins at 8:30 PM *15 Min. Peak :* 9:00 PM

Peak Volumes:	754	840			937	313				245	1	489	3579

Intersection Control: Signalized;

Intersection Turning Movement Count

Prepared by: Southland Car Counters

Prepared For: KAKU Associates *Client's Project Name*

Saturday, November 30, 2002 *Client's Ref:* P3084 *Project No* 02-1514-006

N-S Street *Normandie Ave.* *E-W Street* *I-10 WB Ramps* *Area:* *Los Angeles*

	NorthBound			*SouthBound*			*EastBound*			*WestBound*			
	NL	*NT*	*NR*	*SL*	*ST*	*SR*	*EL*	*ET*	*ER*	*WL*	*WT*	*WR*	*Total*
Lanes:	1	2			2	1				1.3	.3	.3	
6:30 PM	37	178			221	14				42	0	71	563
6:45 PM	36	163			241	15				44	1	75	575
7:00 PM	40	202			257	22				41	0	74	636
7:15 PM	44	220			262	23				50	0	77	676
7:30 PM	27	208			241	21				41	0	72	610
7:45 PM	33	168			197	22				40	0	76	536
8:00 PM	33	209			200	32				46	0	71	591
8:15 PM	67	145			280	33				37	0	60	622
8:30 PM	78	220			219	32				41	1	70	661
8:45 PM	77	252			171	55				39	0	69	663
9:00 PM	86	251			159	63				35	0	63	657
9:15 PM	75	232			147	45				31	0	54	584
Totals:	633	2448			2595	377				487	2	832	7374

PM Peak Hour Begins at 8:15 PM *15 Min. Peak :* 8:45 PM

Peak Volumes:	308	868			829	183				152	1	262	2603

Intersection Control: Signalized

Weekday Count Data 4:00-7:00 p.m.

WILTEC Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

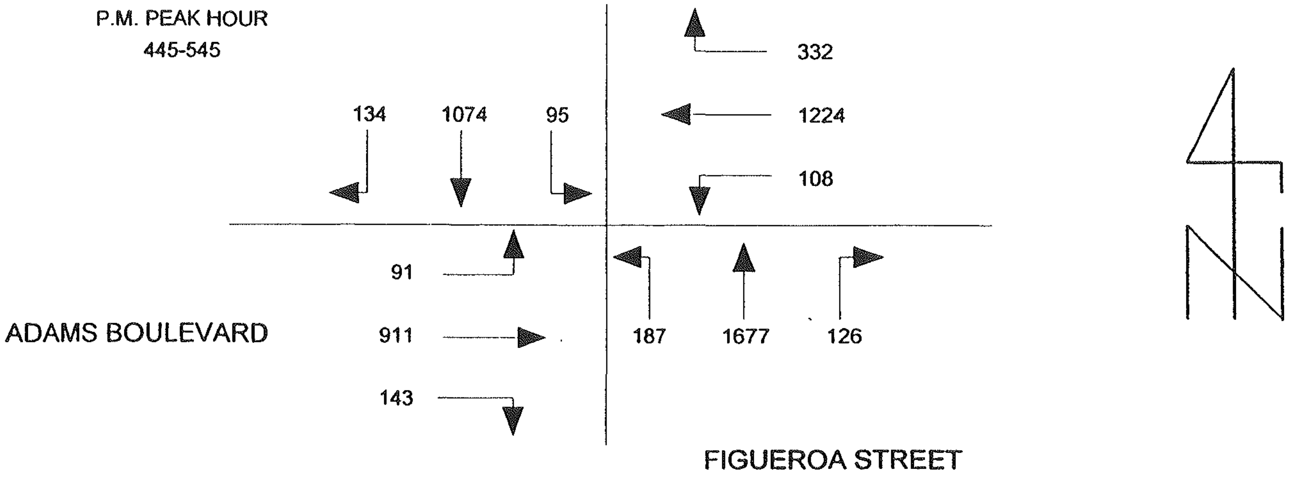
CLIENT: KAKU ASSOCIATES
PROJECT: LA COLISEUM PM COUNTS
DATE: THURSDAY, APRIL 24th, 2003
PERIOD: 4:00 PM TO 7:00 PM
INTERSECTION: N/S FIGUEROA STREET
E/W ADAMS BOULEVARD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	31	224	26	66	262	21	33	350	31	37	178	25	1284
415-430	30	231	25	77	263	24	28	385	31	51	165	18	1328
430-445	32	248	26	70	263	23	31	420	58	41	205	34	1451
445-500	31	274	23	75	276	24	25	420	43	32	216	24	1463
500-515	34	252	24	83	318	25	30	411	44	38	203	21	1483
515-530	39	297	23	83	303	23	36	430	56	42	267	25	1624
530-545	30	251	25	91	327	36	35	416	44	31	225	21	1532
545-600	23	232	30	94	280	31	24	372	54	38	207	31	1416
600-615	40	234	29	82	294	27	27	398	46	45	201	24	1447
615-630	26	235	29	98	303	37	19	316	52	47	168	25	1355
630-645	25	195	23	81	249	37	32	331	35	39	189	32	1268
645-700	25	174	27	110	205	29	16	337	49	35	134	30	1171

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	124	977	100	288	1064	92	117	1575	163	161	764	101	5526
415-515	127	1005	98	305	1120	96	114	1636	176	162	789	97	5725
430-530	136	1071	96	311	1160	95	122	1681	201	153	891	104	6021
445-545	134	1074	95	332	1224	108	126	1677	187	143	911	91	6102
500-600	126	1032	102	351	1228	115	125	1629	198	149	902	98	6055
515-615	132	1014	107	350	1204	117	122	1616	200	156	900	101	6019
530-630	119	952	113	365	1204	131	105	1502	196	161	801	101	5750
545-645	114	896	111	355	1126	132	102	1417	187	169	765	112	5486
600-700	116	838	108	371	1051	130	94	1382	182	166	692	111	5241



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

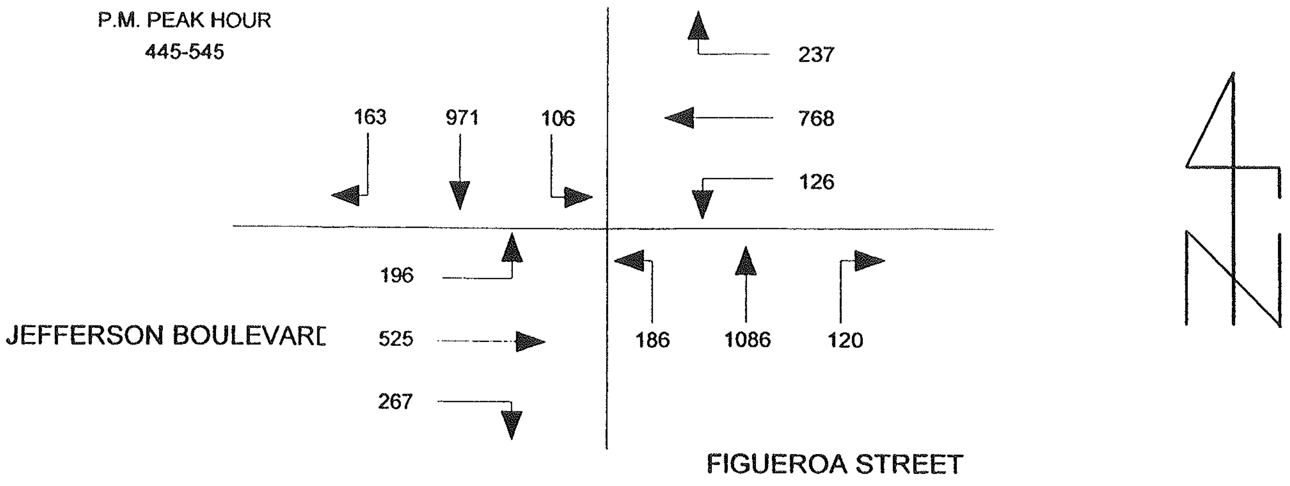
CLIENT:		KAKU ASSOCIATES
PROJECT:		LA COLISEUM PM COUNTS
DATE:		THURSDAY, APRIL 24th, 2003
PERIOD:		4:00 PM TO 7:00 PM
INTERSECTION:	N/S	FIGUEROA STREET
	E/W	JEFFERSON BOULEVARD

15 MIN COUNTS

	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
400-415	37	187	29	62	142	34	37	250	57	53	141	69	1098
415-430	31	197	26	59	149	34	32	293	43	74	189	82	1209
430-445	39	231	24	56	150	40	29	278	41	64	121	37	1110
445-500	36	202	25	58	149	27	32	286	51	58	127	58	1109
500-515	44	268	32	49	209	29	30	260	50	75	116	45	1207
515-530	44	262	29	57	208	36	29	264	44	77	144	44	1238
530-545	39	239	20	73	202	34	29	276	41	57	138	49	1197
545-600	35	244	20	54	193	37	24	245	35	58	117	30	1092
600-615	50	243	26	52	206	43	27	241	56	48	113	41	1146
615-630	31	228	23	45	166	41	20	259	45	63	133	48	1102
630-645	38	175	23	41	160	25	31	209	41	33	101	32	909
645-700	38	165	14	42	132	24	16	203	35	23	102	48	842

HOUR TOTALS

	1	2	3	4	5	6	7	8	9	10	11	12	
TIME	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
400-500	143	817	104	235	590	135	130	1107	192	249	578	246	4526
415-515	150	898	107	222	657	130	123	1117	185	271	553	222	4635
430-530	163	963	110	220	716	132	120	1088	186	274	508	184	4664
445-545	163	971	106	237	768	126	120	1086	186	267	525	196	4751
500-600	162	1013	101	233	812	136	112	1045	170	267	515	168	4734
515-615	168	988	95	236	809	150	109	1026	176	240	512	164	4673
530-630	155	954	89	224	767	155	100	1021	177	226	501	168	4537
545-645	154	890	92	192	725	146	102	954	177	202	464	151	4249
600-700	157	811	86	180	664	133	94	912	177	167	449	169	3999



WILTEC Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT:		KAKU ASSOCIATES
PROJECT:		LA COLISEUM PM COUNTS
DATE:		THURSDAY, APRIL 24th, 2003
PERIOD:		4:00 PM TO 7:00 PM
INTERSECTION:	N/S	FLOWER STREET
	E/W	EXPOSITION BOULEVARD

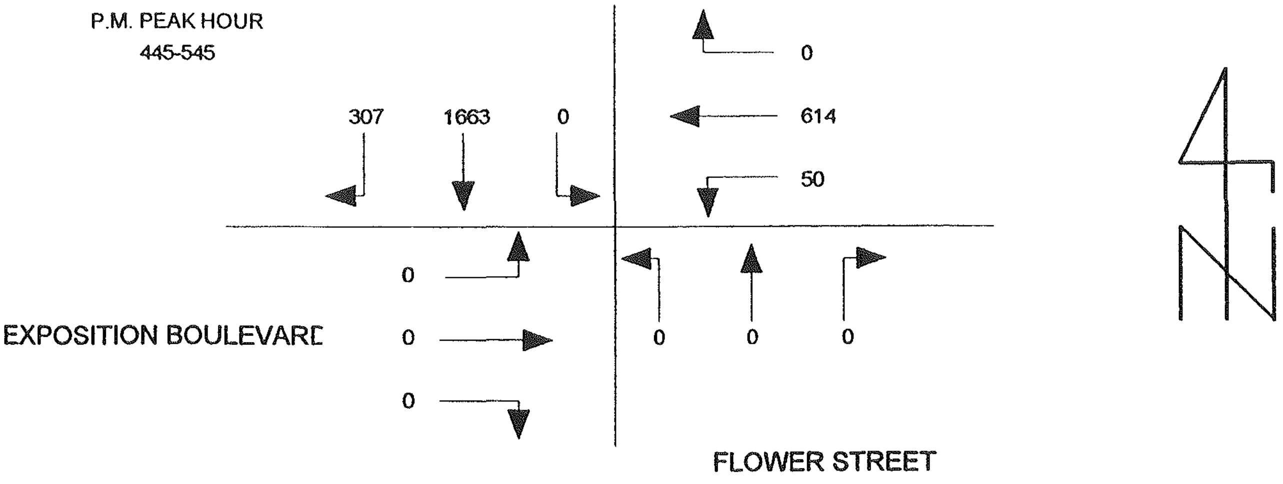
15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	54	322	0	0	104	18	0	0	0	0	0	0	498
415-430	55	359	0	0	124	12	0	0	0	0	0	0	550
430-445	50	345	0	0	101	14	0	0	0	0	0	0	510
445-500	59	402	0	0	135	11	0	0	0	0	0	0	607
500-515	93	444	0	0	182	20	0	0	0	0	0	0	739
515-530	79	404	0	0	148	9	0	0	0	0	0	0	640
530-545	76	413	0	0	149	10	0	0	0	0	0	0	648
545-600	90	329	0	0	136	9	0	0	0	0	0	0	564
600-615	78	341	0	0	138	8	0	0	0	0	0	0	565
615-630	55	302	0	0	128	6	0	0	0	0	0	0	491
630-645	48	307	0	0	112	5	0	0	0	0	0	0	472
645-700	24	226	0	0	88	2	0	0	0	0	0	0	340

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	218	1428	0	0	464	55	0	0	0	0	0	0	2165
415-515	257	1550	0	0	542	57	0	0	0	0	0	0	2406
430-530	281	1595	0	0	566	54	0	0	0	0	0	0	2496
445-545	307	1663	0	0	614	50	0	0	0	0	0	0	2634
500-600	338	1590	0	0	615	48	0	0	0	0	0	0	2591
515-615	323	1487	0	0	571	36	0	0	0	0	0	0	2417
530-630	299	1385	0	0	551	33	0	0	0	0	0	0	2268
545-645	271	1279	0	0	514	28	0	0	0	0	0	0	2092
600-700	205	1176	0	0	466	21	0	0	0	0	0	0	1868

P.M. PEAK HOUR
445-545



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

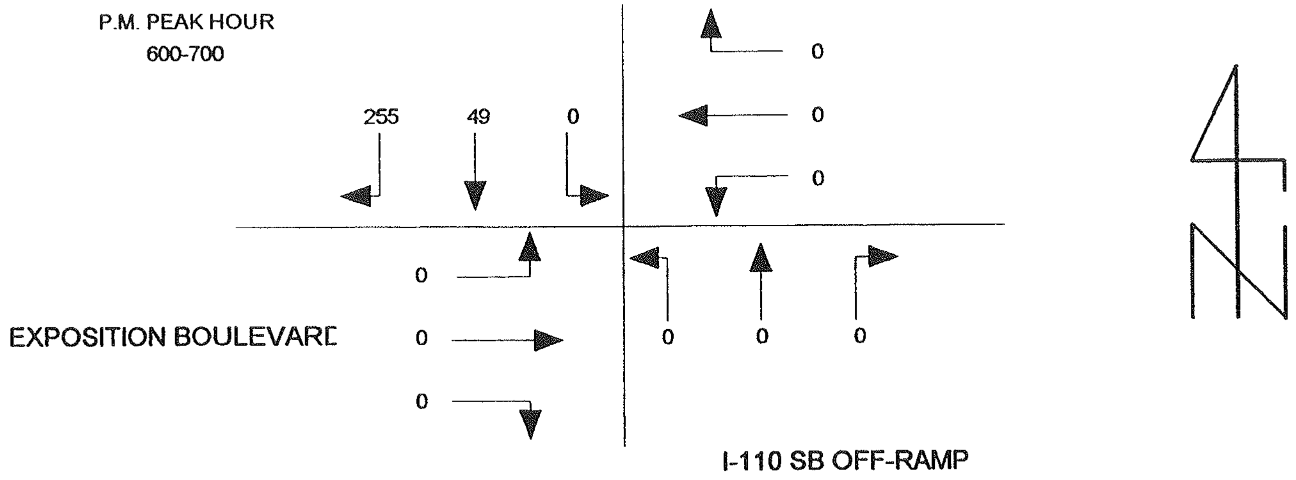
CLIENT:		KAKU ASSOCIATES
PROJECT:		LA COLISEUM PM COUNTS
DATE:		THURSDAY, APRIL 24th, 2003
PERIOD:		4:00 PM TO 7:00 PM
INTERSECTION:	N/S	I-110 SB OFF-RAMP
	E/W	EXPOSITION BOULEVARD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	56	18	0	0	0	0	0	0	0	0	0	0	74
415-430	53	13	0	0	0	0	0	0	0	0	0	0	66
430-445	50	15	0	0	0	0	0	0	0	0	0	0	65
445-500	65	22	0	0	0	0	0	0	0	0	0	0	87
500-515	58	15	0	0	0	0	0	0	0	0	0	0	73
515-530	49	14	0	0	0	0	0	0	0	0	0	0	63
530-545	50	15	0	0	0	0	0	0	0	0	0	0	65
545-600	56	14	0	0	0	0	0	0	0	0	0	0	70
600-615	58	18	0	0	0	0	0	0	0	0	0	0	76
615-630	48	8	0	0	0	0	0	0	0	0	0	0	56
630-645	71	13	0	0	0	0	0	0	0	0	0	0	84
645-700	78	10	0	0	0	0	0	0	0	0	0	0	88

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	224	68	0	0	0	0	0	0	0	0	0	0	292
415-515	226	65	0	0	0	0	0	0	0	0	0	0	291
430-530	222	66	0	0	0	0	0	0	0	0	0	0	288
445-545	222	66	0	0	0	0	0	0	0	0	0	0	288
500-600	213	58	0	0	0	0	0	0	0	0	0	0	271
515-615	213	61	0	0	0	0	0	0	0	0	0	0	274
530-630	212	55	0	0	0	0	0	0	0	0	0	0	267
545-645	233	53	0	0	0	0	0	0	0	0	0	0	286
600-700	255	49	0	0	0	0	0	0	0	0	0	0	304



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES
PROJECT: LA COLISEUM PM COUNTS
DATE: THURSDAY, APRIL 24th, 2003
PERIOD: 4:00 PM TO 7:00 PM
INTERSECTION: N/S I-110 OFF-RAMP & FLOWER STREET
E/W EXPOSITION BOULEVARD

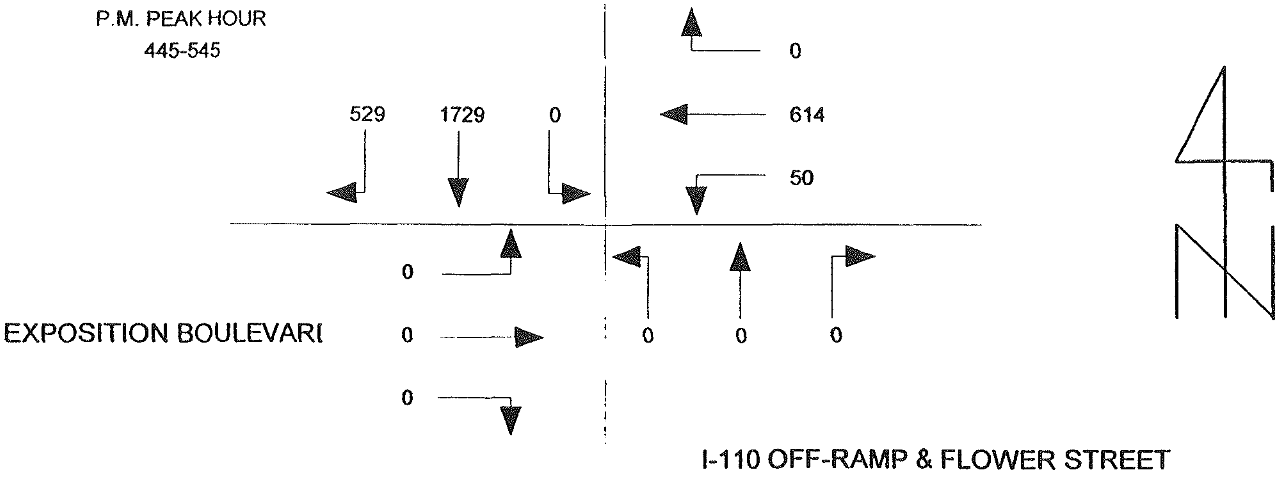
15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	110	340	0	0	104	18	0	0	0	0	0	0	572
415-430	108	372	0	0	124	12	0	0	0	0	0	0	616
430-445	100	360	0	0	101	14	0	0	0	0	0	0	575
445-500	124	424	0	0	135	11	0	0	0	0	0	0	694
500-515	151	459	0	0	182	20	0	0	0	0	0	0	812
515-530	128	418	0	0	148	9	0	0	0	0	0	0	703
530-545	126	428	0	0	149	10	0	0	0	0	0	0	713
545-600	146	343	0	0	136	9	0	0	0	0	0	0	634
600-615	136	359	0	0	138	8	0	0	0	0	0	0	641
615-630	103	310	0	0	128	6	0	0	0	0	0	0	547
630-645	119	320	0	0	112	5	0	0	0	0	0	0	556
645-700	102	236	0	0	88	2	0	0	0	0	0	0	428

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	442	1496	0	0	464	55	0	0	0	0	0	0	2457
415-515	483	1615	0	0	542	57	0	0	0	0	0	0	2697
430-530	503	1661	0	0	566	54	0	0	0	0	0	0	2784
445-545	529	1729	0	0	614	50	0	0	0	0	0	0	2922
500-600	551	1648	0	0	615	48	0	0	0	0	0	0	2862
515-615	536	1548	0	0	571	36	0	0	0	0	0	0	2691
530-630	511	1440	0	0	551	33	0	0	0	0	0	0	2535
545-645	504	1332	0	0	514	28	0	0	0	0	0	0	2378
600-700	460	1225	0	0	466	21	0	0	0	0	0	0	2172

P.M. PEAK HOUR
445-545



WILTEC Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

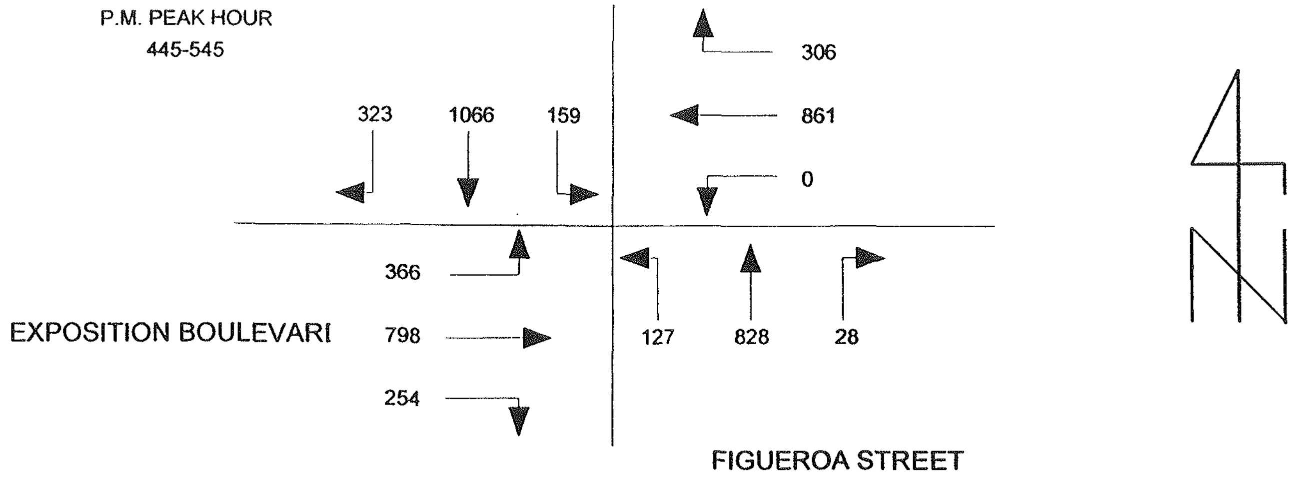
CLIENT: KAKU ASSOCIATES
PROJECT: LA COLISEUM PM COUNTS
DATE: THURSDAY, APRIL 24th, 2003
PERIOD: 4:00 PM TO 7:00 PM
INTERSECTION: N/S FIGUEROA STREET
E/W EXPOSITION BOULEVARD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	60	218	34	55	166	0	11	191	27	56	193	77	1088
415-430	68	206	35	57	152	0	4	220	34	39	177	85	1077
430-445	74	223	40	63	153	0	2	230	40	60	167	77	1129
445-500	70	240	28	82	190	0	6	219	32	61	191	92	1211
500-515	79	276	40	75	225	0	9	197	30	69	227	83	1310
515-530	85	270	49	69	232	0	4	195	30	72	203	93	1302
530-545	89	280	42	80	214	0	9	217	35	52	177	98	1293
545-600	93	246	34	91	207	0	6	172	35	44	139	92	1159
600-615	73	234	36	67	192	0	8	200	33	48	140	70	1101
615-630	78	262	51	68	192	0	5	186	31	46	128	63	1110
630-645	71	200	26	64	143	0	10	162	28	34	120	58	916
645-700	58	155	36	71	125	0	7	163	31	39	126	51	862

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	272	887	137	257	661	0	23	860	133	216	728	331	4505
415-515	291	945	143	277	720	0	21	866	136	229	762	337	4727
430-530	308	1009	157	289	800	0	21	841	132	262	788	345	4952
445-545	323	1066	159	306	861	0	28	828	127	254	798	366	5116
500-600	346	1072	165	315	878	0	28	781	130	237	746	366	5064
515-615	340	1030	161	307	845	0	27	784	133	216	659	353	4855
530-630	333	1022	163	306	805	0	28	775	134	190	584	323	4663
545-645	315	942	147	290	734	0	29	720	127	172	527	283	4286
600-700	280	851	149	270	652	0	30	711	123	167	514	242	3989



WILTEC Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES
PROJECT: LA COLISEUM PM COUNTS
DATE: THURSDAY, APRIL 24th, 2003
PERIOD: 4:00 PM TO 7:00 PM
INTERSECTION: N/S FLOWER STREET
E/W 37TH STREET

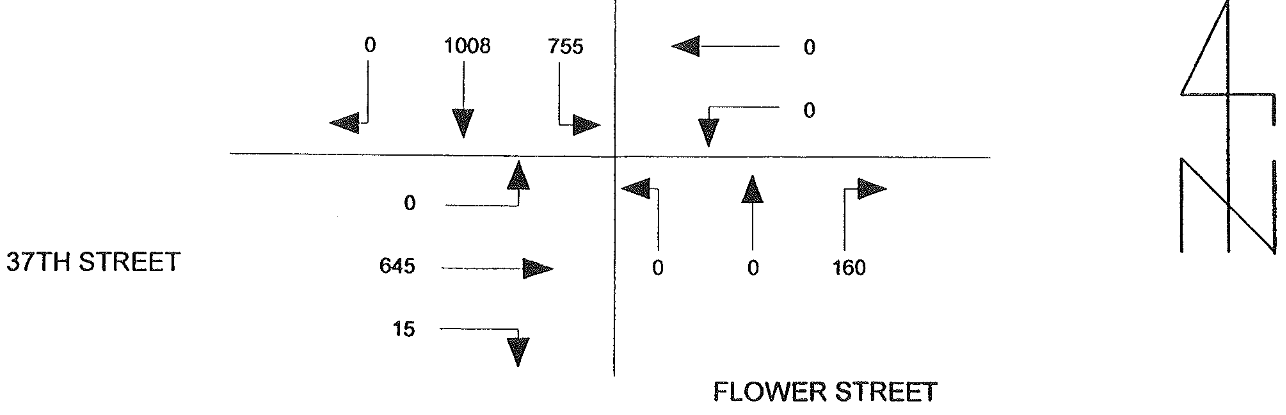
15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	0	171	197	0	0	0	18	0	0	1	167	0	554
415-430	0	189	201	0	0	0	33	0	0	2	163	0	588
430-445	0	169	195	0	0	0	20	0	0	3	137	0	524
445-500	0	212	187	0	0	0	28	0	0	5	126	0	558
500-515	0	272	208	0	0	0	36	0	0	4	190	0	710
515-530	0	285	187	0	0	0	57	0	0	3	191	0	723
530-545	0	239	173	0	0	0	39	0	0	3	138	0	592
545-600	0	170	173	0	0	0	20	0	0	1	110	0	474
600-615	0	165	193	0	0	0	24	0	0	3	108	0	493
615-630	0	141	194	0	0	0	12	0	0	4	102	0	453
630-645	0	101	208	0	0	0	16	0	0	0	95	0	420
645-700	0	71	174	0	0	0	10	0	0	3	85	0	343

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	0	741	780	0	0	0	99	0	0	11	593	0	2224
415-515	0	842	791	0	0	0	117	0	0	14	616	0	2380
430-530	0	938	777	0	0	0	141	0	0	15	644	0	2515
445-545	0	1008	755	0	0	0	160	0	0	15	645	0	2583
500-600	0	966	741	0	0	0	152	0	0	11	629	0	2499
515-615	0	859	726	0	0	0	140	0	0	10	547	0	2282
530-630	0	715	733	0	0	0	95	0	0	11	458	0	2012
545-645	0	577	768	0	0	0	72	0	0	8	415	0	1840
600-700	0	478	769	0	0	0	62	0	0	10	390	0	1709

P.M. PEAK HOUR
445-545



WILTEC Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

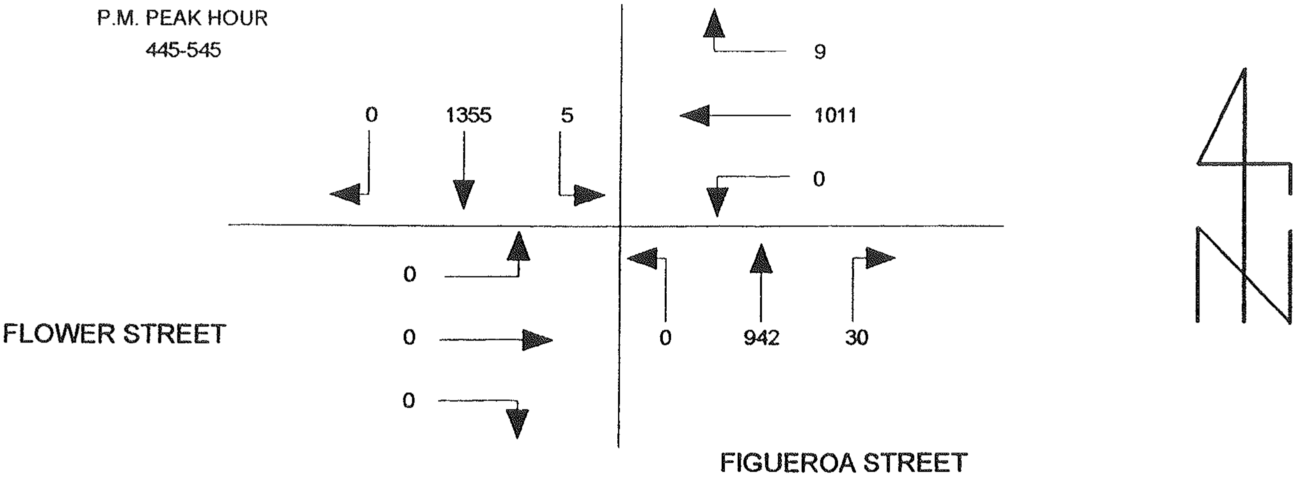
CLIENT:		KAKU ASSOCIATES
PROJECT:		LA COLISEUM PM COUNTS
DATE:		WEDNESDAY, MAY 21st, 2003
PERIOD:		4:00 PM TO 7:00 PM
INTERSECTION:	N/S	FIGUEROA STREET
	E/W	FLOWER STREET

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	0	243	2	1	133	0	11	240	0	0	0	0	630
415-430	0	241	2	3	154	0	5	228	0	0	0	0	633
430-445	0	254	0	6	161	0	3	242	0	0	0	0	666
445-500	0	336	0	2	218	0	7	233	0	0	0	0	796
500-515	0	366	4	0	271	0	8	242	0	0	0	0	891
515-530	0	342	0	3	297	0	7	252	0	0	0	0	901
530-545	0	311	1	4	225	0	8	215	0	0	0	0	764
545-600	0	335	2	0	225	0	2	213	0	0	0	0	777
600-615	0	303	1	0	161	0	5	199	0	0	0	0	669
615-630	0	251	1	2	135	0	6	202	0	0	0	0	597
630-645	0	227	0	2	113	0	4	198	0	0	0	0	544
645-700	0	189	0	1	85	0	5	170	0	0	0	0	450

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	0	1074	4	12	666	0	26	943	0	0	0	0	2725
415-515	0	1197	6	11	804	0	23	945	0	0	0	0	2986
430-530	0	1298	4	11	947	0	25	969	0	0	0	0	3254
445-545	0	1355	5	9	1011	0	30	942	0	0	0	0	3352
500-600	0	1354	7	7	1018	0	25	922	0	0	0	0	3333
515-615	0	1291	4	7	908	0	22	879	0	0	0	0	3111
530-630	0	1200	5	6	746	0	21	829	0	0	0	0	2807
545-645	0	1116	4	4	634	0	17	812	0	0	0	0	2587
600-700	0	970	2	5	494	0	20	769	0	0	0	0	2260



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

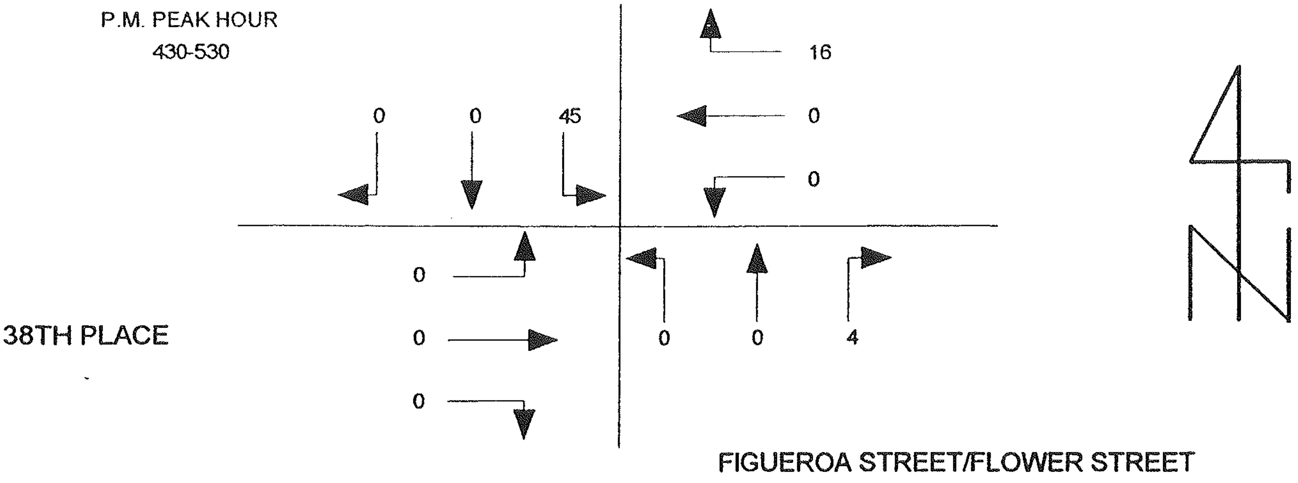
CLIENT: KAKU ASSOCIATES
PROJECT: LA COLISEUM PM COUNTS
DATE: WEDNESDAY, MAY 21st, 2003
PERIOD: 4:00 PM TO 7:00 PM
INTERSECTION: N/S FIGUEROA STREET/FLOWER STREET
E/W 38TH PLACE

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	0	0	5	6	0	0	2	0	0	0	0	0	13
415-430	0	0	3	5	0	0	2	0	0	0	0	0	10
430-445	0	0	8	2	0	0	0	0	0	0	0	0	10
445-500	0	0	14	10	0	0	1	0	0	0	0	0	25
500-515	0	0	6	1	0	0	1	0	0	0	0	0	8
515-530	0	0	17	3	0	0	2	0	0	0	0	0	22
530-545	0	0	9	1	0	0	0	0	0	0	0	0	10
545-600	0	0	7	3	0	0	2	0	0	0	0	0	12
600-615	0	0	3	3	0	0	1	0	0	0	0	0	7
615-630	0	0	4	1	0	0	1	0	0	0	0	0	6
630-645	0	0	5	4	0	0	1	0	0	0	0	0	10
645-700	0	0	3	9	0	0	1	0	0	0	0	0	13

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	0	0	30	23	0	0	5	0	0	0	0	0	58
415-515	0	0	31	18	0	0	4	0	0	0	0	0	53
430-530	0	0	45	16	0	0	4	0	0	0	0	0	65
445-545	0	0	46	15	0	0	4	0	0	0	0	0	65
500-600	0	0	39	8	0	0	5	0	0	0	0	0	52
515-615	0	0	36	10	0	0	5	0	0	0	0	0	51
530-630	0	0	23	8	0	0	4	0	0	0	0	0	35
545-645	0	0	19	11	0	0	5	0	0	0	0	0	35
600-700	0	0	15	17	0	0	4	0	0	0	0	0	36



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

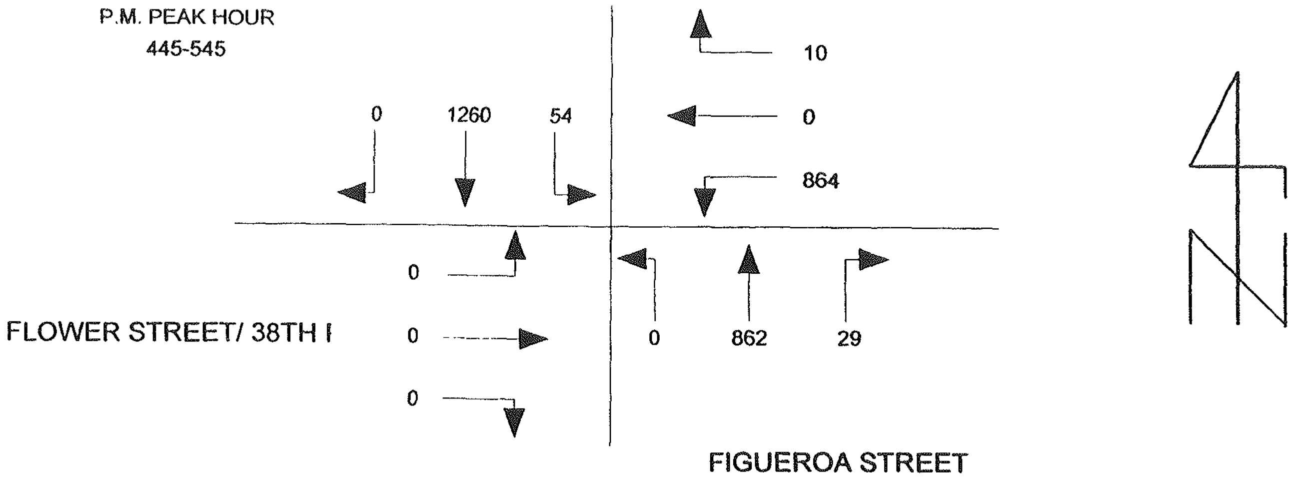
CLIENT:		KAKU ASSOCIATES
PROJECT:		LA COLISEUM PM COUNTS
DATE:		WEDNESDAY, APRIL 23nd, 2003
PERIOD:		4:00 PM TO 7:00 PM
INTERSECTION:	N/S	FIGUEROA STREET
	E/W	FLOWER STREET/ 38TH PLACE

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	0	225	2	4	0	120	8	255	0	0	0	0	614
415-430	0	226	4	2	0	136	9	251	0	0	0	0	628
430-445	0	236	5	2	0	159	10	243	0	0	0	0	655
445-500	0	312	9	2	0	180	10	220	0	0	0	0	733
500-515	0	351	13	4	0	257	10	220	0	0	0	0	855
515-530	0	320	20	0	0	223	5	204	0	0	0	0	772
530-545	0	277	12	4	0	204	4	218	0	0	0	0	719
545-600	0	308	9	2	0	172	6	192	0	0	0	0	689
600-615	0	263	5	0	0	139	9	191	0	0	0	0	607
615-630	0	231	5	1	0	115	4	175	0	0	0	0	531
630-645	0	205	4	1	0	105	9	157	0	0	0	0	481
645-700	0	157	8	3	0	69	8	199	0	0	0	0	444

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	0	999	20	10	0	595	37	969	0	0	0	0	2630
415-515	0	1125	31	10	0	732	39	934	0	0	0	0	2871
430-530	0	1219	47	8	0	819	35	887	0	0	0	0	3015
445-545	0	1260	54	10	0	864	29	862	0	0	0	0	3079
500-600	0	1256	54	10	0	856	25	834	0	0	0	0	3035
515-615	0	1168	46	6	0	738	24	805	0	0	0	0	2787
530-630	0	1079	31	7	0	630	23	776	0	0	0	0	2546
545-645	0	1007	23	4	0	531	28	715	0	0	0	0	2308
600-700	0	856	22	5	0	428	30	722	0	0	0	0	2063



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

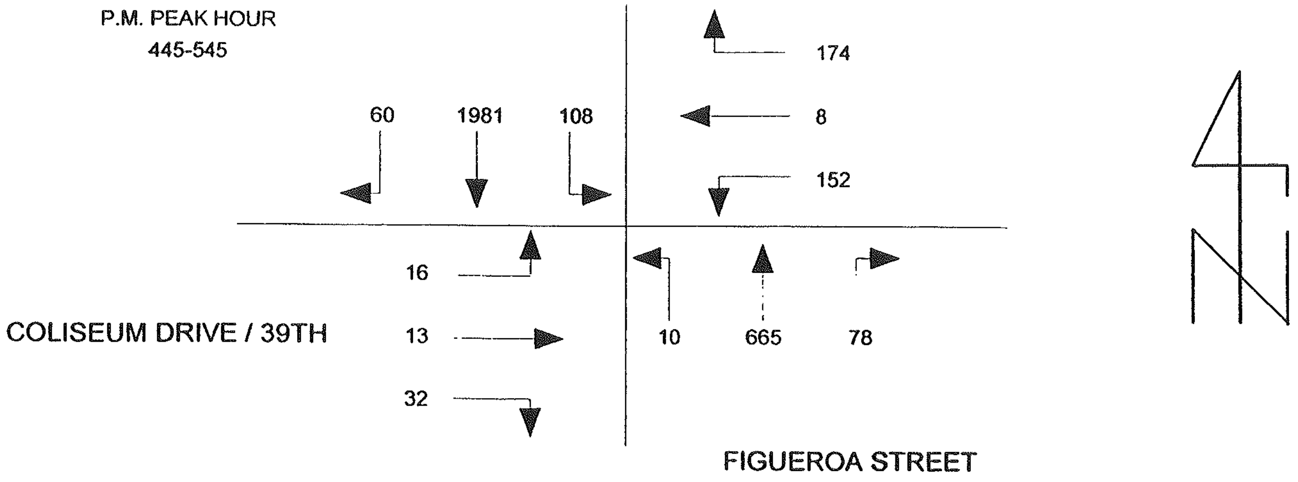
CLIENT: KAKU ASSOCIATES
PROJECT: LA COLISEUM PM COUNTS
DATE: WEDNESDAY, APRIL 23nd, 2003
PERIOD: 4:00 PM TO 7:00 PM
INTERSECTION: N/S FIGUEROA STREET
E/W COLISEUM DRIVE / 39TH STREET

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	8	317	30	35	1	26	17	220	2	2	0	4	662
415-430	11	397	31	54	2	32	23	194	3	2	5	9	763
430-445	7	402	19	35	2	20	22	197	5	12	2	3	726
445-500	9	468	24	41	1	32	19	182	2	7	0	1	786
500-515	14	514	29	34	1	47	19	184	3	13	6	6	870
515-530	15	494	28	42	2	43	23	154	2	9	5	4	821
530-545	22	505	27	57	4	30	17	145	3	3	2	5	820
545-600	10	435	30	46	3	38	24	153	0	1	5	9	754
600-615	5	379	27	34	1	23	26	163	3	4	0	1	666
615-630	4	341	25	24	0	22	16	144	1	4	0	3	584
630-645	2	290	28	30	0	26	13	135	2	9	1	4	540
645-700	5	223	20	27	0	17	18	158	1	1	0	4	474

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	35	1584	104	165	6	110	81	793	12	23	7	17	2937
415-515	41	1781	103	164	6	131	83	757	13	34	13	19	3145
430-530	45	1878	100	152	6	142	83	717	12	41	13	14	3203
445-545	60	1981	108	174	8	152	78	665	10	32	13	16	3297
500-600	61	1948	114	179	10	158	83	636	8	26	18	24	3265
515-615	52	1813	112	179	10	134	90	615	8	17	12	19	3061
530-630	41	1660	109	161	8	113	83	605	7	12	7	18	2824
545-645	21	1445	110	134	4	109	79	595	6	18	6	17	2544
600-700	16	1233	100	115	1	88	73	600	7	18	1	12	2264



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

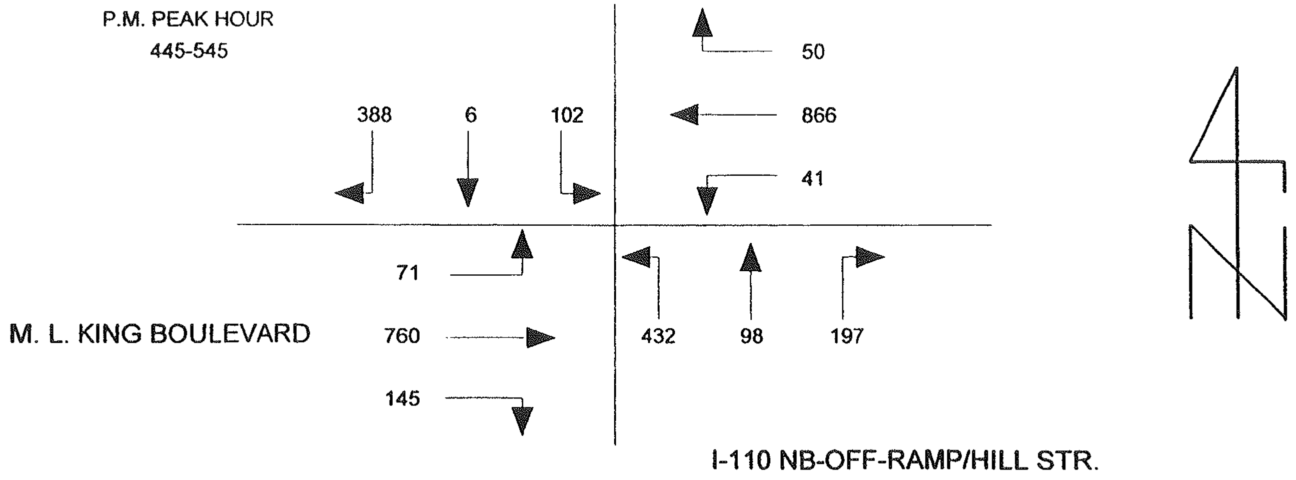
CLIENT:		KAKU ASSOCIATES
PROJECT:		LA COLISEUM PM COUNTS
DATE:		TUESDAY, APRIL 22nd, 2003
PERIOD:		4:00 PM TO 7:00 PM
INTERSECTION:	N/S	I-110 NB-OFF-RAMP/HILL STR.
	E/W	M. L. KING BOULEVARD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	68	0	10	19	195	11	55	31	87	41	186	10	713
415-430	79	3	19	11	183	8	57	30	81	55	168	22	716
430-445	86	1	16	10	193	8	41	41	100	30	212	25	763
445-500	93	4	28	11	209	8	59	38	107	37	190	19	803
500-515	103	0	22	10	208	14	38	25	115	41	175	15	766
515-530	100	1	24	16	217	8	44	19	103	25	181	15	753
530-545	92	1	28	13	232	11	56	16	107	42	214	22	834
545-600	66	3	28	12	252	6	35	19	90	31	217	16	775
600-615	67	1	20	10	244	7	45	17	84	46	213	10	764
615-630	49	1	16	15	212	14	42	12	78	32	180	16	667
630-645	35	2	10	15	196	11	37	15	87	39	200	15	662
645-700	24	3	10	10	144	14	38	12	74	29	201	7	566

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	326	8	73	51	780	35	212	140	375	163	756	76	2995
415-515	361	8	85	42	793	38	195	134	403	163	745	81	3048
430-530	382	6	90	47	827	38	182	123	425	133	758	74	3085
445-545	388	6	102	50	866	41	197	98	432	145	760	71	3156
500-600	361	5	102	51	909	39	173	79	415	139	787	68	3128
515-615	325	6	100	51	945	32	180	71	384	144	825	63	3126
530-630	274	6	92	50	940	38	178	64	359	151	824	64	3040
545-645	217	7	74	52	904	38	159	63	339	148	810	57	2868
600-700	175	7	56	50	796	46	162	56	323	146	794	48	2659



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

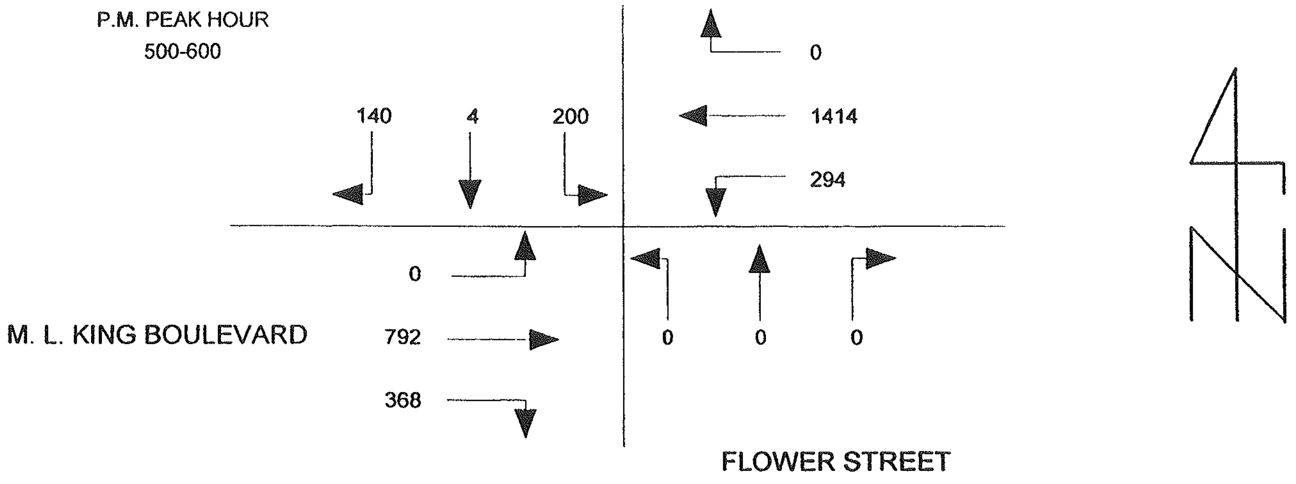
CLIENT:		KAKU ASSOCIATES
PROJECT:		LA COLISEUM PM COUNTS
DATE:		TUESDAY, APRIL 22nd, 2003
PERIOD:		4:00 PM TO 7:00 PM
INTERSECTION:	N/S	FLOWER STREET
	E/W	M. L. KING BOULEVARD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	21	2	47	0	284	58	0	0	0	77	197	0	686
415-430	29	0	65	0	304	62	0	0	0	86	202	0	748
430-445	30	1	64	0	341	68	0	0	0	67	189	0	760
445-500	35	1	39	0	316	68	0	0	0	81	188	0	728
500-515	39	1	46	0	348	74	0	0	0	94	185	0	787
515-530	43	1	42	0	369	70	0	0	0	106	211	0	842
530-545	37	1	57	0	372	75	0	0	0	83	203	0	828
545-600	21	1	55	0	325	75	0	0	0	85	193	0	755
600-615	36	1	62	0	324	83	0	0	0	68	205	0	779
615-630	22	1	57	0	275	69	0	0	0	79	190	0	693
630-645	19	7	69	0	235	59	0	0	0	90	190	0	669
645-700	18	4	65	0	205	51	0	0	0	84	174	0	601

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	115	4	215	0	1245	256	0	0	0	311	776	0	2922
415-515	133	3	214	0	1309	272	0	0	0	328	764	0	3023
430-530	147	4	191	0	1374	280	0	0	0	348	773	0	3117
445-545	154	4	184	0	1405	287	0	0	0	364	787	0	3185
500-600	140	4	200	0	1414	294	0	0	0	368	792	0	3212
515-615	137	4	216	0	1390	303	0	0	0	342	812	0	3204
530-630	116	4	231	0	1296	302	0	0	0	315	791	0	3055
545-645	98	10	243	0	1159	286	0	0	0	322	778	0	2896
600-700	95	13	253	0	1039	262	0	0	0	321	759	0	2742



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

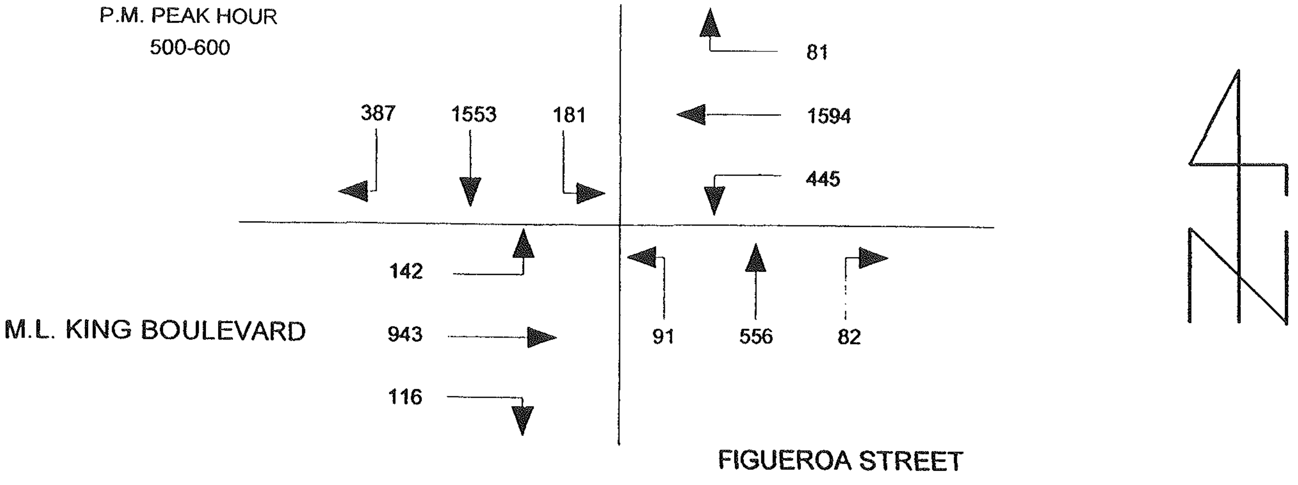
CLIENT: KAKU ASSOCIATES
PROJECT: LA COLISEUM PM COUNTS
DATE: THURSDAY, APRIL 24th, 2003
PERIOD: 4:00 PM TO 7:00 PM
INTERSECTION: N/S FIGUEROA STREET
E/W M.L. KING BOULEVARD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	65	277	49	21	354	90	20	151	23	20	226	37	1333
415-430	88	305	54	23	382	99	17	147	16	18	229	33	1411
430-445	65	329	34	41	411	112	20	147	15	20	227	33	1454
445-500	84	357	51	21	400	100	22	145	20	21	239	36	1496
500-515	105	376	46	19	376	106	19	152	26	44	240	39	1548
515-530	100	383	51	22	417	111	16	132	19	25	247	31	1554
530-545	100	401	40	25	382	124	24	131	24	20	232	35	1538
545-600	82	393	44	15	419	104	23	141	22	27	224	37	1531
600-615	75	335	36	20	369	117	18	136	24	29	210	55	1424
615-630	61	331	21	19	316	92	18	148	25	34	206	44	1315
630-645	63	237	24	19	285	83	19	110	13	23	210	48	1134
645-700	30	178	26	15	222	54	16	111	21	16	186	32	907

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	302	1268	188	106	1547	401	79	590	74	79	921	139	5694
415-515	342	1367	185	104	1569	417	78	591	77	103	935	141	5909
430-530	354	1445	182	103	1604	429	77	576	80	110	953	139	6052
445-545	389	1517	188	87	1575	441	81	560	89	110	958	141	6136
500-600	387	1553	181	81	1594	445	82	556	91	116	943	142	6171
515-615	357	1512	171	82	1587	456	81	540	89	101	913	158	6047
530-630	318	1460	141	79	1486	437	83	556	95	110	872	171	5808
545-645	281	1296	125	73	1389	396	78	535	84	113	850	184	5404
600-700	229	1081	107	73	1192	346	71	505	83	102	812	179	4780



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

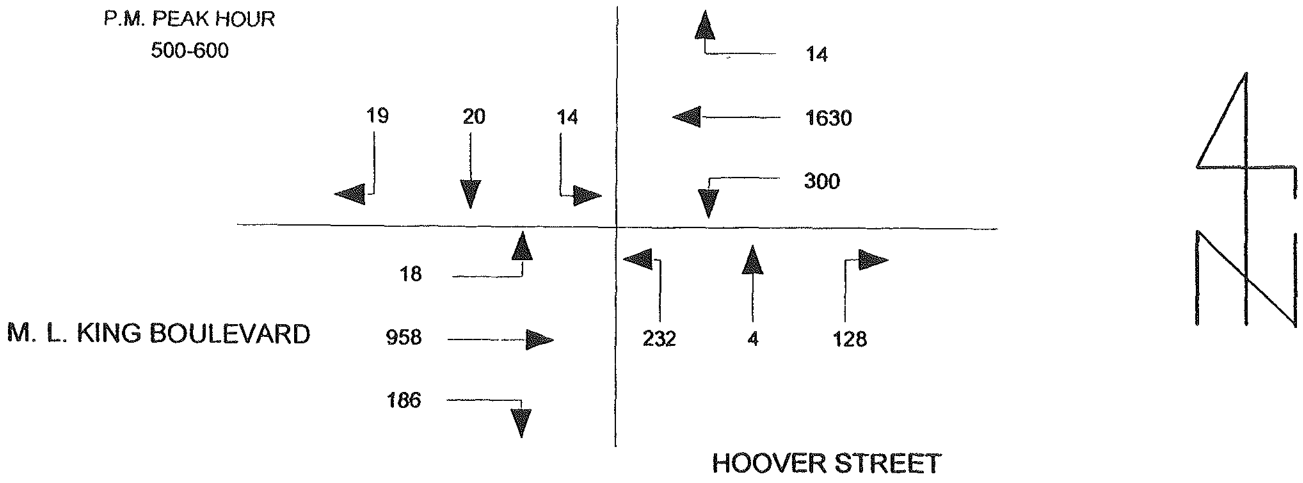
CLIENT: KAKU ASSOCIATES
PROJECT: LA COLISEUM PM COUNTS
DATE: TUESDAY, APRIL 22nd, 2003
PERIOD: 4:00 PM TO 7:00 PM
INTERSECTION: N/S HOOVER STREET
E/W M. L. KING BOULEVARD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	5	2	2	4	391	51	31	1	62	28	223	1	801
415-430	7	2	3	5	420	54	28	2	73	39	240	2	875
430-445	3	4	2	3	415	53	34	0	62	29	231	3	839
445-500	5	1	1	3	375	61	27	3	61	30	210	5	782
500-515	0	3	2	7	435	76	34	1	60	39	232	6	895
515-530	4	5	3	2	382	63	35	1	63	47	263	3	871
530-545	8	8	3	2	415	86	24	1	52	57	212	2	870
545-600	7	4	6	3	398	75	35	1	57	43	251	7	887
600-615	2	2	2	1	355	59	41	0	43	47	230	0	782
615-630	1	1	4	4	319	59	35	2	54	44	243	5	771
630-645	1	1	2	3	332	42	20	2	58	34	240	1	736
645-700	3	3	1	1	303	36	25	0	43	38	236	1	690

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	20	9	8	15	1601	219	120	6	258	126	904	11	3297
415-515	15	10	8	18	1645	244	123	6	256	137	913	16	3391
430-530	12	13	8	15	1607	253	130	5	246	145	936	17	3387
445-545	17	17	9	14	1607	286	120	6	236	173	917	16	3418
500-600	19	20	14	14	1630	300	128	4	232	186	958	18	3523
515-615	21	19	14	8	1550	283	135	3	215	194	956	12	3410
530-630	18	15	15	10	1487	279	135	4	206	191	936	14	3310
545-645	11	8	14	11	1404	235	131	5	212	168	964	13	3176
600-700	7	7	9	9	1309	196	121	4	198	163	949	7	2979



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT:		KAKU ASSOCIATES
PROJECT:		LA COLISEUM PM COUNTS
DATE:		TUESDAY, APRIL 22nd, 2003
PERIOD:		4:00 PM TO 7:00 PM
INTERSECTION:	N/S	VERMONT AVENUE
	E/W	M. L. KING BOULEVARD

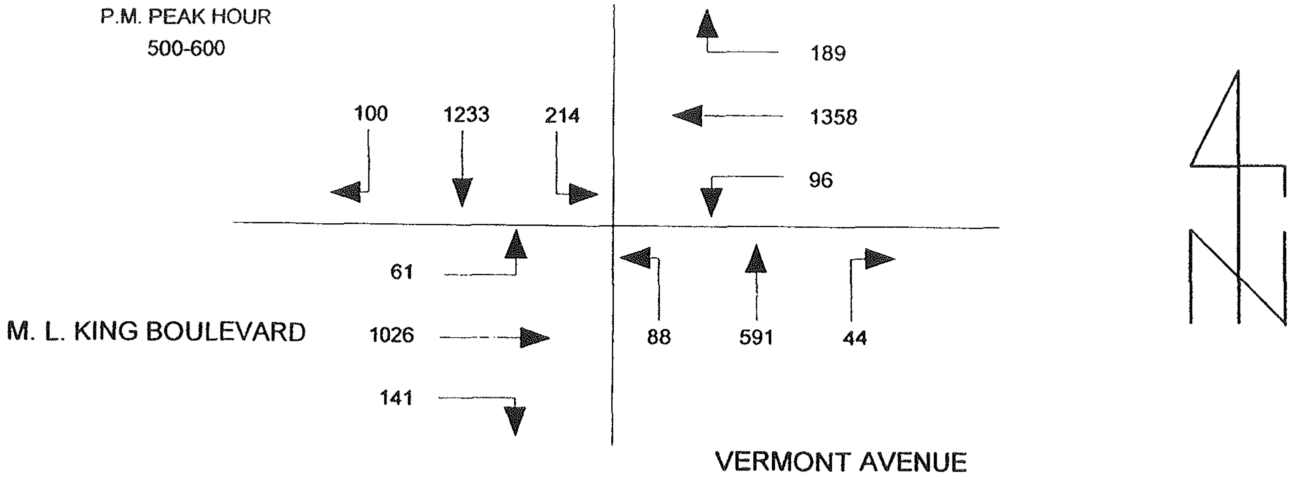
15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	26	253	50	54	291	19	11	130	21	12	165	23	1055
415-430	44	266	45	58	319	16	12	156	29	18	211	26	1200
430-445	40	247	37	40	281	17	10	145	32	23	230	29	1131
445-500	40	250	53	50	310	27	8	158	20	28	203	18	1165
500-515	30	302	58	38	327	20	16	157	19	41	248	16	1272
515-530	31	332	60	52	350	23	12	129	23	29	226	12	1279
530-545	19	295	46	48	324	27	9	168	23	38	274	19	1290
545-600	20	304	50	51	357	26	7	137	23	33	278	14	1300
600-615	32	236	48	38	345	35	12	149	34	40	226	18	1213
615-630	26	215	42	44	298	28	5	119	24	29	213	12	1055
630-645	28	199	31	35	316	27	8	115	24	31	236	10	1060
645-700	16	193	42	36	288	10	7	114	22	22	197	11	958

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	150	1016	185	202	1201	79	41	589	102	81	809	96	4551
415-515	154	1065	193	186	1237	80	46	616	100	110	892	89	4768
430-530	141	1131	208	180	1268	87	46	589	94	121	907	75	4847
445-545	120	1179	217	188	1311	97	45	612	85	136	951	65	5006
500-600	100	1233	214	189	1358	96	44	591	88	141	1026	61	5141
515-615	102	1167	204	189	1376	111	40	583	103	140	1004	63	5082
530-630	97	1050	186	181	1324	116	33	573	104	140	991	63	4858
545-645	106	954	171	168	1316	116	32	520	105	133	953	54	4628
600-700	102	843	163	153	1247	100	32	497	104	122	872	51	4286

P.M. PEAK HOUR
500-600



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

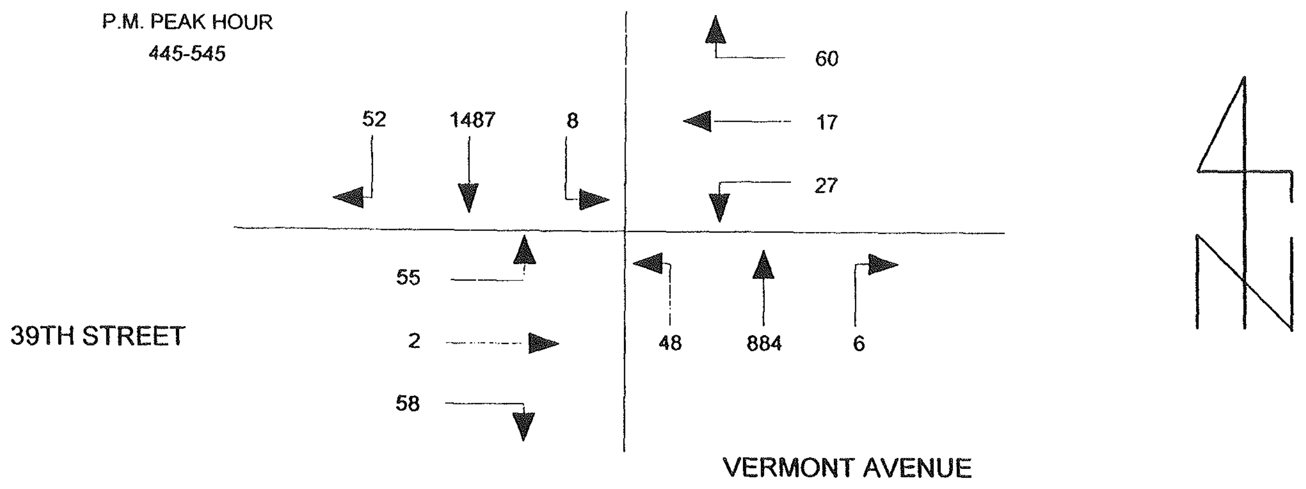
CLIENT: KAKU ASSOCIATES
PROJECT: LA COLISEUM PM COUNTS
DATE: TUESDAY, APRIL 22nd, 2003
PERIOD: 4:00 PM TO 7:00 PM
INTERSECTION: N/S VERMONT AVENUE
E/W 39TH STREET

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	13	298	2	6	3	2	2	236	10	6	3	10	591
415-430	14	314	2	5	2	1	2	245	9	7	4	7	612
430-445	18	332	6	12	1	7	1	227	10	11	0	11	636
445-500	19	342	4	13	4	2	0	206	19	13	0	17	639
500-515	10	370	4	19	6	16	2	220	7	19	1	17	691
515-530	13	396	0	17	5	6	3	212	12	15	1	12	692
530-545	10	379	0	11	2	3	1	246	10	11	0	9	682
545-600	13	357	0	5	5	0	1	203	11	6	1	10	612
600-615	13	353	4	6	2	1	1	208	15	16	2	17	638
615-630	10	335	4	3	0	1	1	197	12	19	0	11	593
630-645	9	293	1	3	0	0	1	183	5	8	1	11	515
645-700	7	275	1	0	0	1	1	177	7	9	0	8	486

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	64	1286	14	36	10	12	5	914	48	37	7	45	2478
415-515	61	1358	16	49	13	26	5	898	45	50	5	52	2578
430-530	60	1440	14	61	16	31	6	865	48	58	2	57	2658
445-545	52	1487	8	60	17	27	6	884	48	58	2	55	2704
500-600	46	1502	4	52	18	25	7	881	40	51	3	48	2677
515-615	49	1485	4	39	14	10	6	869	48	48	4	48	2624
530-630	46	1424	8	25	9	5	4	854	48	52	3	47	2525
545-645	45	1338	9	17	7	2	4	791	43	49	4	49	2358
600-700	39	1256	10	12	2	3	4	765	39	52	3	47	2232



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT:		KAKU ASSOCIATES
PROJECT:		LA COLISEUM PM COUNTS
DATE:		TUESDAY, APRIL 22nd, 2003
PERIOD:		4:00 PM TO 7:00 PM
INTERSECTION:	N/S	VERMONT AVENUE
	E/W	EXPOSITION BOULEVARD

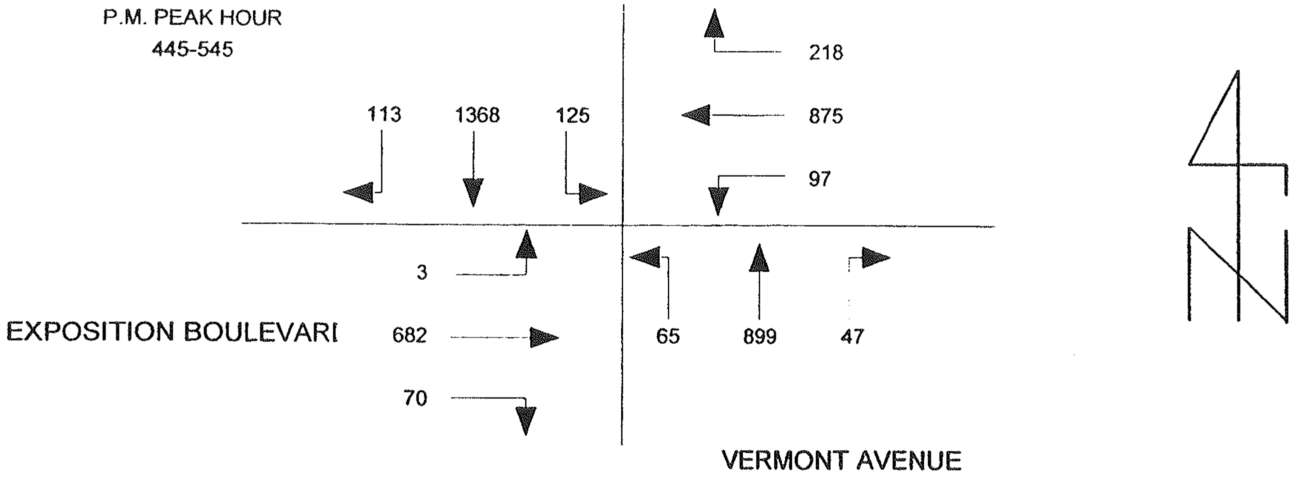
15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	33	288	39	60	148	11	15	220	14	17	189	0	1034
415-430	27	299	39	58	174	10	13	212	19	18	180	0	1049
430-445	21	296	22	51	172	21	10	226	13	21	207	0	1060
445-500	27	354	43	59	182	28	10	206	15	14	164	1	1103
500-515	23	332	22	56	212	21	13	244	13	16	174	2	1128
515-530	36	339	22	52	245	28	9	218	19	16	174	0	1158
530-545	27	343	38	51	236	20	15	231	18	24	170	0	1173
545-600	34	305	24	47	225	20	9	193	8	13	201	2	1081
600-615	36	313	37	50	179	12	9	208	11	16	164	1	1036
615-630	29	297	31	46	191	15	9	167	11	21	143	2	962
630-645	31	266	39	43	163	14	10	171	12	21	135	2	907
645-700	25	234	23	39	169	17	10	168	10	14	135	1	845

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	108	1237	143	228	676	70	48	864	61	70	740	1	4246
415-515	98	1281	126	224	740	80	46	888	60	69	725	3	4340
430-530	107	1321	109	218	811	98	42	894	60	67	719	3	4449
445-545	113	1368	125	218	875	97	47	899	65	70	682	3	4562
500-600	120	1319	106	206	918	89	46	886	58	69	719	4	4540
515-615	133	1300	121	200	885	80	42	850	56	69	709	3	4448
530-630	126	1258	130	194	831	67	42	799	48	74	678	5	4252
545-645	130	1181	131	186	758	61	37	739	42	71	643	7	3986
600-700	121	1110	130	178	702	58	38	714	44	72	577	6	3750

P.M. PEAK HOUR
445-545



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

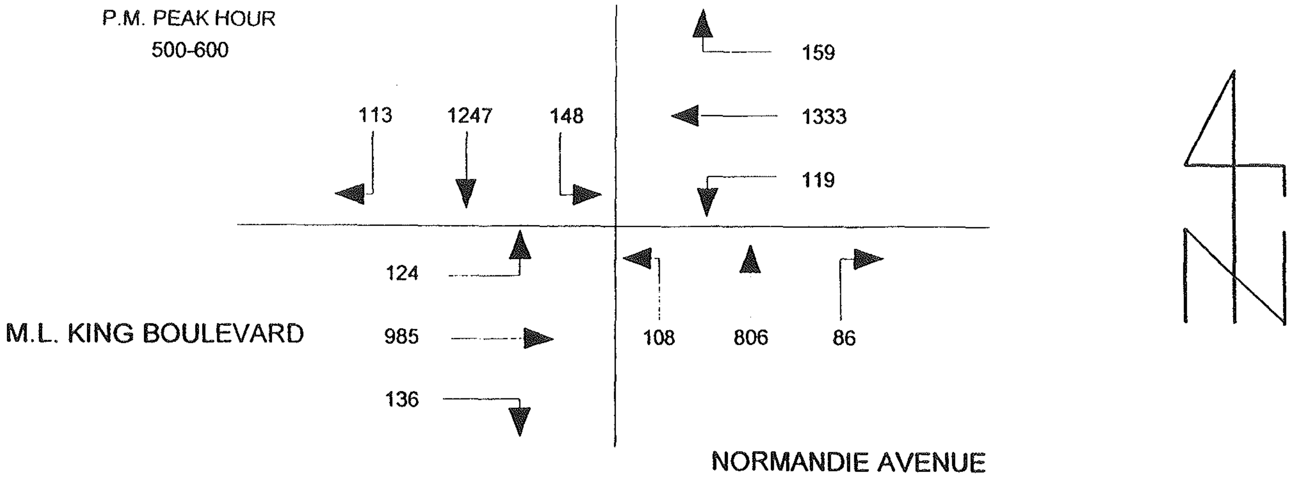
CLIENT: KAKU ASSOCIATES
PROJECT: LA COLISEUM PM COUNTS
DATE: TUESDAY, APRIL 22nd, 2003
PERIOD: 4:00 PM TO 7:00 PM
INTERSECTION: N/S NORMANDIE AVENUE
E/W M.L. KING BOULEVARD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	26	243	35	29	314	22	15	201	29	24	228	31	1197
415-430	31	271	34	30	282	22	12	189	24	32	214	32	1173
430-445	25	266	30	37	283	17	10	220	28	35	252	34	1237
445-500	34	265	29	35	329	26	10	194	20	27	237	30	1236
500-515	18	320	26	44	320	25	22	209	25	26	241	27	1303
515-530	25	325	35	38	347	29	20	189	28	32	250	31	1349
530-545	30	309	40	33	324	30	17	235	29	44	264	34	1389
545-600	40	293	47	44	342	35	27	173	26	34	230	32	1323
600-615	28	262	35	27	293	26	24	175	30	30	204	31	1165
615-630	21	252	36	39	319	36	18	180	29	30	228	30	1218
630-645	27	253	50	42	318	32	16	164	21	34	218	31	1206
645-700	26	236	38	40	295	25	15	171	24	29	213	34	1146

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	116	1045	128	131	1208	87	47	804	101	118	931	127	4843
415-515	108	1122	119	146	1214	90	54	812	97	120	944	123	4949
430-530	102	1176	120	154	1279	97	62	812	101	120	980	122	5125
445-545	107	1219	130	150	1320	110	69	827	102	129	992	122	5277
500-600	113	1247	148	159	1333	119	86	806	108	136	985	124	5364
515-615	123	1189	157	142	1306	120	88	772	113	140	948	128	5226
530-630	119	1116	158	143	1278	127	86	763	114	138	926	127	5095
545-645	116	1060	168	152	1272	129	85	692	106	128	880	124	4912
600-700	102	1003	159	148	1225	119	73	690	104	123	863	126	4735



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

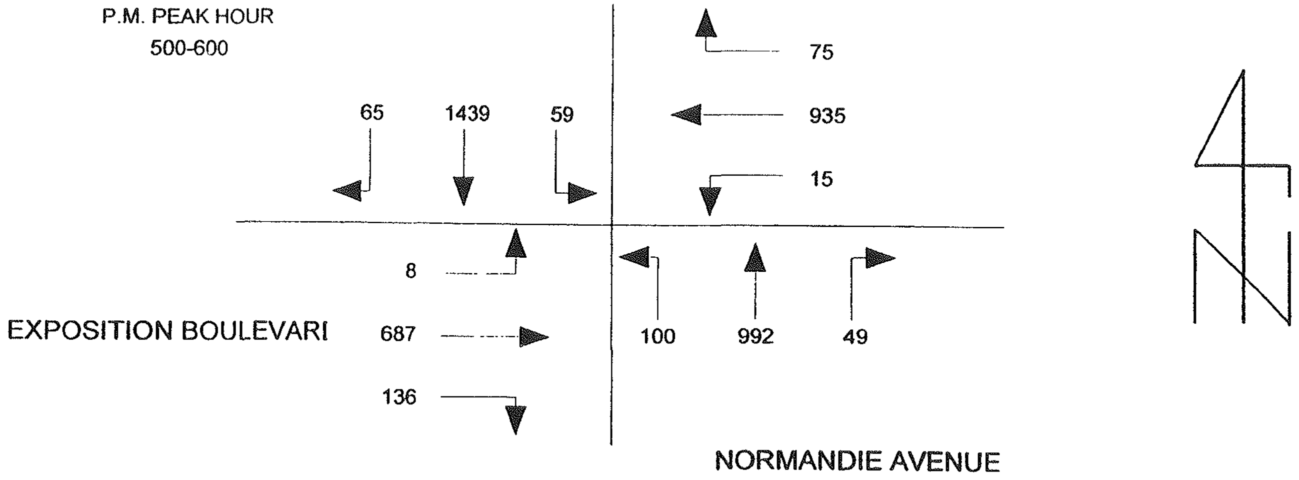
CLIENT:		KAKU ASSOCIATES
PROJECT:		LA COLISEUM PM COUNTS
DATE:		TUESDAY, APRIL 22nd, 2003
PERIOD:		4:00 PM TO 7:00 PM
INTERSECTION:	N/S	NORMANDIE AVENUE
	E/W	EXPOSITION BOULEVARD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	13	310	15	13	167	5	10	222	22	22	164	5	968
415-430	14	329	19	27	172	1	19	247	19	24	202	5	1078
430-445	17	329	15	19	180	2	25	224	19	29	165	0	1024
445-500	22	367	16	15	188	5	10	248	19	26	167	1	1084
500-515	12	360	19	17	229	1	15	265	25	29	165	1	1138
515-530	17	399	13	27	277	5	14	224	24	41	177	0	1218
530-545	16	341	11	15	200	2	10	279	31	31	170	2	1108
545-600	20	339	16	16	229	7	10	224	20	35	175	5	1096
600-615	24	334	13	13	188	10	10	233	17	26	180	11	1059
615-630	18	294	14	29	173	11	6	242	15	34	139	13	988
630-645	13	326	22	18	161	15	9	228	19	31	137	9	988
645-700	16	246	17	20	141	10	7	210	17	27	123	7	841

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	66	1335	65	74	707	13	64	941	79	101	698	11	4154
415-515	65	1385	69	78	769	9	69	984	82	108	699	7	4324
430-530	68	1455	63	78	874	13	64	961	87	125	674	2	4464
445-545	67	1467	59	74	894	13	49	1016	99	127	679	4	4548
500-600	65	1439	59	75	935	15	49	992	100	136	687	8	4560
515-615	77	1413	53	71	894	24	44	960	92	133	702	18	4481
530-630	78	1308	54	73	790	30	36	978	83	126	664	31	4251
545-645	75	1293	65	76	751	43	35	927	71	126	631	38	4131
600-700	71	1200	66	80	663	46	32	913	68	118	579	40	3876



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

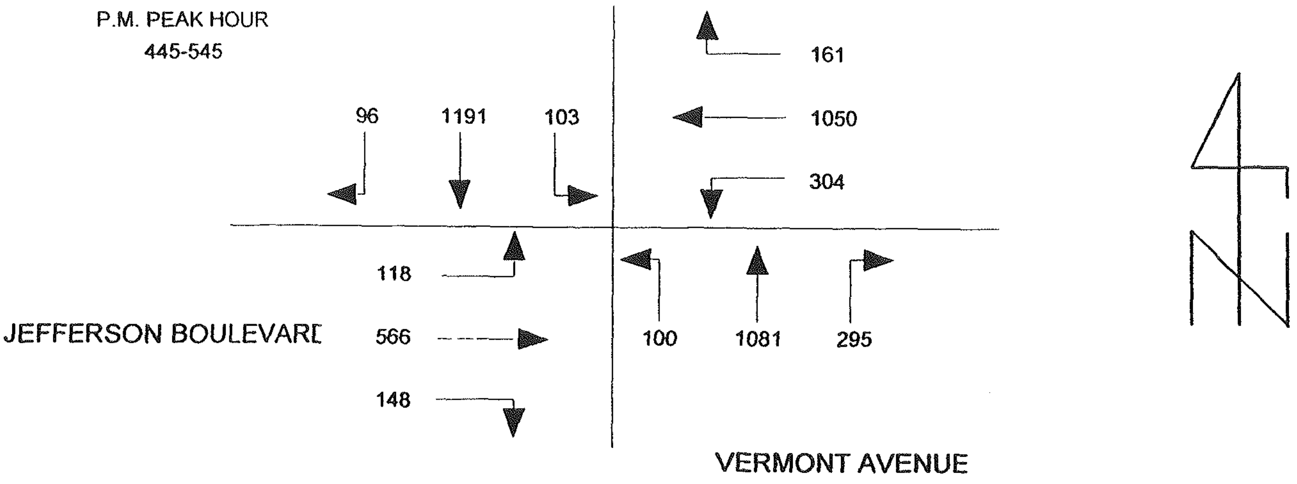
CLIENT: KAKU ASSOCIATES
PROJECT: LA COLISEUM PM COUNTS
DATE: TUESDAY, APRIL 22nd, 2003
PERIOD: 4:00 PM TO 7:00 PM
INTERSECTION: N/S VERMONT AVENUE
E/W JEFFERSON BOULEVARD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	17	280	34	43	197	76	87	240	27	42	132	29	1204
415-430	28	270	30	40	204	83	71	241	21	36	127	28	1179
430-445	16	281	23	27	193	75	83	270	34	34	126	22	1184
445-500	27	314	23	31	217	73	80	241	22	39	144	33	1244
500-515	27	272	28	45	266	81	76	294	20	33	136	25	1303
515-530	19	305	27	44	285	73	75	304	38	44	148	38	1400
530-545	23	300	25	41	282	77	64	242	20	32	138	22	1266
545-600	22	306	31	33	221	92	65	210	22	32	121	22	1177
600-615	15	286	24	41	212	67	71	269	25	35	147	38	1230
615-630	21	267	32	51	234	85	76	189	16	31	118	31	1151
630-645	29	232	27	57	209	80	85	193	26	28	109	26	1101
645-700	29	234	34	45	166	75	83	197	22	27	116	35	1063

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	88	1145	110	141	811	307	321	992	104	151	529	112	4811
415-515	98	1137	104	143	880	312	310	1046	97	142	533	108	4910
430-530	89	1172	101	147	961	302	314	1109	114	150	554	118	5131
445-545	96	1191	103	161	1050	304	295	1081	100	148	566	118	5213
500-600	91	1183	111	163	1054	323	280	1050	100	141	543	107	5146
515-615	79	1197	107	159	1000	309	275	1025	105	143	554	120	5073
530-630	81	1159	112	166	949	321	276	910	83	130	524	113	4824
545-645	87	1091	114	182	876	324	297	861	89	126	495	117	4659
600-700	94	1019	117	194	821	307	315	848	89	121	490	130	4545



WILTEC Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

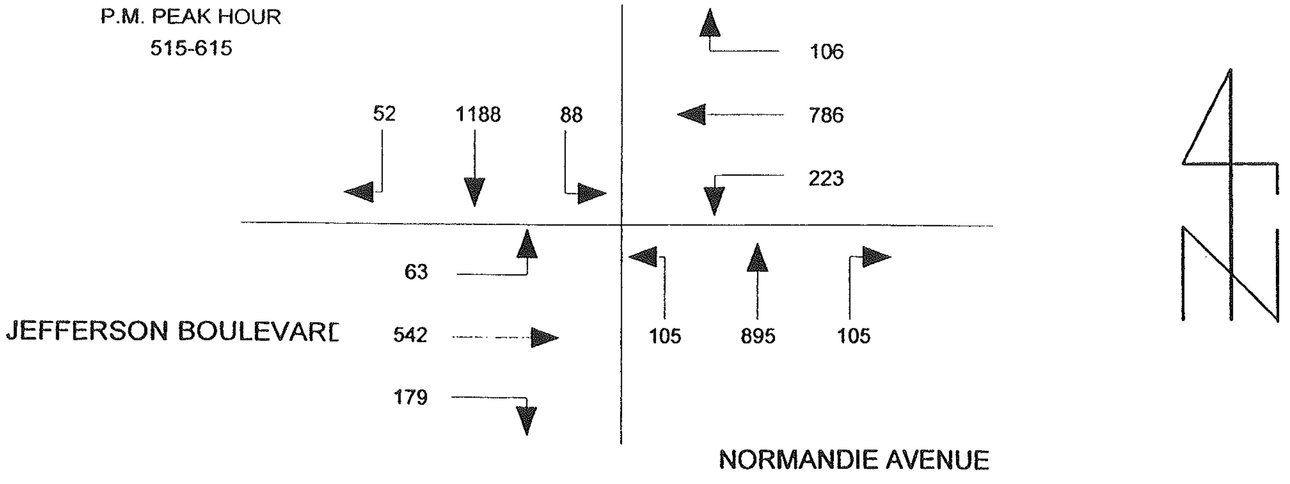
CLIENT:		KAKU ASSOCIATES
PROJECT:		LA COLISEUM PM COUNTS
DATE:		TUESDAY, APRIL 22nd, 2003
PERIOD:		4:00 PM TO 7:00 PM
INTERSECTION:	N/S	NORMANDIE AVENUE
	E/W	JEFFERSON BOULEVARD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	16	324	30	25	143	59	24	217	30	44	132	11	1055
415-430	10	300	16	20	179	38	28	211	25	32	120	22	1001
430-445	16	311	18	15	189	51	24	245	25	50	120	18	1082
445-500	9	292	14	17	167	52	38	226	24	41	133	18	1031
500-515	12	288	10	23	210	60	26	211	23	41	122	18	1044
515-530	13	290	18	44	202	60	29	240	27	44	124	17	1108
530-545	14	292	23	25	224	56	26	235	26	53	137	14	1125
545-600	12	302	24	13	177	62	20	208	28	34	124	16	1020
600-615	13	304	23	24	183	45	30	212	24	48	157	16	1079
615-630	10	282	22	35	167	53	21	202	28	38	121	14	993
630-645	13	249	16	21	151	56	29	212	21	39	120	12	939
645-700	14	221	13	21	135	33	28	175	20	44	127	10	841

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	51	1227	78	77	678	200	114	899	104	167	505	69	4169
415-515	47	1191	58	75	745	201	116	893	97	164	495	76	4158
430-530	50	1181	60	99	768	223	117	922	99	176	499	71	4265
445-545	48	1162	65	109	803	228	119	912	100	179	516	67	4308
500-600	51	1172	75	105	813	238	101	894	104	172	507	65	4297
515-615	52	1188	88	106	786	223	105	895	105	179	542	63	4332
530-630	49	1180	92	97	751	216	97	857	106	173	539	60	4217
545-645	48	1137	85	93	678	216	100	834	101	159	522	58	4031
600-700	50	1056	74	101	636	187	108	801	93	169	525	52	3852



Intersection Turning Movement

Prepared by: Southland Car Counters

N-S STREET: Vermont Ave. DATE: 4/22/2003 LOCATION: City of Los Angeles

E-W STREET: Adams Blvd. DAY: TUESDAY PROJECT# 03-0646-002

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:				1	2	0	1	2	0	1	2	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	19	209	22	34	300	19	29	176	14	23	175	38	1058
4:15 PM	19	218	12	37	303	28	23	163	16	33	164	30	1046
4:30 PM	21	255	14	32	308	22	26	167	15	32	186	32	1110
4:45 PM	22	251	19	28	296	25	29	172	16	31	208	32	1129
5:00 PM	24	242	14	29	295	19	31	183	19	30	205	31	1122
5:15 PM	18	227	14	29	315	15	25	206	24	30	227	26	1156
5:30 PM	22	232	16	30	306	16	30	210	20	31	240	32	1185
5:45 PM	19	235	19	33	303	21	29	199	22	29	246	34	1189
6:00 PM	18	230	17	37	284	20	28	197	20	28	255	36	1170
6:15 PM	18	223	11	29	279	17	24	183	21	28	263	33	1129
6:30 PM	14	205	12	36	265	19	24	164	24	27	246	24	1060
6:45 PM	17	189	11	22	256	14	19	154	19	26	214	28	969
TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
VOLUMES =	231	2716	181	376	3510	235	317	2174	230	348	2629	376	13323

PM Peak Hr Begins at: 515 PM

PEAK VOLUMES =	77	924	66	129	1208	72	112	812	86	118	968	128	4700
PEAK HR. FACTOR:		0.977			0.981			0.971			0.951		0.988

CONTROL: Signalized; Officer directing traffic at 8:00 PM

Intersection Turning Movement

Prepared by: Southland Car Counters

N-S STREET:	Normandie Ave.	DATE: 4/22/2003		LOCATION:	City of Los Angeles
E-W STREET:	Adams Blvd.	DAY: TUESDAY		PROJECT#	03-0646-001

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:				1	2	0	1	2	0	1	2	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	14	238	24	33	256	25	19	140	17	25	152	15	958
4:15 PM	16	243	26	38	244	29	22	155	17	29	186	12	1017
4:30 PM	19	254	27	42	272	23	23	166	22	33	195	18	1094
4:45 PM	19	253	28	43	303	25	20	166	18	36	233	18	1162
5:00 PM	16	264	28	48	301	27	21	179	19	33	244	21	1201
5:15 PM	21	282	32	45	298	26	38	188	22	30	256	24	1262
5:30 PM	19	285	33	44	292	21	35	192	17	34	241	29	1242
5:45 PM	24	217	20	46	293	18	26	161	27	33	224	19	1108
6:00 PM	22	222	26	40	282	16	28	167	21	31	206	21	1082
6:15 PM	18	216	28	44	267	17	32	146	18	29	182	23	1020
6:30 PM	18	215	24	47	252	21	30	140	13	30	177	30	997
6:45 PM	25	207	20	38	244	20	23	130	11	25	162	24	929
TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
VOLUMES =	231	2896	316	508	3304	268	317	1930	222	368	2458	254	13072

PM Peak Hr Begins at: 445 PM

PEAK VOLUMES =	75	1084	121	180	1194	99	114	725	76	133	974	92	4867
PEAK HR. FACTOR:		0.950			0.979			0.922			0.967		0.964

CONTROL: Signalized

Intersection Turning Movement

Prepared by: Southland Car Counters

N-S STREET: Vermont Ave.
DATE: 4/22/2003
LOCATION: City of Los Angeles

E-W STREET: I-10 EB Ramps
DAY: TUESDAY
PROJECT# 03-0646-005

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:				2	2		.5	.5	1				
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM		245	31	98	278		109	8	91				860
4:15 PM		274	29	89	245		115	7	100				859
4:30 PM		270	24	61	276		125	6	97				859
4:45 PM		274	22	99	281		131	11	121				939
5:00 PM		257	25	69	227		163	7	120				868
5:15 PM		321	27	88	293		117	1	88				935
5:30 PM		300	28	101	296		108	3	71				907
5:45 PM		264	20	90	247		90	1	62				774
6:00 PM		260	22	85	290		100	1	58				816
6:15 PM		240	31	94	246		100	0	79				790
6:30 PM		224	32	84	262		87	2	47				738
6:45 PM		214	34	73	228		64	0	53				666

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
VOLUMES =	0	3143	325	1031	3169	0	1309	47	987	0	0	0	10011

PM Peak Hr Begins at: 445 PM

PEAK VOLUMES =	0	1152	102	357	1097	0	519	22	400	0	0	0	3649
PEAK HR. FACTOR:		0.901			0.916			0.811			0.000		0.972

CONTROL: Signalized

Intersection Turning Movement

Prepared by: Southland Car Counters

N-S STREET: Normandie Ave.

DATE: 4/22/2003

LOCATION: City of Los Angeles

E-W STREET: I-10 EB Ramps

DAY: TUESDAY

PROJECT# 03-0646-003

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:				1	2		1.3	.3	.3				
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM		239	27	89	245		69		93				762
4:15 PM		286	21	79	247		62		91				786
4:30 PM		282	27	77	232		58		92				768
4:45 PM		263	33	72	234		62		82				746
5:00 PM		266	27	84	246		51		97				771
5:15 PM		261	24	70	260		73		106				794
5:30 PM		294	46	106	247		59		99				851
5:45 PM		277	41	105	247		61		94				825
6:00 PM		267	19	92	245		63		88				774
6:15 PM		253	28	84	253		58		100				776
6:30 PM		236	22	83	247		64		87				739
6:45 PM		211	16	72	245		57		76				677

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
VOLUMES =	0	3135	331	1013	2948	0	737	0	1105	0	0	0	9269

PM Peak Hr Begins at: 515 PM

PEAK VOLUMES =	0	1099	130	373	999	0	256	0	387	0	0	0	3244
PEAK HR. FACTOR:		0.904			0.972			0.898			0.000		0.953

CONTROL: Signalized

Intersection Turning Movement

Prepared by: Southland Car Counters

N-S STREET: Vermont Ave.
DATE: 4/22/2003
LOCATION: City of Los Angeles

E-W STREET: I-10 WB Ramps
DAY: TUESDAY
PROJECT# 03-0646-006

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:					2	0				.5	.5	1	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	70	292			292	72				39	2	98	865
4:15 PM	57	275			243	63				42	0	73	753
4:30 PM	97	383			355	89				74	0	97	1095
4:45 PM	52	270			276	56				58	0	59	771
5:00 PM	99	387			333	91				35	0	93	1038
5:15 PM	74	331			293	75				56	0	73	902
5:30 PM	101	345			352	58				64	0	71	991
5:45 PM	90	280			296	53				42	2	95	858
6:00 PM	82	260			346	72				57	0	107	924
6:15 PM	64	257			303	80				48	2	8	762
6:30 PM	78	238			282	80				54	0	93	825
6:45 PM	52	243			284	49				51	1	116	796

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
VOLUMES =	916	3561	0	0	3655	838	0	0	0	620	7	983	10580

PM Peak Hr Begins at: 430 PM

PEAK VOLUMES =	322	1371	0	0	1257	311	0	0	0	223	0	322	3806
PEAK HR. FACTOR:		0.871			0.883			0.000			0.797		0.869

CONTROL: Signalized;

Intersection Turning Movement

Prepared by: Southland Car Counters

N-S STREET: Normandie Ave.
DATE: 4/22/2003
LOCATION: City of Los Angeles

E-W STREET: I-10 WB Ramps
DAY: TUESDAY
PROJECT# 03-0646-004

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:					2	1				1.3	.3	.3	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	59	250			251	61				88		86	795
4:15 PM	60	288			255	67				81		93	844
4:30 PM	57	280			260	72				74		97	840
4:45 PM	69	252			255	85				79		89	829
5:00 PM	67	307			271	92				63		103	903
5:15 PM	70	267			292	94				70		107	900
5:30 PM	77	277			285	83				53		92	867
5:45 PM	70	265			279	66				54		83	817
6:00 PM	56	275			276	39				48		75	769
6:15 PM	47	266			286	36				43		69	747
6:30 PM	43	256			279	37				38		63	716
6:45 PM	38	232			271	31				33		54	659
TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
VOLUMES =	713	3215	0	0	3260	763	0	0	0	724	0	1011	9686

PM Peak Hr Begins at: 445 PM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES =	283	1103	0	0	1103	354	0	0	0	265	0	391	3499
PEAK HR. FACTOR:		0.926			0.944			0.000			0.927		0.969

CONTROL: Signalized

APPENDIX C

INTERSECTION LEVEL OF SERVICE WORKSHEETS

Existing Weekend

1618_B25

August 26, 2003 ,Tuesday 03:40:06 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: Adams Bl I/S No: 1

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	56	229	14	15	153	16	39	206	58	23	146	55
AMBIENT												
RELATED												
PROJECT												
TOTAL	56	229	14	15	153	16	39	206	58	23	146	55

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	3	0	1	0	0	1	0	2	0	0	1	0	1	0	2	0	0	1	0	1	0	1	0	1	0	0

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 77
B: 15

EastBound
A: 101
B: 23

WestBound
A: 103
B: 39

NorthBound
A: 61
B: 56

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{56 + 77 + 39 + 101}{*1500} = 0.112$$

LOS = A

1618_B25

August 26, 2003 ,Tuesday 03:40:06 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: Jefferson Bl I/S No: 2

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	1618	124	74	831	196	3	184	70	66	224	74
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	1618	124	74	831	196	3	184	70	66	224	74

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	3	0	1	0	0	1	0	2	0	1	0	0	1	0	2	0	1	0	0	1	0	3	0	0	1	0

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Prot-Var	Auto	Prot-Var	Auto	Prot-Var	Auto	Prot-Var	Auto

Critical Movements Diagram

SouthBound
A: 342
B: 74

EastBound
A: 75
B: 66

WestBound
A: 85
B: 3

NorthBound
A: 436
B: 0

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = A(N/B) + B(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{436 + 74 + 85 + 66}{*1375} = 0.411$$

LOS = A

1618_B25

August 26, 2003 ,Tuesday 03:40:06 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Flower St W/E: Exposition Bl I/S No: 3

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	229	194	133	573	0	38	301	0	0	0	0
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	229	194	133	573	0	38	301	0	0	0	0

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE			4			2		1	1	1						1	1											

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Split	<none>	Split	<none>	Perm			

Critical Movements Diagram

SouthBound
A: 287
B: 133

EastBound
A: 0
B: 0

WestBound
A: 170
B: 38

NorthBound
A: 107
B: 0

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = A(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{107 + 287 + 170 + 0}{*1425} = 0.326$$

LOS = A

1618_B25

August 26, 2003 ,Tuesday 03:40:06 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: Exposition Bl I/S No. 4

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	3	663	72	156	773	5	10	16	642	114	354	40
AMBIENT												
RELATED												
PROJECT												
TOTAL	3	663	72	156	773	5	10	16	642	114	354	40

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	3	0	1	0	0	1	0	1	0	1	0	0	0	0	3	0	0	1	0	2	0	3	0	1	0	0

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Prot-Var	Auto	Prot-Var	Auto

Critical Movements Diagram

SouthBound
A: 389
B: 156

EastBound
A: 99
B: 63

WestBound
A: 642
B: 0

NorthBound
A: 184
B: 3

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{3 + 389 + 642 + 63}{1375} = 0.798$$

LOS = C

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Flower St W/E: 37th St I/S No: 5

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	0	202	520	479	0	0	0	0	0	416	47
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	0	202	520	479	0	0	0	0	0	416	47

LANE

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
LANE	0	0	0	0	0	2	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	OLA	Prot-Fix	<none>			Perm	Auto

Critical Movements Diagram

SouthBound
A: 240
B: 284

EastBound
A: 93
B: 0

WestBound
A: 0
B: 0

NorthBound
A: 111
B: 0

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = A(N/B) + B(S/B)

West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{111 + 286 + 0 + 93}{*1425} = 0.274$$

LOS = A

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: State Dr I/S No: 6

AM/PM: PM Comments:

COUNT DATE: STUDY DATE GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	725	0	0	868	1	0	0	0	1	0	2
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	725	0	0	868	1	0	0	0	1	0	2

LANE

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
LANE	0	0	2	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm		Perm				Perm	Auto

Critical Movements Diagram

SouthBound
A: 289
B: 0

EastBound
A: 3
B: 1

WestBound
A: 0
B: 0

NorthBound
A: 363
B: 0

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

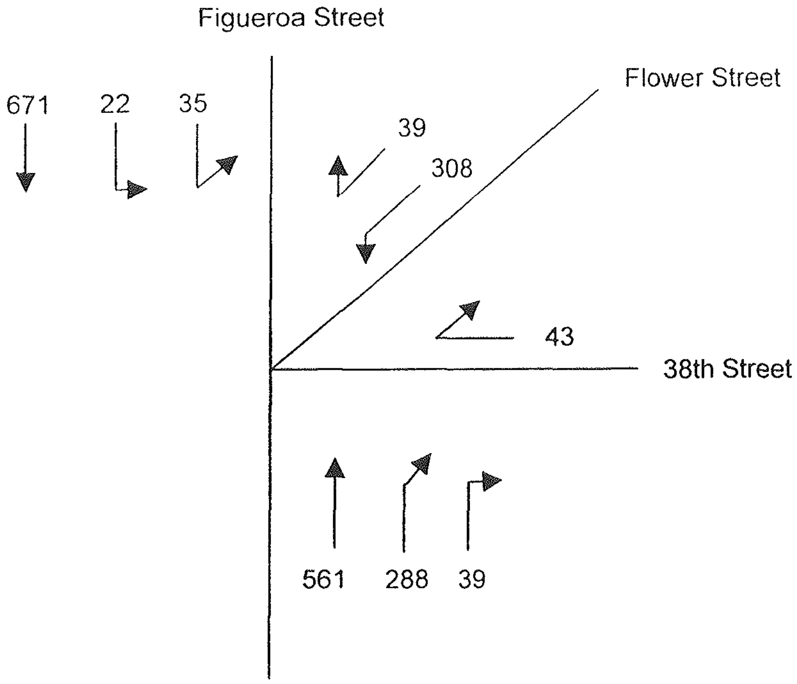
North/South Critical Movements = A(N/B) + B(S/B)

West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{363 + 0 + 0 + 3}{*1500} = 0.174$$

LOS = A

Intersection # 7 Figueroa & Flower & 38th
Weekend Scenario - Existing Conditions



Critical Movement Analysis

Phase 1 Critical Moves

22+35 = 57

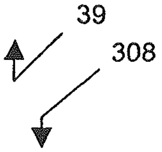
561/2 = 281

Phase 3 Critical Moves

$$v/c = \frac{(281 + 57) + (174 - 43) + 43}{1425}$$

$$= \quad 0.359 \quad \text{(LOS A)}$$

Phase 2 Critical Moves



=(39+308)/2 = 174

CalcaDB

August 26, 2003 ,Tuesday 03:40:34 PM

INTERSECTION DATA SUMMARY SHEET

N/S: I-110 HOV Ramps
W/E: 39th St
I/S No: 8
AM/PM: PM
Comments:
COUNT DATE:
STUDY DATE:
GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	356	0	117	0	0	0	58	302	0	0	240	54
AMBIENT												
RELATED												
PROJECT												
TOTAL	356	0	117	0	0	0	58	302	0	0	240	54

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	2	0	0	1	0

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto			Perm	<none>	Perm	Auto

Critical Movements Diagram

SouthBound
A: 0
B: 0

EastBound
A: 120
B: 0

WestBound
A: 151
B: 58

NorthBound
A: 117
B: 356

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = B(W/B) + A(E/B)

V/C = $\frac{356 + 0 + 58 + 120}{*1500}$ = 0.286 LOS = A

CalcaDB

August 26, 2003 ,Tuesday 03:40:3

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St
W/E: 39th St
I/S No: 9
AM/PM: PM
Comments:
COUNT DATE:
STUDY DATE:
GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	2	575	183	90	646	44	378	33	253	2	38	
AMBIENT												
RELATED												
PROJECT												
TOTAL	2	575	183	90	646	44	378	33	253	2	38	5

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	
LANE	1	0	2	0	1	0	0	1	0	2	0	1	0	0	2	0	0	0	1	1	0	2	0	0	0	1	0	

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Prot-Var	Auto	Prot-Var		Split	Auto	Split	Auto

Critical Movements Diagram

SouthBound
A: 230
B: 90

EastBound
A: 43
B: 1

WestBound
A: 143
B: 208

NorthBound
A: 253
B: 2

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + B(S/B)
West/East Critical Movements = B(W/B) + A(E/B)

V/C = $\frac{253 + 90 + 208 + 43}{*1375}$ = 0.362 LOS = A

CalcaDB

August 26, 2003 ,Tuesday 03:40:34 PM

INTERSECTION DATA SUMMARY SHEET

N/S: I-110 NB Ramps
W/E: M.L.King Jr. Bl
I/S No: 10
AM/PM: PM
Comments:
COUNT DATE:
STUDY DATE:
GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	398	139	142	21	0	0	20	0	108	510	279
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	398	139	142	21	0	0	20	0	108	510	279

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	0	1	0	0	0	1	0	1	0	0	1	0	1	0	2	0	1	0	0	1	0	2	0	1	0	0

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Split	Auto	Split	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 21
B: 142

EastBound
A: 279
B: 108

WestBound
A: 7
B: 0

NorthBound
A: 637
B: 0

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + B(S/B)
West/East Critical Movements = B(W/B) + A(E/B)

V/C = $\frac{637 + 142 + 0 + 279}{1425}$ = 0.672 LOS = B

CalcaDB

August 26, 2003 ,Tuesday 03:40:34 PM

INTERSECTION DATA SUMMARY SHEET

N/S: I-110 SB Ramps
W/E: M.L.King Jr. Bl
I/S No: 11
AM/PM: PM
Comments:
COUNT DATE:
STUDY DATE:
GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	0	0	146	0	377	0	31	0	0	795	25
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	0	0	146	0	377	0	31	0	0	795	25

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	0	3	0	0	0	0	0	0	2	0	1	0	0

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL			Perm	Auto	Perm	<none>	Perm	Auto

Critical Movements Diagram

SouthBound
A: 207
B: 146

EastBound
A: 351
B: 0

WestBound
A: 10
B: 0

NorthBound
A: 0
B: 0

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + A(S/B)
West/East Critical Movements = B(W/B) + A(E/B)

V/C = $\frac{0 + 207 + 0 + 351}{*1500}$ = 0.302 LOS = A

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: M.L.King Jr. Bl I/S No: 12
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	3	390	180	218	497	364	37	246	118	184	621	83
AMBIENT												
RELATED												
PROJECT												
TOTAL	3	390	180	218	497	364	37	246	118	184	621	83

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	2	0	1	0	0	1	0	2	0	1	0	0	1	0	2	0	1	0	0	1	0	2	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Prot-Var	Auto	Prot-Var	Auto

Critical Movements Diagram

SouthBound A: 364 B: 218
EastBound A: 235 B: 184
WestBound A: 121 B: 37
NorthBound A: 190 B: 3

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + B(S/B)
West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{190 + 218 + 121 + 184}{1375} - * = 0.449$$

LOS = A

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Hoover St W/E: M.L.King Jr. Bl I/S No: 13
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	128	44	16	2	11	26	158	771	56	5	918	198
AMBIENT												
RELATED												
PROJECT												
TOTAL	128	44	16	2	11	26	158	771	56	5	918	198

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	2	0	1	0	0	1	0	2	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound A: 26 B: 2
EastBound A: 372 B: 5
WestBound A: 276 B: 158
NorthBound A: 30 B: 128

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{128 + 26 + 158 + 372}{1500} - * = 0.386$$

LOS = A

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: M.L.King Jr. Bl I/S No: 14
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	143	592	44	319	515	95	20	255	361	98	836	139
AMBIENT												
RELATED												
PROJECT												
TOTAL	143	592	44	319	515	95	20	255	361	98	836	139

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	2	0	1	0	0	1	0	2	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Prot-Fix	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound A: 365 B: 319
EastBound A: 325 B: 98
WestBound A: 361 B: 20
NorthBound A: 318 B: 143

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + B(S/B)
West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{318 + 319 + 361 + 98}{1425} - * = 0.699$$

LOS = B

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: 39th St I/S No: 15
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	112	943	36	4	927	195	0	1	2	64	9	100
AMBIENT												
RELATED												
PROJECT												
TOTAL	112	943	36	4	927	195	0	1	2	64	9	100

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	1	0	1	0	0	1	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound A: 561 B: 4
EastBound A: 173 B: 64
WestBound A: 3 B: 0
NorthBound A: 490 B: 112

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{112 + 561 + 0 + 173}{1500} - * = 0.494$$

LOS = A

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: Exposition Bl I/S No: 16

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

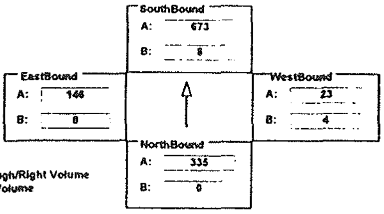
Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	653	16	8	1346	255	4	25	20	57	313	125
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	653	16	8	1346	255	4	25	20	57	313	125

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	1 0 1 0 1 0 0	1 0 2 0 0 1 0	1 0 1 0 1 0 0	0 0 2 0 1 0 0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram



A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{0 + 673 + 4 + 146}{*1500} = 0.479 \qquad LOS = A$$

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av W/E: M.L.King Jr. Bl I/S No: 17

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

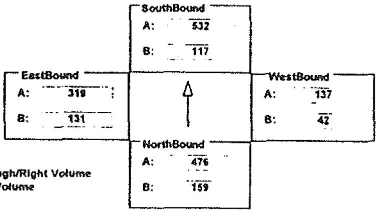
Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	159	885	66	117	954	110	42	411	117	131	843	114
AMBIENT												
RELATED												
PROJECT												
TOTAL	159	885	66	117	954	110	42	411	117	131	843	114

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	1 0 1 0 1 0 0	1 0 1 0 1 0 0	1 0 3 0 0 1 0	1 0 2 0 1 0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram



A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{159 + 532 + 42 + 319}{*1500} = 0.631 \qquad LOS = B$$

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av W/E: Exposition Bl I/S No: 18

AM/PM: PM Comments: Sunday

COUNT DATE: STUDY DATE: GROWTH FACTOR:

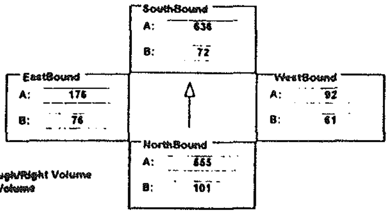
Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	101	1054	55	72	1181	91	61	109	74	76	368	85
AMBIENT												
RELATED												
PROJECT												
TOTAL	101	1054	55	72	1181	91	61	109	74	76	368	85

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	1 0 1 0 1 0 0	1 0 1 0 1 0 0	0 1 1 0 1 0 0	0 1 1 0 1 0 0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram



A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{101 + 636 + 61 + 176}{*1500} = 0.579 \qquad LOS = A$$

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: Jefferson Bl I/S No: 19

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

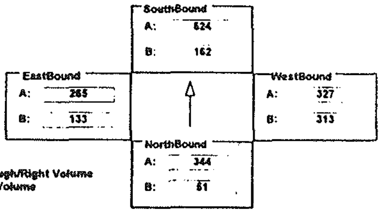
Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	51	688	283	162	1048	56	313	653	112	133	439	91
AMBIENT												
RELATED												
PROJECT												
TOTAL	51	688	283	162	1048	56	313	653	112	133	439	91

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	1 0 2 0 0 1 0	1 0 2 0 0 1 0	1 0 2 0 0 1 0	1 0 1 0 1 0 0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	OLA	Perm	Auto	Prot-Fix	Auto	Perm	Auto

Critical Movements Diagram



A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{51 + 624 + 313 + 265}{*1425} = 0.739 \qquad LOS = C$$

1618_B25

August 26, 2003 ,Tuesday 03:40:34 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av W/E: Jefferson Bl I/S No: 20

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	97	1071	138	82	1083	41	287	443	42	72	440	118
AMBIENT												
RELATED												
PROJECT												
TOTAL	97	1071	138	82	1083	41	287	443	42	72	440	118

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	1 0 1 0 1 0 0	1 0 1 0 1 0 0	1 0 1 0 1 0 0	1 0 2 0 0 1 0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 562
B: 82

EastBound
A: 220
B: 72

WestBound
A: 243
B: 287

NorthBound
A: 605
B: 97

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = A(N/B) + B(S/B)

West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{605 + 82 + 287 + 220}{*1500} = 0.726$$

LOS = C

1618_B25

August 26, 2003 ,Tuesday 03:40:34 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: Adams Bl I/S No: 21

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	131	588	193	157	1197	78	152	453	109	154	492	108
AMBIENT												
RELATED												
PROJECT												
TOTAL	131	588	193	157	1197	78	152	453	109	154	492	108

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	1 0 2 0 0 1 0	1 0 1 0 1 0 0	1 0 1 0 1 0 0	1 0 1 0 1 0 0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Prot-Fix	Auto	Perm	Auto	Prot-Fix	Auto

Critical Movements Diagram

SouthBound
A: 638
B: 157

EastBound
A: 300
B: 154

WestBound
A: 281
B: 152

NorthBound
A: 294
B: 131

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{131 + 638 + 152 + 300}{*1375} = 0.818$$

LOS = D

1618_B25

August 26, 2003 ,Tuesday 03:40:34 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av W/E: Adams Bl I/S No: 22

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	60	1063	92	95	1020	98	121	627	115	90	619	84
AMBIENT												
RELATED												
PROJECT												
TOTAL	60	1063	92	95	1020	98	121	627	115	90	619	84

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	1 0 1 0 1 0 0	1 0 1 0 1 0 0	1 0 1 0 1 0 0	1 0 1 0 1 0 0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Prot-Fix	Auto	Perm	Auto	Prot-Fix	Auto

Critical Movements Diagram

SouthBound
A: 559
B: 95

EastBound
A: 352
B: 90

WestBound
A: 371
B: 121

NorthBound
A: 578
B: 60

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = A(N/B) + B(S/B)

West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{578 + 95 + 121 + 352}{*1375} = 0.763$$

LOS = C

1618_B25

August 26, 2003 ,Tuesday 03:40:34 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: I-10 EB Ramps I/S No: 23

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	738	131	483	1069	0	0	0	0	180	6	544
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	738	131	483	1069	0	0	0	0	180	6	544

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	0 0 2 0 0 1 0	2 0 2 0 0 0 0	0 0 0 0 0 0 0	1 0 0 0 1 0 0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Prot-Fix	Auto	<none>	<none>	Perm	Auto

Critical Movements Diagram

SouthBound
A: 535
B: 266

EastBound
A: 550
B: 180

WestBound
A: 0
B: 0

NorthBound
A: 369
B: 0

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = A(N/B) + B(S/B)

West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{369 + 266 + 0 + 550}{*1425} = 0.762$$

LOS = C

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av W/E: I-10 EB Ramps I/S No: 24
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	996	180	369	1040	0	0	0	0	162	0	246
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	996	180	369	1040	0	0	0	0	162	0	246

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
LANE	0	0	2	0	0	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Prot-Fix	Auto	<none>	<none>	Perm	Auto

Critical Movements Diagram

SouthBound A: 520 B: 369
EastBound A: 246 B: 162
WestBound A: 0 B: 0
NorthBound A: 498 B: 0

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = A(N/B) + B(S/B)
West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{498 + 369 + 0 + 246}{{}^{*}1425} = 0.711 \qquad LOS = C$$

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: I-10 WB Ramps I/S No: 25
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	146	774	0	0	1153	164	369	1	369	0	0	0
AMBIENT												
RELATED												
PROJECT												
TOTAL	146	774	0	0	1153	164	369	1	369	0	0	0

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
LANE	2	0	2	0	0	0	0	0	0	2	0	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Prot-Fix	Auto	Perm	Auto	Perm	Auto	<none>	<none>

Critical Movements Diagram

SouthBound A: 577 B: 0
EastBound A: 0 B: 0
WestBound A: 370 B: 369
NorthBound A: 387 B: 80

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{80 + 577 + 370 + 0}{{}^{*}1425} = 0.651 \qquad LOS = B$$

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av W/E: I-10 WB Ramps I/S No: 26
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	253	881	0	0	1239	155	208	2	348	0	0	0
AMBIENT												
RELATED												
PROJECT												
TOTAL	253	881	0	0	1239	155	208	2	348	0	0	0

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
LANE	1	0	2	0	0	0	0	0	0	2	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Prot-Fix	Auto	Perm	Auto	Perm	Auto	<none>	<none>

Critical Movements Diagram

SouthBound A: 620 B: 0
EastBound A: 0 B: 0
WestBound A: 279 B: 208
NorthBound A: 441 B: 253

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{253 + 620 + 279 + 0}{{}^{*}1425} = 0.738 \qquad LOS = C$$

Pre-Event Weekend

1618_W25

CalcaDB

August 26, 2003 ,Tuesday 04:26:16 PM

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: Adams Bl I/S No. 1

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND LT	NORTHBOUND TH	NORTHBOUND RT	SOUTHBOUND LT	SOUTHBOUND TH	SOUTHBOUND RT	WESTBOUND LT	WESTBOUND TH	WESTBOUND RT	EASTBOUND LT	EASTBOUND TH	EASTBOUND RT
EXISTING	165	649	74	100	1075	182	299	723	252	79	502	205
AMBIENT												
RELATED												
PROJECT												
TOTAL	165	649	74	100	1075	182	299	723	252	79	502	205

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	1 0 3 0 1 0 0	1 0 2 0 0 1 0	1 0 2 0 0 1 0	1 0 1 0 1 0 0
SIGNAL Phasing	Perm	Perm	Perm	Perm
SIGNAL RTOR	Auto	Auto	Auto	Auto

Critical Movements Diagram

SouthBound A: 538 B: 100

EastBound A: 354 B: 79

WestBound A: 362 B: 299

NorthBound A: 181 B: 165

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = B(W/B) + A(E/B)

V/C = (165 + 538 + 299 + 354) / *1500 = 0.834 LOS = D

Developed by Chun Wong 12/9

1618_W25

CalcaDB

August 26, 2003 ,Tuesday 04:26:16 PM

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: Jefferson Bl I/S No: 2

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND LT	NORTHBOUND TH	NORTHBOUND RT	SOUTHBOUND LT	SOUTHBOUND TH	SOUTHBOUND RT	WESTBOUND LT	WESTBOUND TH	WESTBOUND RT	EASTBOUND LT	EASTBOUND TH	EASTBOUND RT
EXISTING	344	1103	462	127	872	205	187	616	172	49	189	127
AMBIENT												
RELATED												
PROJECT												
TOTAL	344	1103	462	127	872	205	187	616	172	49	189	127

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	1 0 3 0 1 0 0	1 0 2 0 1 0 0	1 0 2 0 1 0 0	1 0 3 0 0 1 0
SIGNAL Phasing	Prot-Var	Prot-Var	Prot-Var	Prot-Var
SIGNAL RTOR	Auto	Auto	Auto	Auto

Critical Movements Diagram

SouthBound A: 359 B: 127

EastBound A: 63 B: 49

WestBound A: 263 B: 187

NorthBound A: 462 B: 344

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

V/C = (344 + 359 + 263 + 49) / *1375 = 0.668 LOS = B

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1618_W25

CalcaDB

August 26, 2003 ,Tuesday 04:26:16 PM

INTERSECTION DATA SUMMARY SHEET

N/S: Flower St W/E: Exposition Bl I/S No: 3

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND LT	NORTHBOUND TH	NORTHBOUND RT	SOUTHBOUND LT	SOUTHBOUND TH	SOUTHBOUND RT	WESTBOUND LT	WESTBOUND TH	WESTBOUND RT	EASTBOUND LT	EASTBOUND TH	EASTBOUND RT
EXISTING	0	211	404	168	586	0	49	350	0	0	0	0
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	211	404	168	586	0	49	350	0	0	0	0

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	4 2	1 1 1	1 1	
SIGNAL Phasing	Split	Split	Perm	
SIGNAL RTOR	<none>	<none>		

Critical Movements Diagram

SouthBound A: 293 B: 168

EastBound A: 0 B: 0

WestBound A: 200 B: 49

NorthBound A: 222 B: 0

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + A(E/B)

V/C = (222 + 293 + 200 + 0) / *1425 = 0.432 LOS = A

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1618_W25

CalcaDB

August 26, 2003 ,Tuesday 04:26:16 PM

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: Exposition Bl I/S No: 4

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND LT	NORTHBOUND TH	NORTHBOUND RT	SOUTHBOUND LT	SOUTHBOUND TH	SOUTHBOUND RT	WESTBOUND LT	WESTBOUND TH	WESTBOUND RT	EASTBOUND LT	EASTBOUND TH	EASTBOUND RT
EXISTING	1	1159	85	134	726	287	8	516	425	164	335	103
AMBIENT												
RELATED												
PROJECT												
TOTAL	1	1159	85	134	726	287	8	516	425	164	335	103

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	1 0 3 0 1 0 0	1 0 1 0 1 0 0	0 0 3 0 0 1 0	2 0 3 0 1 0 0
SIGNAL Phasing	Perm	Perm	Prot-Var	Prot-Var
SIGNAL RTOR	Auto	Auto	Auto	Auto

Critical Movements Diagram

SouthBound A: 607 B: 134

EastBound A: 110 B: 90

WestBound A: 425 B: 0

NorthBound A: 311 B: 1

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

V/C = (1 + 607 + 425 + 90) / 1375 = 0.744 LOS = C

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1618_W25

CalcaDB

August 26, 2003 ,Tuesday 04:26:16 PM

INTERSECTION DATA SUMMARY SHEET

N/S: Flower St W/E: 37th St I/S No: 5

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	0	300	491	507	0	0	0	0	0	468	107
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	0	300	491	507	0	0	0	0	0	468	107

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	0	0	0	0	0	2	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	OLA	Prot-Fix	<none>			Perm	Auto

Critical Movements Diagram

SouthBound
A: 254
B: 270

EastBound
A: 115
B: 0

WestBound
A: 0
B: 0

NorthBound
A: 165
B: 0

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + B(S/B)
West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{165 + 270 + 0 + 115}{{}^{*}1425} = 0.316 \qquad LOS = A$$

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1618_W25

CalcaDB

August 26, 2003 ,Tuesday 04:26:16 PM

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: State Dr I/S No: 6

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	1	1202	0	0	888	1	0	0	0	0	0	0
AMBIENT												
RELATED												
PROJECT												
TOTAL	1	1202	0	0	888	1	0	0	0	0	0	0

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	0	0	2	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm		Perm				Perm	Auto

Critical Movements Diagram

SouthBound
A: 296
B: 0

EastBound
A: 0
B: 0

WestBound
A: 0
B: 0

NorthBound
A: 601
B: 0

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

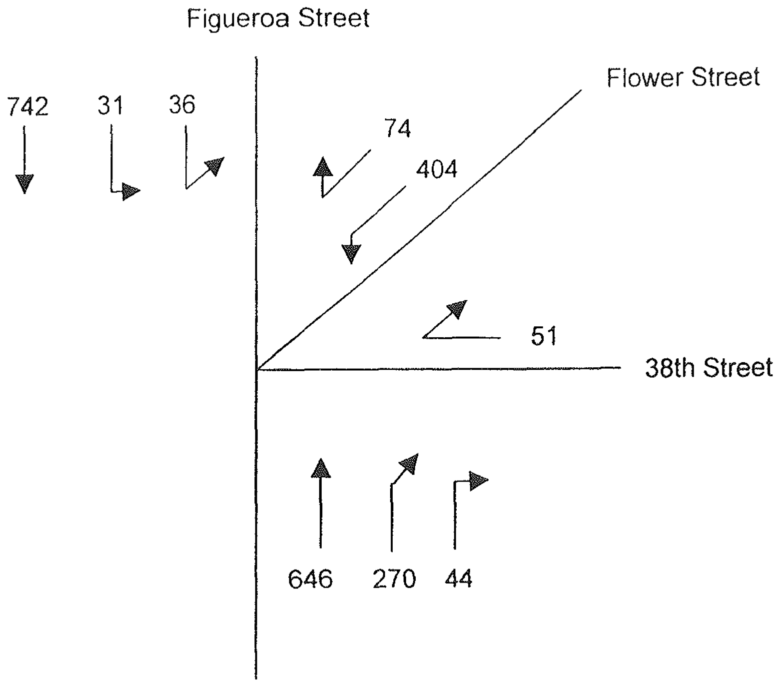
Results

North/South Critical Movements = A(N/B) + B(S/B)
West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{601 + 0 + 0 + 0}{{}^{*}1500} = 0.331 \qquad LOS = A$$

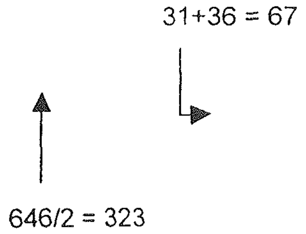
Developed by Chun Wong 12/9-

Intersection # 7 Figueroa & Flower & 38th
Weekend Scenario - Pre Event



Critical Movement Analysis

Phase 1 Critical Moves

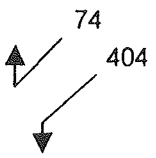


Phase 3 Critical Moves

$$v/c = \frac{(323 + 67) + (239 - 51) + 51}{1425}$$

$$= \quad 0.477 \quad \text{(LOS A)}$$

Phase 2 Critical Moves



=(404+74)/2 = 239

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: I-110 HOV Ramps W/E: 39th St I/S No: 8
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	404	0	177	0	0	0	52	282	0	0	282	56
AMBIENT												
RELATED												
PROJECT												
TOTAL	404	0	177	0	0	0	52	282	0	0	282	56

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	2	0	0	1	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto			Perm	<none>	Perm	Auto

Critical Movements Diagram

SouthBound A: 0 B: 0
EastBound A: 141 B: 0
WestBound A: 141 B: 52
NorthBound A: 177 B: 404

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{404 + 0 + 52 + 141}{{}^{*}1500} = 0.328 \qquad LOS = A$$

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: 39th St I/S No: 9
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	3	664	173	99	742	36	391	63	219	2	31	1
AMBIENT												
RELATED												
PROJECT												
TOTAL	3	664	173	99	742	36	391	63	219	2	31	1

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	2	0	1	0	0	1	0	2	0	1	0	0	2	0	0	0	1	1	0	2	0	0	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Prot-Var	Auto	Prot-Var		Split	Auto	Split	Auto

Critical Movements Diagram

SouthBound A: 259 B: 99
EastBound A: 32 B: 1
WestBound A: 141 B: 215
NorthBound A: 279 B: 3

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = A(N/B) + B(S/B)
West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{279 + 99 + 215 + 32}{{}^{*}1375} = 0.385 \qquad LOS = A$$

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: I-110 NB Ramps W/E: M.L.King Jr. Bl I/S No: 10
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	72	528	192	91	184	85	29	560	162	147	647	170
AMBIENT												
RELATED												
PROJECT												
TOTAL	72	528	192	91	184	85	29	560	162	147	647	170

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	0	1	0	0	0	1	0	1	0	0	1	0	1	0	2	0	1	0	0	1	0	2	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Split	Auto	Split	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound A: 184 B: 91
EastBound A: 272 B: 147
WestBound A: 241 B: 29
NorthBound A: 720 B: 72

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = A(N/B) + A(S/B)
West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{720 + 184 + 241 + 147}{1425} = 0.907 \qquad LOS = E$$

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: I-110 SB Ramps W/E: M.L.King Jr. Bl I/S No: 11
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	0	0	156	14	358	81	680	0	0	844	216
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	0	0	156	14	358	81	680	0	0	844	216

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	0	3	0	0	0	0	0	0	2	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL			Perm	Auto	Perm	<none>	Perm	Auto

Critical Movements Diagram

SouthBound A: 197 B: 166
EastBound A: 353 B: 0
WestBound A: 227 B: 81
NorthBound A: 0 B: 0

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = A(N/B) + A(S/B)
West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{0 + 197 + 81 + 353}{{}^{*}1500} = 0.351 \qquad LOS = A$$

1618_W25 August 26, 2003 ,Tuesday 04:26:26 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: M.L.King Jr. Bl I/S No: 12

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	14	409	188	157	373	403	81	723	205	187	638	118
AMBIENT												
RELATED												
PROJECT												
TOTAL	14	409	188	157	373	403	81	723	205	187	638	118

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	1 0 2 0 1 0 0	1 0 2 0 1 0 0	1 0 2 0 1 0 0	1 0 2 0 1 0 0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Prot-Var	Auto	Prot-Var	Auto

Critical Movements Diagram

SouthBound
A: 403
B: 157

EastBound
A: 252
B: 187

WestBound
A: 309
B: 81

NorthBound
A: 199
B: 14

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{14 + 403 + 309 + 187}{{}^{*}1375} = 0.594 \qquad LOS = A$$

Developed by Chun Wong 12/9-

1618_W25 August 26, 2003 ,Tuesday 04:26:26 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Hoover St W/E: M.L.King Jr. Bl I/S No: 13

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	157	107	52	3	3	19	76	1030	168	5	904	154
AMBIENT												
RELATED												
PROJECT												
TOTAL	157	107	52	3	3	19	76	1030	168	5	904	154

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	1 0 1 0 1 0 0	1 0 1 0 1 0 0	1 0 2 0 1 0 0	1 0 2 0 1 0 0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 19
B: 3

EastBound
A: 353
B: 5

WestBound
A: 399
B: 76

NorthBound
A: 80
B: 157

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{157 + 19 + 76 + 353}{{}^{*}1500} = 0.333 \qquad LOS = A$$

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1618_W25 August 26, 2003 ,Tuesday 04:26:26 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: M.L.King Jr. Bl I/S No: 14

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	179	602	62	246	733	83	36	472	381	89	804	135
AMBIENT												
RELATED												
PROJECT												
TOTAL	179	602	62	246	733	83	36	472	381	89	804	135

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	1 0 1 0 1 0 0	1 0 1 0 1 0 0	1 0 2 0 1 0 0	1 0 2 0 1 0 0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Prot-Fix	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 408
B: 246

EastBound
A: 313
B: 89

WestBound
A: 381
B: 36

NorthBound
A: 332
B: 179

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{179 + 408 + 381 + 89}{{}^{*}1425} = 0.672 \qquad LOS = B$$

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1618_W25 August 26, 2003 ,Tuesday 04:26:26 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: 39th St I/S No: 15

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	76	800	143	1	1137	226	1	2	5	74	4	94
AMBIENT												
RELATED												
PROJECT												
TOTAL	76	800	143	1	1137	226	1	2	5	74	4	94

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	1 0 1 0 1 0 0	1 0 1 0 1 0 0	0 0 0 1 0 0 0	0 0 0 1 0 0 0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 682
B: 1

EastBound
A: 172
B: 74

WestBound
A: 8
B: 1

NorthBound
A: 472
B: 76

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{76 + 682 + 1 + 172}{{}^{*}1500} = 0.551 \qquad LOS = A$$

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1618_W25

August 26, 2003 ,Tuesday 04:26:26 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av
W/E: Exposition Bl
I/S No: 16
AM/PM: PM
Comments:
COUNT DATE:
STUDY DATE:
GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	738	131	3	1058	180	4	812	111	1	658	188
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	738	131	3	1058	180	4	812	111	1	658	188

LANE	1	0	1	0	1	0	0	1	0	2	0	0	1	0	1	0	1	0	1	0	0	0	0	2	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 529
B: 3

EastBound
A: 282
B: 0

WestBound
A: 462
B: 4

NorthBound
A: 435
B: 0

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{0 + 529 + 462 + 0}{*1500} = 0.591$$

LOS = A

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1618_W25

August 26, 2003 ,Tuesday 04:26:26 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av
W/E: M.L.King Jr. Bl
I/S No: 17
AM/PM: PM
Comments:
COUNT DATE:
STUDY DATE:
GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	146	897	57	126	935	109	38	572	168	146	850	101
AMBIENT												
RELATED												
PROJECT												
TOTAL	146	897	57	126	935	109	38	572	168	146	850	101

LANE	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	3	0	0	1	0	1	0	2	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 522
B: 126

EastBound
A: 317
B: 146

WestBound
A: 191
B: 38

NorthBound
A: 477
B: 146

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{146 + 522 + 38 + 317}{*1500} = 0.612$$

LOS = B

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1618_W25

August 26, 2003 ,Tuesday 04:26:26 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av
W/E: Exposition Bl
I/S No: 18
AM/PM: PM
Comments: Sunday
COUNT DATE:
STUDY DATE:
GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	82	1175	51	102	1104	84	99	209	159	84	488	105
AMBIENT												
RELATED												
PROJECT												
TOTAL	82	1175	51	102	1104	84	99	209	159	84	488	105

LANE	1	0	1	0	1	0	0	1	0	1	0	1	0	0	0	1	1	0	1	0	0	0	1	1	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 594
B: 102

EastBound
A: 254
B: 84

WestBound
A: 184
B: 99

NorthBound
A: 613
B: 82

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + B(S/B)
West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{613 + 102 + 99 + 254}{*1500} = 0.642$$

LOS = B

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1618_W25

August 26, 2003 ,Tuesday 04:26:26 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av
W/E: Jefferson Bl
I/S No: 19
AM/PM: PM
Comments:
COUNT DATE:
STUDY DATE:
GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	72	864	298	165	1327	106	356	729	109	140	420	144
AMBIENT												
RELATED												
PROJECT												
TOTAL	72	864	298	165	1327	106	356	729	109	140	420	144

LANE	1	0	2	0	0	1	0	1	0	2	0	0	1	0	1	0	2	0	0	1	0	1	0	1	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	OLA	Perm	Auto	Prot-Fix	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 664
B: 165

EastBound
A: 282
B: 140

WestBound
A: 365
B: 356

NorthBound
A: 432
B: 72

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{72 + 664 + 356 + 282}{*1425} = 0.894$$

LOS = D

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1618_W25

August 26, 2003 ,Tuesday 04:26:26 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av
W/E: Jefferson Bl
I/S No: 20
AM/PM: PM
Comments:
COUNT DATE:
STUDY DATE:
GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	111	1097	131	86	1243	66	301	528	47	87	462	87
AMBIENT												
RELATED												
PROJECT												
TOTAL	111	1097	131	86	1243	66	301	528	47	87	462	87

LANE	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	2	0	0	1	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 655
B: 86

EastBound
A: 231
B: 87

WestBound
A: 288
B: 301

NorthBound
A: 614
B: 111

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{111 + 655 + 301 + 231}{*1500} = 0.795$$

LOS = C

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1618_W25

August 26, 2003 ,Tuesday 04:26:26 PM

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INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av
W/E: Adams Bl
I/S No: 21
AM/PM: PM
Comments:
COUNT DATE:
STUDY DATE:
GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	160	733	231	242	1342	140	199	711	116	170	553	116
AMBIENT												
RELATED												
PROJECT												
TOTAL	160	733	231	242	1342	140	199	711	116	170	553	116

LANE	1	0	2	0	0	1	0	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	1	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Prot-Fix	Auto	Perm	Auto	Prot-Fix	Auto

Critical Movements Diagram

SouthBound
A: 741
B: 242

EastBound
A: 335
B: 170

WestBound
A: 414
B: 199

NorthBound
A: 367
B: 160

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{160 + 741 + 414 + 170}{*1375} = 1.010$$

LOS = F

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1618_W25

August 26, 2003 ,Tuesday 04:26:26 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av
W/E: Adams Bl
I/S No: 22
AM/PM: PM
Comments:
COUNT DATE:
STUDY DATE:
GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	69	1057	86	83	1145	97	138	682	87	124	819	87
AMBIENT												
RELATED												
PROJECT												
TOTAL	69	1057	86	83	1145	97	138	682	87	124	819	87

LANE	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	1	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Prot-Fix	Auto	Perm	Auto	Prot-Fix	Auto

Critical Movements Diagram

SouthBound
A: 621
B: 83

EastBound
A: 453
B: 124

WestBound
A: 385
B: 138

NorthBound
A: 572
B: 69

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{69 + 621 + 138 + 453}{*1375} = 0.862$$

LOS = D

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1618_W25

August 26, 2003 ,Tuesday 04:26:26 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av
W/E: I-10 EB Ramps
I/S No: 23
AM/PM: PM
Comments:
COUNT DATE:
STUDY DATE:
GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	802	158	517	1106	0	0	0	0	227	8	542
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	802	158	517	1106	0	0	0	0	227	8	542

LANE	0	0	2	0	0	1	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Prot-Fix	Auto	<none>	<none>	Perm	Auto

Critical Movements Diagram

SouthBound
A: 553
B: 284

EastBound
A: 550
B: 227

WestBound
A: 0
B: 0

NorthBound
A: 401
B: 0

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = A(N/B) + B(S/B)
West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{401 + 284 + 0 + 550}{*1425} = 0.797$$

LOS = C

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1618_W25

CalcaDB

August 26, 2003 ,Tuesday 04:26:26 PM

INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av W/E: I-10 EB Ramps I/S No: 24

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

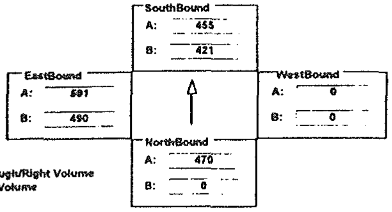
Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	939	145	421	909	0	0	0	0	490	0	591
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	939	145	421	909	0	0	0	0	490	0	591

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	0 0 2 0 0 1 0	1 0 2 0 0 0 0	0 0 0 0 0 0 0	1 0 0 1 0 0 0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Prot-Fix	Auto	<none>	<none>	Perm	Auto

Critical Movements Diagram



V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + B(S/B)

West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{470 + 421 + 0 + 591}{{}^{*}1425} = 0.970 \qquad LOS = E$$

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1618_W25

CalcaDB

August 26, 2003 ,Tuesday 04:26:26 PM

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: I-10 WB Ramps I/S No: 25

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

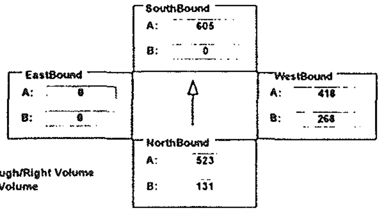
Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	239	1046	0	0	1209	349	268	1	418	0	0	0
AMBIENT												
RELATED												
PROJECT												
TOTAL	239	1046	0	0	1209	349	268	1	418	0	0	0

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	2 0 2 0 0 0 0	0 0 2 0 0 1 0	0 1 0 0 0 1 0	0 0 0 0 0 0 0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Prot-Fix	Auto	Perm	Auto	Perm	Auto	<none>	<none>

Critical Movements Diagram



V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{131 + 605 + 418 + 0}{{}^{*}1425} = 0.740 \qquad LOS = C$$

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1618_W25

CalcaDB

August 26, 2003 ,Tuesday 04:26:26 PM

INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av W/E: I-10 WB Ramps I/S No: 26

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

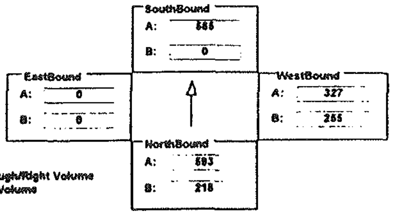
Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	218	1185	0	0	1169	217	255	3	396	0	0	0
AMBIENT												
RELATED												
PROJECT												
TOTAL	218	1185	0	0	1169	217	255	3	396	0	0	0

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	1 0 2 0 0 0 0	0 0 2 0 0 1 0	0 0 0 1 0 1 0	0 0 0 0 0 0 0

	Phasing	*RTOR*	*Phasing*	*RTOR*	*Phasing*	*RTOR*	*Phasing*	*RTOR*
SIGNAL	Prot-Fix	Auto	Perm	Auto	Perm	Auto	<none>	<none>

Critical Movements Diagram



V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{218 + 585 + 327 + 0}{{}^{*}1425} = 0.723 \qquad LOS = C$$

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Post-Event Weekend

1618_W69 August 26, 2003 ,Tuesday 04:27:21 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: Adams Bl I/S No: 1

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	214	1758	289	48	445	16	103	422	135	124	603	106
AMBIENT												
RELATED												
PROJECT												
TOTAL	214	1758	289	48	445	16	103	422	135	124	603	106

LANE							
NORTHBOUND	1	0	3	0	1	0	0
SOUTHBOUND	1	0	2	0	0	1	0
WESTBOUND	1	0	2	0	0	1	0
EASTBOUND	1	0	1	0	1	0	0

SIGNAL	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound A: 223 B: 48

EastBound A: 355 B: 124

WestBound A: 211 B: 103

NorthBound A: 512 B: 214

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = A(N/B) + B(S/B)

West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{512 + 48 + 103 + 355}{*1500} = 0.609 \qquad LOS = B$$

Developed by Chun Wong. 12/9-

1618_W69 August 26, 2003 ,Tuesday 04:27:21 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: Jefferson Bl I/S No: 2

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	1	1830	1	166	697	35	0	74	124	268	404	1
AMBIENT												
RELATED												
PROJECT												
TOTAL	1	1830	1	166	697	35	0	74	124	268	404	1

LANE							
NORTHBOUND	1	0	3	0	1	0	0
SOUTHBOUND	1	0	2	0	1	0	0
WESTBOUND	1	0	2	0	1	0	0
EASTBOUND	1	0	3	0	0	1	0

SIGNAL	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
	Prot-Var	Auto	Prot-Var	Auto	Prot-Var	Auto	Prot-Var	Auto

Critical Movements Diagram

SouthBound A: 244 B: 166

EastBound A: 135 B: 268

WestBound A: 124 B: 0

NorthBound A: 458 B: 1

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = A(N/B) + B(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{458 + 166 + 124 + 268}{*1375} = 0.669 \qquad LOS = B$$

Developed by Chun Wong. 12/9-

1618_W69 August 26, 2003 ,Tuesday 04:27:21 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Flower St W/E: Exposition Bl I/S No: 3

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	151	205	61	954	0	108	167	0	0	0	0
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	151	205	61	954	0	108	167	0	0	0	0

LANE							
NORTHBOUND			4			2	
SOUTHBOUND	1	1	1				
WESTBOUND		1	1				
EASTBOUND							

SIGNAL	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
	Split	Auto	Split	<none>	Perm			

Critical Movements Diagram

SouthBound A: 477 B: 61

EastBound A: 0 B: 0

WestBound A: 138 B: 108

NorthBound A: 113 B: 0

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = A(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{113 + 477 + 138 + 0}{*1425} = 0.441 \qquad LOS = A$$

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1618_W69 August 26, 2003 ,Tuesday 04:27:21 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: Exposition Bl I/S No: 4

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	2	843	182	208	380	26	7	12	358	49	239	7
AMBIENT												
RELATED												
PROJECT												
TOTAL	2	843	182	208	380	26	7	12	358	49	239	7

LANE							
NORTHBOUND	1	0	3	0	1	0	0
SOUTHBOUND	1	0	1	0	1	0	0
WESTBOUND	0	0	3	0	0	1	0
EASTBOUND	2	0	3	0	1	0	0

SIGNAL	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
	Perm	Auto	Perm	Auto	Prot-Var	Auto	Prot-Var	Auto

Critical Movements Diagram

SouthBound A: 203 B: 208

EastBound A: 62 B: 27

WestBound A: 358 B: 0

NorthBound A: 256 B: 2

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = A(N/B) + B(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{256 + 208 + 358 + 27}{1376} = 0.617 \qquad LOS = B$$

Developed by Chun Wong. 12/9-

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Flower St W/E: 37th St I/S No: 5

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	0	402	1044	211	0	0	0	0	0	539	29
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	0	402	1044	211	0	0	0	0	0	539	29

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	0	0	0	0	0	2	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	OLA	Prot-Fix	<none>			Perm	Auto

Critical Movements Diagram

SouthBound
A: 106
B: 574

EastBound
A: 114
B: 0

WestBound
A: 0
B: 0

NorthBound
A: 221
B: 0

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + B(S/B)

West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{221 + 574 + 0 + 114}{{}^{*}1425} = 0.568 \qquad LOS = A$$

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: State Dr I/S No: 6

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	863	0	0	469	0	0	0	0	20	0	7
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	863	0	0	469	0	0	0	0	20	0	7

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	0	0	2	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm		Perm				Perm	Auto

Critical Movements Diagram

SouthBound
A: 156
B: 0

EastBound
A: 27
B: 20

WestBound
A: 0
B: 0

NorthBound
A: 432
B: 0

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

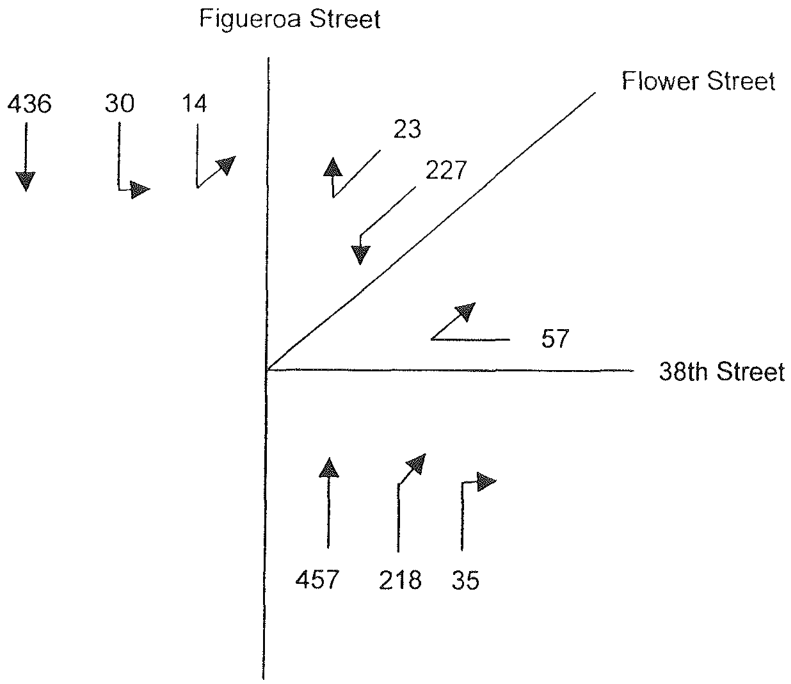
Results

North/South Critical Movements = A(N/B) + B(S/B)

West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{432 + 0 + 0 + 27}{{}^{*}1500} = 0.236 \qquad LOS = A$$

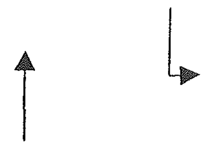
Intersection # 7 Figueroa & Flower & 38th
Weekend Scenario - Post Event



Critical Movement Analysis

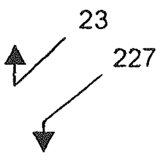
Phase 1 Critical Moves

30+14 = 44



457/2 = 229

Phase 2 Critical Moves



=(227+23)/2 = 125

Phase 3 Critical Moves

$$\mathbf{v/c} = \frac{\mathbf{(229 + 44) + (125 - 57) + 57}}{\mathbf{1425}}$$

$$= \mathbf{0.279} \quad \textbf{(LOS A)}$$

1618_W69

August 26, 2003 ,Tuesday 04:28:05 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: I-110 HOV Ramps W/E: 39th St I/S No: 8

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	45	0	87	0	0	0	71	40	0	0	73	53
AMBIENT												
RELATED												
PROJECT												
TOTAL	45	0	87	0	0	0	71	40	0	0	73	53

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	2	0	0	1	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto			Perm	<none>	Perm	Auto

Critical Movements Diagram

SouthBound
A: 0
B: 0

EastBound
A: 53
B: 0

WestBound
A: 20
B: 71

NorthBound
A: 87
B: 45

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + A(S/B)

West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{87 + 0 + 71 + 53}{{}^{*}1500} = 0.071$$

LOS = A

1618_W69

August 26, 2003 ,Tuesday 04:28:05 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: 39th St I/S No: 9

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	1	500	57	56	441	19	51	5	130	11	59	1
AMBIENT												
RELATED												
PROJECT												
TOTAL	1	500	57	56	441	19	51	5	130	11	59	1

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	2	0	1	0	0	1	0	2	0	1	0	0	2	0	0	0	1	1	0	2	0	0	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Prot-Var	Auto	Prot-Var		Split	Auto	Split	Auto

Critical Movements Diagram

SouthBound
A: 153
B: 56

EastBound
A: 60
B: 6

WestBound
A: 68
B: 28

NorthBound
A: 186
B: 1

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + B(S/B)

West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{186 + 56 + 68 + 60}{{}^{*}1375} = 0.199$$

LOS = A

1618_W69

August 26, 2003 ,Tuesday 04:28:05 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: I-110 NB Ramps W/E: M.L.King Jr. Bl I/S No: 10

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	264	14	63	19	30	162	179	432	18	31	300	533
AMBIENT												
RELATED												
PROJECT												
TOTAL	264	14	63	19	30	162	179	432	18	31	300	533

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	0	1	0	0	0	1	0	1	0	0	1	0	1	0	2	0	1	0	0	1	0	2	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Split	Auto	Split	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 162
B: 19

EastBound
A: 533
B: 31

WestBound
A: 150
B: 179

NorthBound
A: 171
B: 171

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + A(S/B)

West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{171 + 162 + 179 + 533}{1425} = 0.733$$

LOS = C

1618_W69

August 26, 2003 ,Tuesday 04:28:05 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: I-110 SB Ramps W/E: M.L.King Jr. Bl I/S No: 11

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	0	0	150	0	213	96	619	0	0	492	385
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	0	0	150	0	213	96	619	0	0	492	385

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	0	3	0	0	0	0	0	0	2	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL			Perm	Auto	Perm	<none>	Perm	Auto

Critical Movements Diagram

SouthBound
A: 121
B: 121

EastBound
A: 385
B: 0

WestBound
A: 206
B: 96

NorthBound
A: 0
B: 0

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + A(S/B)

West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{0 + 121 + 96 + 385}{{}^{*}1500} = 0.331$$

LOS = A

1618_W69

August 26, 2003 ,Tuesday 04:28:05 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: M.L.King Jr. Bl I/S No: 12

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	2	419	57	12	394	169	108	610	105	129	786	53
AMBIENT												
RELATED												
PROJECT												
TOTAL	2	419	57	12	394	169	108	610	105	129	786	53

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	2	0	1	0	0	1	0	2	0	1	0	0	1	0	2	0	1	0	0	1	0	2	0	1	0	0

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Prot-Var	Auto	Prot-Var	Auto

Critical Movements Diagram

SouthBound
A: 188
B: 12

EastBound
A: 280
B: 129

WestBound
A: 238
B: 108

NorthBound
A: 159
B: 2

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{2 + 188 + 108 + 280}{{}^{*}1375} = 0.350$$

LOS = A

Developed by Chun Wong 12/9-

1618_W69

August 26, 2003 ,Tuesday 04:28:05 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Hoover St W/E: M.L.King Jr. Bl I/S No: 13

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	20	0	141	14	848	4	100	863	8	2	788	34
AMBIENT												
RELATED												
PROJECT												
TOTAL	20	0	141	14	848	4	100	863	8	2	788	34

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	2	0	1	0	0	1	0	2	0	1	0	0

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 426
B: 14

EastBound
A: 274
B: 2

WestBound
A: 290
B: 100

NorthBound
A: 141
B: 20

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{20 + 426 + 100 + 274}{{}^{*}1500} = 0.477$$

LOS = A

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1618_W69

August 26, 2003 ,Tuesday 04:28:05 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: M.L.King Jr. Bl I/S No: 14

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	787	16	0	1164	123	35	932	19	0	165	285
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	787	16	0	1164	123	35	932	19	0	165	285

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	2	0	1	0	0	1	0	2	0	1	0	0

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Prot-Fix	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 644
B: 0

EastBound
A: 285
B: 0

WestBound
A: 317
B: 35

NorthBound
A: 402
B: 0

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{0 + 644 + 35 + 285}{{}^{*}1425} = 0.606$$

LOS = B

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1618_W69

August 26, 2003 ,Tuesday 04:28:05 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: 39th St I/S No: 15

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	48	773	20	0	915	74	38	37	71	178	14	120
AMBIENT												
RELATED												
PROJECT												
TOTAL	48	773	20	0	915	74	38	37	71	178	14	120

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	1	0	1	0	0	1	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 495
B: 0

EastBound
A: 312
B: 178

WestBound
A: 146
B: 38

NorthBound
A: 397
B: 48

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{48 + 495 + 38 + 312}{{}^{*}1500} = 0.525$$

LOS = A

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1618_W69 August 26, 2003 ,Tuesday 04:28:05 PM

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INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: Exposition Bl I/S No: 16

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND LT	NORTHBOUND TH	NORTHBOUND RT	SOUTHBOUND LT	SOUTHBOUND TH	SOUTHBOUND RT	WESTBOUND LT	WESTBOUND TH	WESTBOUND RT	EASTBOUND LT	EASTBOUND TH	EASTBOUND RT
EXISTING	0	1015	0	0	719	154	3	598	150	0	0	313
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	1015	0	0	719	154	3	598	150	0	0	313

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	1 0 1 0 1 0 0	1 0 2 0 0 1 0	1 0 1 0 1 0 0	0 0 2 0 1 0 0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound A: 360 B: 0

EastBound A: 313 B: 0

WestBound A: 374 B: 3

NorthBound A: 508 B: 0

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + B(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{508 + 0 + 374 + 0}{{}^{*}1500} = 0.518 \qquad LOS = A$$

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1618_W69 August 26, 2003 ,Tuesday 04:28:05 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av W/E: M.L.King Jr. Bl I/S No: 17

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND LT	NORTHBOUND TH	NORTHBOUND RT	SOUTHBOUND LT	SOUTHBOUND TH	SOUTHBOUND RT	WESTBOUND LT	WESTBOUND TH	WESTBOUND RT	EASTBOUND LT	EASTBOUND TH	EASTBOUND RT
EXISTING	100	445	25	48	922	115	35	839	320	107	320	146
AMBIENT												
RELATED												
PROJECT												
TOTAL	100	445	25	48	922	115	35	839	320	107	320	146

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	1 0 1 0 1 0 0	1 0 1 0 1 0 0	1 0 3 0 0 1 0	1 0 2 0 1 0 0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound A: 519 B: 48

EastBound A: 155 B: 107

WestBound A: 320 B: 35

NorthBound A: 235 B: 100

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{100 + 519 + 320 + 107}{{}^{*}1500} = 0.627 \qquad LOS = B$$

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1618_W69 August 26, 2003 ,Tuesday 04:28:05 PM

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INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av W/E: Exposition Bl I/S No: 18

AM/PM: PM Comments: Sunday

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND LT	NORTHBOUND TH	NORTHBOUND RT	SOUTHBOUND LT	SOUTHBOUND TH	SOUTHBOUND RT	WESTBOUND LT	WESTBOUND TH	WESTBOUND RT	EASTBOUND LT	EASTBOUND TH	EASTBOUND RT
EXISTING	132	1221	0	0	720	58	135	494	363	104	0	219
AMBIENT												
RELATED												
PROJECT												
TOTAL	132	1221	0	0	720	58	135	494	363	104	0	219

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	1 0 1 0 1 0 0	1 0 1 0 1 0 0	0 1 1 0 1 0 0	0 1 1 0 1 0 0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound A: 389 B: 0

EastBound A: 219 B: 104

WestBound A: 363 B: 135

NorthBound A: 611 B: 132

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + B(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{611 + 0 + 363 + 104}{{}^{*}1500} = 0.649 \qquad LOS = B$$

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1618_W69 August 26, 2003 ,Tuesday 04:28:05 PM

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INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: Jefferson Bl I/S No: 19

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND LT	NORTHBOUND TH	NORTHBOUND RT	SOUTHBOUND LT	SOUTHBOUND TH	SOUTHBOUND RT	WESTBOUND LT	WESTBOUND TH	WESTBOUND RT	EASTBOUND LT	EASTBOUND TH	EASTBOUND RT
EXISTING	53	1834	10	1	538	118	10	767	54	1	271	72
AMBIENT												
RELATED												
PROJECT												
TOTAL	53	1834	10	1	538	118	10	767	54	1	271	72

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	1 0 2 0 0 1 0	1 0 2 0 0 1 0	1 0 2 0 0 1 0	1 0 1 0 1 0 0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	OLA	Perm	Auto	Prot-Fix	Auto	Perm	Auto

Critical Movements Diagram

SouthBound A: 269 B: 1

EastBound A: 172 B: 1

WestBound A: 384 B: 10

NorthBound A: 917 B: 53

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + B(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{917 + 1 + 384 + 1}{{}^{*}1425} = 0.844 \qquad LOS = D$$

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1618_W69

August 26, 2003 ,Tuesday 04:28:05 PM

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INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av W/E: Jefferson Bl I/S No: 20
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	122	1764	6	2	648	55	227	563	171	194	60	170
AMBIENT												
RELATED												
PROJECT												
TOTAL	122	1764	6	2	648	55	227	563	171	194	60	170

LANE	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	2	0	0	1	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 352
B: 2

EastBound
A: 170
B: 194

WestBound
A: 367
B: 227

NorthBound
A: 885
B: 122

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = A(N/B) + B(S/B)
West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{885 + 2 + 367 + 194}{{}^{*}1500} = 0.895$$

LOS = D

1618_W69

August 26, 2003 ,Tuesday 04:28:05 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: Adams Bl I/S No: 21
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	59	1504	245	164	496	87	148	519	221	205	430	64
AMBIENT												
RELATED												
PROJECT												
TOTAL	59	1504	245	164	496	87	148	519	221	205	430	64

LANE	1	0	2	0	0	1	0	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	1	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Prot-Fix	Auto	Perm	Auto	Prot-Fix	Auto

Critical Movements Diagram

SouthBound
A: 292
B: 164

EastBound
A: 247
B: 205

WestBound
A: 370
B: 148

NorthBound
A: 752
B: 59

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = A(N/B) + B(S/B)
West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{752 + 164 + 370 + 205}{{}^{*}1375} = 1.014$$

LOS = F

1618_W69

August 26, 2003 ,Tuesday 04:28:05 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av W/E: Adams Bl I/S No: 22
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	112	1627	151	102	566	100	97	418	118	66	386	93
AMBIENT												
RELATED												
PROJECT												
TOTAL	112	1627	151	102	566	100	97	418	118	66	386	93

LANE	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	1	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Prot-Fix	Auto	Perm	Auto	Prot-Fix	Auto

Critical Movements Diagram

SouthBound
A: 333
B: 102

EastBound
A: 240
B: 66

WestBound
A: 268
B: 97

NorthBound
A: 889
B: 112

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = A(N/B) + B(S/B)
West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{889 + 102 + 97 + 240}{{}^{*}1375} = 0.896$$

LOS = D

1618_W69

August 26, 2003 ,Tuesday 04:28:05 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: I-10 EB Ramps I/S No: 23
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	1332	446	439	605	0	0	0	0	182	1	197
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	1332	446	439	605	0	0	0	0	182	1	197

LANE	0	0	2	0	0	1	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Prot-Fix	Auto	<none>	<none>	Perm	Auto

Critical Movements Diagram

SouthBound
A: 303
B: 241

EastBound
A: 198
B: 182

WestBound
A: 0
B: 0

NorthBound
A: 666
B: 0

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = A(N/B) + B(S/B)
West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{666 + 241 + 0 + 198}{{}^{*}1425} = 0.705$$

LOS = C

CalcaDB

August 26, 2003 ,Tuesday 04:28:05 PM

INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av W/E: I-10 EB Ramps I/S No: 24

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

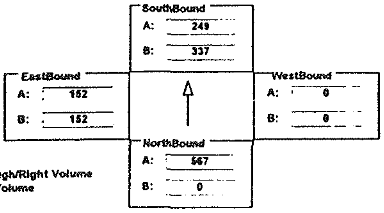
Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	1134	449	337	498	0	0	0	0	166	0	137
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	1134	449	337	498	0	0	0	0	166	0	137

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE (NORTHBOUND)	0	0	2	0	0	1	0
LANE (SOUTHBOUND)	1	0	2	0	0	0	0
LANE (WESTBOUND)	0	0	0	0	0	0	0
LANE (EASTBOUND)	1	0	0	1	0	0	0

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Prot-Fix	Auto	<none>	<none>	Perm	Auto

Critical Movements Diagram



V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + B(S/B)

West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{567 + 337 + 0 + 152}{{}^{*}1425} = 0.671 \qquad LOS = B$$

CalcaDB

August 26, 2003 ,Tuesday 04:28:05 PM

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: I-10 WB Ramps I/S No: 25

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

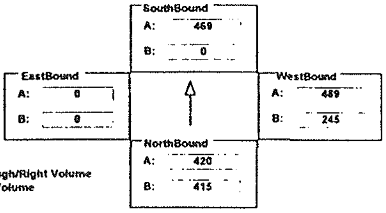
Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	754	840	0	0	937	313	245	1	489	0	0	0
AMBIENT												
RELATED												
PROJECT												
TOTAL	754	840	0	0	937	313	245	1	489	0	0	0

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE (NORTHBOUND)	2	0	2	0	0	0	0
LANE (SOUTHBOUND)	0	0	2	0	0	1	0
LANE (WESTBOUND)	0	1	0	0	0	1	0
LANE (EASTBOUND)	0	0	0	0	0	0	0

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Prot-Fix	Auto	Perm	Auto	Perm	Auto	<none>	<none>

Critical Movements Diagram



V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{415 + 469 + 489 + 0}{{}^{*}1425} = 0.894 \qquad LOS = D$$

CalcaDB

August 26, 2003 ,Tuesday 04:28:05 PM

INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av W/E: I-10 WB Ramps I/S No: 26

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

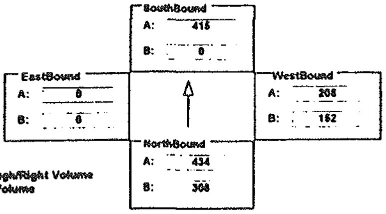
Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	308	868	0	0	829	183	152	1	262	0	0	0
AMBIENT												
RELATED												
PROJECT												
TOTAL	308	868	0	0	829	183	152	1	262	0	0	0

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE (NORTHBOUND)	1	0	2	0	0	0	0
LANE (SOUTHBOUND)	0	0	2	0	0	1	0
LANE (WESTBOUND)	0	0	0	1	0	1	0
LANE (EASTBOUND)	0	0	0	0	0	0	0

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Prot-Fix	Auto	Perm	Auto	Perm	Auto	<none>	<none>

Critical Movements Diagram



V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{308 + 415 + 208 + 0}{{}^{*}1425} = 0.583 \qquad LOS = A$$

Existing Weekday

1618_56 August 26, 2003 ,Tuesday 04:38:18 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: Adams Bl I/S No: 1

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	198	1629	125	102	1032	126	115	1228	351	98	902	149
AMBIENT												
RELATED												
PROJECT												
TOTAL	198	1629	125	102	1032	126	115	1228	351	98	902	149

LANE	1	0	3	0	1	0	0	1	0	2	0	0	1	0	1	0	2	0	0	1	0	1	0	1	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 516
B: 102

EastBound
A: 526
B: 98

WestBound
A: 614
B: 115

NorthBound
A: 439
B: 198

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{198 + 516 + 614 + 98}{{}^{*}1500} = 0.881$$

LOS = D

1618_56 August 26, 2003 ,Tuesday 04:38:18 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: Jefferson Bl I/S No: 2

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	170	1045	112	101	1013	162	136	812	233	168	515	267
AMBIENT												
RELATED												
PROJECT												
TOTAL	170	1045	112	101	1013	162	136	812	233	168	515	267

LANE	1	0	3	0	1	0	0	1	0	2	0	1	0	0	1	0	2	0	1	0	0	1	0	3	0	0	1	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Prot-Var	Auto	Prot-Var	Auto	Prot-Var	Auto	Prot-Var	Auto

Critical Movements Diagram

SouthBound
A: 392
B: 101

EastBound
A: 182
B: 168

WestBound
A: 348
B: 136

NorthBound
A: 289
B: 170

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{170 + 392 + 348 + 168}{{}^{*}1375} = 0.714$$

LOS = C

1618_56 August 26, 2003 ,Tuesday 04:38:18 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Flower St W/E: Exposition Bl I/S No: 3

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	1590	338	58	213	0	48	615	0	0	0	0
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	1590	338	58	213	0	48	615	0	0	0	0

LANE			4			2		1	1	1						1	1											

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Split	<none>	Split	<none>	Perm	<none>		

Critical Movements Diagram

SouthBound
A: 107
B: 58

EastBound
A: 0
B: 0

WestBound
A: 332
B: 48

NorthBound
A: 398
B: 0

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + A(S/B)
West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{398 + 107 + 332 + 0}{{}^{*}1425} = 0.517$$

LOS = A

1618_56 August 26, 2003 ,Tuesday 04:38:18 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: Exposition Bl I/S No: 4

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	130	781	28	165	1072	346	0	878	315	366	746	237
AMBIENT												
RELATED												
PROJECT												
TOTAL	130	781	28	165	1072	346	0	878	315	366	746	237

LANE	1	0	3	0	1	0	0	1	0	1	0	1	0	0	0	0	3	0	0	1	0	2	0	3	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Prot-Var	Auto	Prot-Var	Auto

Critical Movements Diagram

SouthBound
A: 709
B: 165

EastBound
A: 246
B: 201

WestBound
A: 315
B: 0

NorthBound
A: 202
B: 130

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{130 + 709 + 315 + 201}{1375} = 0.985$$

LOS = E

Does not appear to have ATSAC

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Flower St W/E: 37th St I/S No: 5

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	0	152	741	966	0	0	0	0	0	629	11
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	0	152	741	966	0	0	0	0	0	629	11

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	0	0	0	0	0	2	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	1	0	0

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	OLA	Prot-Fix	<none>			Perm	Auto

Critical Movements Diagram

SouthBound
A: 483
B: 408

EastBound
A: 128
B: 0

WestBound
A: 0
B: 0

NorthBound
A: 84
B: 0

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = A(N/B) + B(S/B)
West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{84 + 408 + 0 + 128}{*1425} = 0.365$$ LOS = A

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: State Dr I/S No: 6

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	6	843	0	0	1308	4	0	0	0	8	0	19
AMBIENT												
RELATED												
PROJECT												
TOTAL	6	843	0	0	1308	4	0	0	0	8	0	19

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	0	0	2	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm		Perm				Perm	Auto

Critical Movements Diagram

SouthBound
A: 436
B: 0

EastBound
A: 27
B: 8

WestBound
A: 0
B: 0

NorthBound
A: 422
B: 0

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

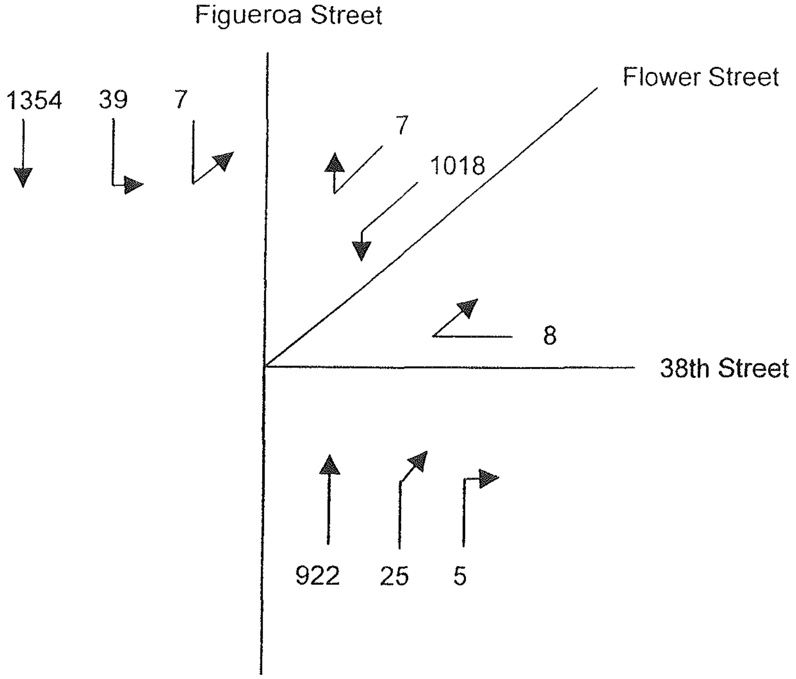
V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{0 + 436 + 0 + 27}{*1500} = 0.239$$ LOS = A

Intersection # 7 Figueroa & Flower & 38th
Weekday Scenario - Existing Conditions



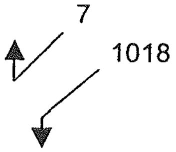
Critical Movement Analysis

Phase 1 Critical Moves

39+7 = 46

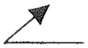
922/2 = 461

Phase 2 Critical Moves



=(1018+7)/2 = 513

Phase 3 Critical Moves



8

$$\mathbf{v/c = \frac{(461 + 46) + (513 - 8) + 8}{1425}}$$

= 0.716 (LOS C)

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: I-110 HOV Ramps W/E: 39th St I/S No: 8
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	211	0	88	0	0	0	117	145	0	0	101	184
AMBIENT												
RELATED												
PROJECT												
TOTAL	211	0	88	0	0	0	117	145	0	0	101	184

LANE: NORTHBOUND 1 0 0 0 0 1 0 | SOUTHBOUND 0 0 0 0 0 0 0 | WESTBOUND 1 0 2 0 0 0 0 | EASTBOUND 0 0 2 0 0 1 0

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto			Perm	<none>	Perm	Auto

Critical Movements Diagram

SouthBound A: 0 B: 0
EastBound A: 184 B: 0
WestBound A: 73 B: 117
NorthBound A: 88 B: 211

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{211 + 0 + 117 + 184}{*1500} = 0.271 \quad LOS = A$$

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: 39th St I/S No: 9
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	8	636	83	114	1948	61	158	10	179	24	18	26
AMBIENT												
RELATED												
PROJECT												
TOTAL	8	636	83	114	1948	61	158	10	179	24	18	26

LANE: NORTHBOUND 1 0 2 0 1 0 0 | SOUTHBOUND 1 0 2 0 1 0 0 | WESTBOUND 2 0 0 0 1 1 0 | EASTBOUND 2 0 0 0 1 0 0

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Prot-Var	Auto	Prot-Var		Split	Auto	Split	Auto

Critical Movements Diagram

SouthBound A: 670 B: 114
EastBound A: 44 B: 13
WestBound A: 95 B: 87
NorthBound A: 240 B: 8

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{8 + 670 + 95 + 44}{*1375} = 0.524 \quad LOS = A$$

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: I-110 NB Ramps W/E: M.L.King Jr. Bl I/S No: 10
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	415	79	173	102	5	361	39	909	51	68	787	139
AMBIENT												
RELATED												
PROJECT												
TOTAL	415	79	173	102	5	361	39	909	51	68	787	139

LANE: NORTHBOUND 1 0 0 1 0 0 0 | SOUTHBOUND 1 0 1 0 1 0 0 | WESTBOUND 1 0 2 0 1 0 0 | EASTBOUND 1 0 2 0 1 0 0

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Split	Auto	Split	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound A: 361 B: 102
EastBound A: 309 B: 68
WestBound A: 320 B: 39
NorthBound A: 334 B: 334

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = A(N/B) + A(S/B)
West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{334 + 361 + 320 + 68}{1425} = 0.760 \quad LOS = C$$

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: I-110 SB Ramps W/E: M.L.King Jr. Bl I/S No: 11
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	0	0	200	4	140	294	1414	0	0	792	368
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	0	0	200	4	140	294	1414	0	0	792	368

LANE: NORTHBOUND 0 0 0 0 0 0 0 | SOUTHBOUND 1 0 0 0 0 1 1 | WESTBOUND 1 0 3 0 0 0 0 | EASTBOUND 0 0 2 0 1 0 0

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL			Perm	Auto	Perm	<none>	Perm	Auto

Critical Movements Diagram

SouthBound A: 113 B: 113
EastBound A: 387 B: 0
WestBound A: *471 B: 294
NorthBound A: 0 B: 0

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = A(N/B) + A(S/B)
West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{0 + 113 + 294 + 387}{*1500} = 0.459 \quad LOS = A$$

1618_56 August 26, 2003 ,Tuesday 04:38:25 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: M.L.King Jr. Bl I/S No: 12

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	91	556	82	181	1553	387	445	1594	81	112	943	116
AMBIENT												
RELATED												
PROJECT												
TOTAL	91	556	82	181	1553	387	445	1594	81	112	943	116

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	2	0	1	0	0	1	0	2	0	1	0	0	1	0	2	0	1	0	0	1	0	2	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Prot-Var	Auto	Prot-Var	Auto

Critical Movements Diagram

SouthBound
A: 647
B: 181

EastBound
A: 353
B: 112

WestBound
A: 558
B: 445

NorthBound
A: 213
B: 91

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{91 + 647 + 445 + 353}{{}^{*}1375} = 1.047 \qquad LOS = F$$

1618_56 August 26, 2003 ,Tuesday 04:38:25 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Hoover St W/E: M.L.King Jr. Bl I/S No: 13

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	232	4	128	14	20	19	300	1630	14	18	958	186
AMBIENT												
RELATED												
PROJECT												
TOTAL	232	4	128	14	20	19	300	1630	14	18	958	186

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	2	0	1	0	0	1	0	2	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 20
B: 14

EastBound
A: 381
B: 18

WestBound
A: 548
B: 300

NorthBound
A: 128
B: 232

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{232 + 20 + 300 + 381}{{}^{*}1500} = 0.552 \qquad LOS = A$$

1618_56 August 26, 2003 ,Tuesday 04:38:25 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: M.L.King Jr. Bl I/S No: 14

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	88	591	44	214	1233	100	96	1358	189	61	1026	141
AMBIENT												
RELATED												
PROJECT												
TOTAL	88	591	44	214	1233	100	96	1358	189	61	1026	141

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	2	0	1	0	0	1	0	2	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Prot-Fix	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 667
B: 214

EastBound
A: 389
B: 61

WestBound
A: 516
B: 96

NorthBound
A: 318
B: 88

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{88 + 667 + 516 + 61}{{}^{*}1425} = 0.865 \qquad LOS = D$$

1618_56 August 26, 2003 ,Tuesday 04:38:25 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: 39th St I/S No: 15

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	40	881	7	4	1502	46	25	18	52	48	3	51
AMBIENT												
RELATED												
PROJECT												
TOTAL	40	881	7	4	1502	46	25	18	52	48	3	51

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	1	0	1	0	0	1	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 774
B: 4

EastBound
A: 102
B: 48

WestBound
A: 95
B: 25

NorthBound
A: 444
B: 40

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{40 + 774 + 95 + 48}{{}^{*}1500} = 0.568 \qquad LOS = A$$

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: Exposition Bl I/S No: 16

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	58	886	46	106	1319	120	89	918	206	4	719	69
AMBIENT												
RELATED												
PROJECT												
TOTAL	58	886	46	106	1319	120	89	918	206	4	719	69

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	1	0	1	0	0	1	0	2	0	0	1	0	1	0	1	0	1	0	0	0	0	2	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 660
B: 106

EastBound
A: 263
B: 0

WestBound
A: 562
B: 89

NorthBound
A: 466
B: 58

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{58 + 660 + 562 + 0}{*1500} = 0.783$$

LOS = C

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av W/E: M.L.King Jr. Bl I/S No: 17

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	108	806	86	148	1247	113	119	133	159	124	985	136
AMBIENT												
RELATED												
PROJECT												
TOTAL	108	806	86	148	1247	113	119	133	159	124	985	136

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	3	0	0	1	0	1	0	2	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 680
B: 148

EastBound
A: 374
B: 124

WestBound
A: 159
B: 119

NorthBound
A: 446
B: 108

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{108 + 680 + 119 + 374}{*1500} = 0.784$$

LOS = C

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av W/E: Exposition Bl I/S No: 18

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	100	992	49	59	1439	65	15	935	75	8	687	136
AMBIENT												
RELATED												
PROJECT												
TOTAL	100	992	49	59	1439	65	15	935	75	8	687	136

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	1	0	1	0	0	1	0	1	0	1	0	0	0	1	1	0	1	0	0	0	1	1	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 782
B: 59

EastBound
A: 299
B: 8

WestBound
A: 357
B: 15

NorthBound
A: 521
B: 100

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{100 + 782 + 357 + 8}{*1500} = 0.741$$

LOS = C

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: Jefferson Bl I/S No: 19

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	100	1050	280	111	1183	91	323	1054	163	107	543	141
AMBIENT												
RELATED												
PROJECT												
TOTAL	100	1050	280	111	1183	91	323	1054	163	107	543	141

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	2	0	0	1	0	1	0	2	0	0	1	0	1	0	2	0	0	1	0	1	0	1	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	OLA	Perm	Auto	Prot-Fix	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 692
B: 111

EastBound
A: 342
B: 107

WestBound
A: 627
B: 323

NorthBound
A: 525
B: 100

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{100 + 692 + 323 + 342}{*1425} = 0.882$$

LOS = D

1618_56

CalcaDB

August 26, 2003 ,Tuesday 04:38:25 PM

INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av W/E: Jefferson Bl I/S No: 20

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	104	894	101	75	1172	51	238	813	105	65	507	172
AMBIENT												
RELATED												
PROJECT												
TOTAL	104	894	101	75	1172	51	238	813	105	65	507	172

LANE	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	2	0	0	1	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 612
B: 75

EastBound
A: 254
B: 65

WestBound
A: 459
B: 238

NorthBound
A: 498
B: 104

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{104 + 612 + 459 + 65}{{}^{*}1500} = 0.757 \qquad LOS = C$$

Developed by Chun Wong 12/9-

1618_56

CalcaDB

August 26, 2003 ,Tuesday 04:38:25 PM

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: Adams Bl I/S No: 21

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	83	936	63	121	1219	71	120	918	123	115	798	85
AMBIENT												
RELATED												
PROJECT												
TOTAL	83	936	63	121	1219	71	120	918	123	115	798	85

LANE	1	0	2	0	0	1	0	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	1	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Prot-Fix	Auto	Perm	Auto	Prot-Fix	Auto

Critical Movements Diagram

SouthBound
A: 645
B: 121

EastBound
A: 442
B: 115

WestBound
A: 521
B: 120

NorthBound
A: 468
B: 83

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{83 + 645 + 521 + 115}{{}^{*}1375} = 0.922 \qquad LOS = E$$

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1618_56

CalcaDB

August 26, 2003 ,Tuesday 04:38:25 PM

INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av W/E: Adams Bl I/S No: 22

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	80	1048	113	183	1184	92	130	965	93	120	720	85
AMBIENT												
RELATED												
PROJECT												
TOTAL	80	1048	113	183	1184	92	130	965	93	120	720	85

LANE	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	1	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Prot-Fix	Auto	Perm	Auto	Prot-Fix	Auto

Critical Movements Diagram

SouthBound
A: 638
B: 183

EastBound
A: 403
B: 120

WestBound
A: 529
B: 130

NorthBound
A: 581
B: 80

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + B(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{581 + 183 + 529 + 120}{{}^{*}1375} = 0.958 \qquad LOS = E$$

Developed by Chun Wong 12/9-

1618_56

CalcaDB

August 26, 2003 ,Tuesday 04:38:25 PM

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: I-10 EB Ramps I/S No: 23

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	1142	100	348	1063	0	0	0	0	478	12	341
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	1142	100	348	1063	0	0	0	0	478	12	341

LANE	0	0	2	0	0	1	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Prot-Fix	Auto	<none>	<none>	Perm	Auto

Critical Movements Diagram

SouthBound
A: 532
B: 191

EastBound
A: 353
B: 478

WestBound
A: 0
B: 0

NorthBound
A: 671
B: 0

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + B(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{671 + 191 + 0 + 478}{{}^{*}1425} = 0.866 \qquad LOS = D$$

Developed by Chun Wong 12/9-

CalcaDB

August 26, 2003 ,Tuesday 04:38:25 PM

INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av W/E: I-10 EB Ramps I/S No: 24
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

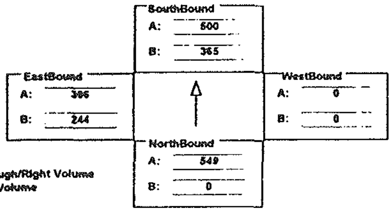
Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	1098	138	365	1000	0	0	0	0	244	0	396
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	1098	138	365	1000	0	0	0	0	244	0	396

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
LANE	0	0	2	0	0	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Prot-Fix	Auto	<none>	<none>	Perm	Auto

Critical Movements Diagram



SouthBound A: 600 B: 365
EastBound A: 396 B: 244
WestBound A: 0 B: 0
NorthBound A: 549 B: 0

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + B(S/B)
West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{549 + 365 + 0 + 396}{{}^{*}1425} = 0.849 \qquad LOS = D$$

Developed by Chun Wong 12/9-

CalcaDB

August 26, 2003 ,Tuesday 04:38:25 PM

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: I-10 WB Ramps I/S No: 25
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

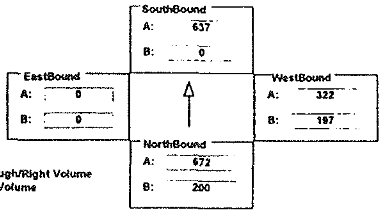
Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	364	1343	0	0	1274	277	197	2	322	0	0	0
AMBIENT												
RELATED												
PROJECT												
TOTAL	364	1343	0	0	1274	277	197	2	322	0	0	0

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
LANE	2	0	2	0	0	0	0	0	0	2	0	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Prot-Fix	Auto	Perm	Auto	Perm	Auto	<none>	<none>

Critical Movements Diagram



SouthBound A: 637 B: 0
EastBound A: 0 B: 0
WestBound A: 322 B: 197
NorthBound A: 672 B: 200

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{200 + 637 + 322 + 0}{{}^{*}1425} = 0.743 \qquad LOS = C$$

Developed by Chun Wong 12/9-

CalcaDB

August 26, 2003 ,Tuesday 04:38:25 PM

INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av W/E: I-10 WB Ramps I/S No: 26
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

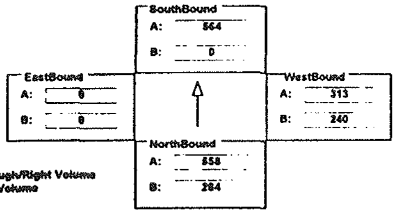
Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	284	1116	0	0	1127	335	240	0	385	0	0	0
AMBIENT												
RELATED												
PROJECT												
TOTAL	284	1116	0	0	1127	335	240	0	385	0	0	0

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
LANE	1	0	2	0	0	0	0	0	0	2	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Prot-Fix	Auto	Perm	Auto	Perm	Auto	<none>	<none>

Critical Movements Diagram



SouthBound A: 564 B: 0
EastBound A: 0 B: 0
WestBound A: 313 B: 240
NorthBound A: 558 B: 284

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{284 + 564 + 313 + 0}{{}^{*}1425} = 0.745 \qquad LOS = C$$

Developed by Chun Wong 12/9-

Cumulative Base Weekday

1618_CB August 26, 2003 ,Tuesday 04:38:40 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: Adams Bl I/S No: 1

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	204	1921	131	107	1210	130	122	1268	604	148	931	153
AMBIENT												
RELATED												
PROJECT												
TOTAL	204	1921	131	107	1210	130	122	1268	604	148	931	153

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	1 0 3 0 1 0 0	1 0 2 0 0 1 0	1 0 2 0 0 1 0	1 0 1 0 1 0 0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound A: 605 B: 107

EastBound A: 542 B: 148

WestBound A: 634 B: 122

NorthBound A: 513 B: 204

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{204 + 605 + 634 + 148}{*1500} = 0.991$$

LOS = E

1618_CB August 26, 2003 ,Tuesday 04:38:40 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: Jefferson Bl I/S No: 2

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	155	1217	115	117	1081	167	140	840	251	173	535	275
AMBIENT												
RELATED												
PROJECT												
TOTAL	155	1217	115	117	1081	167	140	840	251	173	535	275

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	1 0 3 0 1 0 0	1 0 2 0 1 0 0	1 0 2 0 1 0 0	1 0 3 0 0 1 0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Prot-Var	Auto	Prot-Var	Auto	Prot-Var	Auto	Prot-Var	Auto

Critical Movements Diagram

SouthBound A: 416 B: 117

EastBound A: 197 B: 173

WestBound A: 364 B: 140

NorthBound A: 333 B: 155

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{155 + 416 + 364 + 173}{*1375} = 0.736$$

LOS = C

1618_CB August 26, 2003 ,Tuesday 04:38:40 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Flower St W/E: Exposition Bl I/S No: 3

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	1590	338	58	213	0	48	624	0	0	0	0
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	1590	338	58	213	0	48	624	0	0	0	0

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	4 2	1 1 1	1 1	

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Split	<none>	Split	<none>	Perm	<none>		

Critical Movements Diagram

SouthBound A: 197 B: 58

EastBound A: 0 B: 0

WestBound A: 336 B: 48

NorthBound A: 398 B: 0

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{398 + 197 + 336 + 0}{*1425} = 0.529$$

LOS = A

1618_CB August 26, 2003 ,Tuesday 04:38:40 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: Exposition Bl I/S No: 4

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	139	947	39	170	1138	356	0	913	324	377	798	199
AMBIENT												
RELATED												
PROJECT												
TOTAL	139	947	39	170	1138	356	0	913	324	377	798	199

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	1 0 3 0 1 0 0	1 0 1 0 1 0 0	0 0 3 0 0 1 0	2 0 3 0 1 0 0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Prot-Var	Auto	Prot-Var	Auto

Critical Movements Diagram

SouthBound A: 747 B: 170

EastBound A: 249 B: 207

WestBound A: 324 B: 0

NorthBound A: 247 B: 139

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{139 + 747 + 324 + 207}{1375} = 1.031$$

LOS = F

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Flower St W/E: 37th St I/S No: 5

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	0	307	763	1000	0	0	0	0	-60	642	11
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	0	307	763	1000	0	0	0	0	-60	642	11

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
LANE	0	0	0	0	0	2	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	OLA	Prot-Fix	<none>			Perm	Auto

Critical Movements Diagram

SouthBound
A: 500
B: 420

EastBound
A: 131
B: 0

WestBound
A: 0
B: 0

NorthBound
A: 169
B: 0

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + B(S/B)
West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{169 + 420 + 0 + 131}{{}^{*}1425} = 0.435 \qquad LOS = A$$

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: State Dr I/S No: 6

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	45	966	0	0	1347	43	0	0	0	63	0	65
AMBIENT												
RELATED												
PROJECT												
TOTAL	45	966	0	0	1347	43	0	0	0	63	0	65

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
LANE	0	0	2	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm		Perm				Perm	Auto

Critical Movements Diagram

SouthBound
A: 449
B: 0

EastBound
A: 128
B: 63

WestBound
A: 0
B: 0

NorthBound
A: 483
B: 0

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

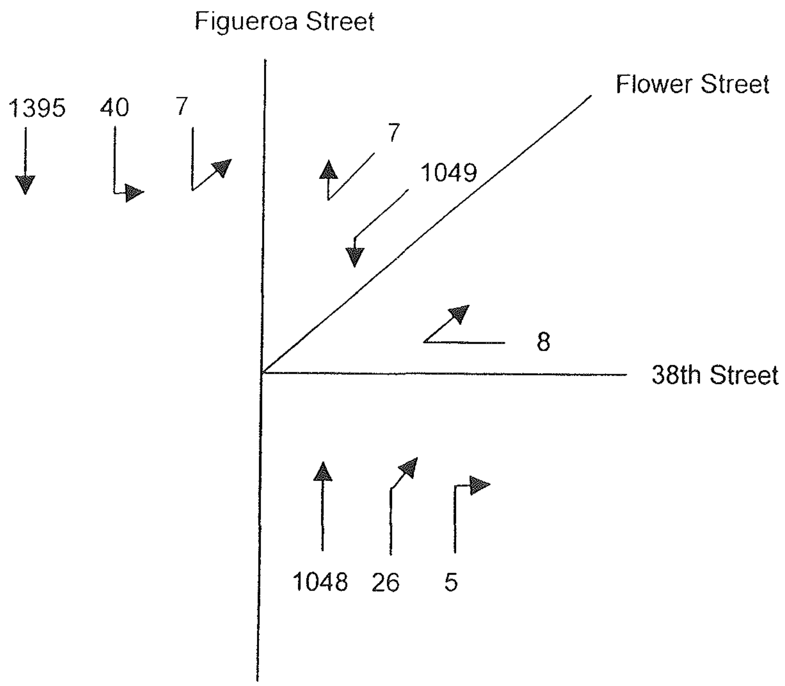
A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + B(S/B)
West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{483 + 0 + 0 + 128}{{}^{*}1500} = 0.337 \qquad LOS = A$$

Intersection # 7 Figueroa & Flower & 38th
Weekday Scenario - Cumulative Base Conditions



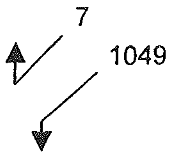
Critical Movement Analysis

Phase 1 Critical Moves

40+7 = 47

1048/2 = 524

Phase 2 Critical Moves



=(1049+7)/2 = 528

Phase 3 Critical Moves

$$v/c = \frac{(524 + 47) + (528 - 8) + 8}{1425}$$

= **0.771** **(LOS C)**

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: I-110 HOV Ramps W/E: 39th St I/S No: 8
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	217	0	91	0	0	0	121	149	0	0	104	190
AMBIENT												
RELATED												
PROJECT												
TOTAL	217	0	91	0	0	0	121	149	0	0	104	190

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	2	0	0	1	0

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto			Perm	<none>	Perm	Auto

Critical Movements Diagram

SouthBound
A: 0
B: 0

EastBound
A: 190
B: 0

WestBound
A: 75
B: 121

NorthBound
A: 91
B: 217

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{217 + 0 + 121 + 190}{{}^{*}1500} = 0.282$$

LOS = A

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: 39th St I/S No: 9
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR.

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	53	747	85	117	1966	113	163	15	184	240	39	107
AMBIENT												
RELATED												
PROJECT												
TOTAL	53	747	85	117	1966	113	163	15	184	240	39	107

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	2	0	1	0	0	1	0	2	0	1	0	0	2	0	0	0	1	1	0	2	0	0	0	1	0	0

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Prot-Var	Auto	Prot-Var		Split	Auto	Split	Auto

Critical Movements Diagram

SouthBound
A: 693
B: 117

EastBound
A: 146
B: 132

WestBound
A: 100
B: 90

NorthBound
A: 277
B: 53

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{53 + 693 + 100 + 146}{{}^{*}1375} = 0.651$$

LOS = B

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: I-110 NB Ramps W/E: M.L.King Jr. Bl I/S No: 10
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	422	81	178	105	5	383	40	969	53	83	842	143
AMBIENT												
RELATED												
PROJECT												
TOTAL	422	81	178	105	5	383	40	969	53	83	842	143

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	0	1	0	0	0	1	0	1	0	1	0	0	1	0	2	0	1	0	0	1	0	2	0	1	0	0

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Split	Auto	Split	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 383
B: 105

EastBound
A: 328
B: 83

WestBound
A: 341
B: 40

NorthBound
A: 341
B: 341

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = A(N/B) + A(S/B)
West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{341 + 383 + 341 + 83}{1425} = 0.806$$

LOS = D

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: I-110 SB Ramps W/E: M.L.King Jr. Bl I/S No: 11
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	0	0	206	4	139	303	1495	0	0	855	384
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	0	0	206	4	139	303	1495	0	0	855	384

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	0	3	0	0	0	0	0	0	2	0	1	0	0

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL			Perm	Auto	Perm	<none>	Perm	Auto

Critical Movements Diagram

SouthBound
A: 115
B: 115

EastBound
A: 413
B: 0

WestBound
A: 498
B: 303

NorthBound
A: 0
B: 0

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = A(N/B) + A(S/B)
West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{0 + 115 + 303 + 413}{{}^{*}1500} = 0.484$$

LOS = A

1618_CB August 26, 2003 ,Tuesday 04:38:47 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: M.L.King Jr. Bl I/S No: 12
AM/PM: PM Comments:
COUNT DATE: STUDY DATE GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	119	705	97	201	1655	394	470	1699	83	125	1048	154
AMBIENT												
RELATED												
PROJECT												
TOTAL	119	705	97	201	1655	394	470	1699	83	125	1048	154

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
LANE	1	0	2	0	1	0	0	1	0	2	0	1	0	0	1	0	2	0	1	0	0	1	0	2	0	1	0	0

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Prot-Var	Auto	Prot-Var	Auto

Critical Movements Diagram

SouthBound
A: 683
B: 201

EastBound
A: 401
B: 125

WestBound
A: 594
B: 470

NorthBound
A: 267
B: 119

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{119 + 683 + 470 + 401}{{}^{*}1375} = 1.147$$

LOS = F

Developed by Chun Wong 12/9-

1618_CB August 26, 2003 ,Tuesday 04:38:47 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Hoover St W/E: M.L.King Jr. Bl I/S No: 13
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	244	4	132	34	21	20	309	1756	14	19	1088	202
AMBIENT												
RELATED												
PROJECT												
TOTAL	244	4	132	34	21	20	309	1756	14	19	1088	202

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
LANE	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	2	0	1	0	0	1	0	2	0	1	0	0

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 21
B: 34

EastBound
A: 430
B: 19

WestBound
A: 590
B: 309

NorthBound
A: 132
B: 244

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{244 + 21 + 309 + 430}{{}^{*}1500} = 0.599$$

LOS = A

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1618_CB August 26, 2003 ,Tuesday 04:38:47 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: M.L.King Jr. Bl I/S No: 14
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	91	639	65	230	1408	128	114	1472	205	63	1119	145
AMBIENT												
RELATED												
PROJECT												
TOTAL	91	639	65	230	1408	128	114	1472	205	63	1119	145

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
LANE	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	2	0	1	0	0	1	0	2	0	1	0	0

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Prot-Fix	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 768
B: 230

EastBound
A: 421
B: 63

WestBound
A: 559
B: 114

NorthBound
A: 352
B: 91

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{91 + 768 + 559 + 63}{{}^{*}1425} = 0.969$$

LOS = E

Developed by Chun Wong 12/9-

1618_CB August 26, 2003 ,Tuesday 04:38:47 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: 39th St I/S No: 15
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	41	933	7	-1	1665	47	71	19	124	49	3	53
AMBIENT												
RELATED												
PROJECT												
TOTAL	41	933	7	-1	1665	47	71	19	124	49	3	53

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
LANE	1	0	1	0	1	0	0	1	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 856
B: -1

EastBound
A: 105
B: 49

WestBound
A: 214
B: 71

NorthBound
A: 470
B: 41

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{41 + 856 + 214 + 49}{{}^{*}1500} = 0.703$$

LOS = C

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August 26, 2003 ,Tuesday 04:38:47 PM

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INTERSECTION DATA SUMMARY SHEET

Vermont Av W/E: Exposition Bl I/S No: 16

Comments:

STUDY DATE: GROWTH FACTOR:

ignal Configurations

	NORTHBOUND LT	NORTHBOUND TH	NORTHBOUND RT	SOUTHBOUND LT	SOUTHBOUND TH	SOUTHBOUND RT	WESTBOUND LT	WESTBOUND TH	WESTBOUND RT	EASTBOUND LT	EASTBOUND TH	EASTBOUND RT
	65	969	56	118	1372	124	181	1035	302	4	749	71
	65	969	56	118	1372	124	181	1035	302	4	749	71

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
	1 1 0 1 0 0	1 0 2 0 0 1 0	1 0 1 0 1 0 0	0 0 2 0 1 0 0

ing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

nents Diagram

SouthBound
A: 686
B: 118

EastBound
A: 273
B: 0

WestBound
A: 669
B: 181

NorthBound
A: 513
B: 65

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

sted Through/Right Volume
sted Left Volume
C B it

sults

rth/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{65 + 686 + 669 + 0}{*1500} = 0.877$$ LOS = D

August 26, 2003 ,Tuesday 04:38:47 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av W/E: M.L.King Jr. Bl I/S No 17

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND LT	NORTHBOUND TH	NORTHBOUND RT	SOUTHBOUND LT	SOUTHBOUND TH	SOUTHBOUND RT	WESTBOUND LT	WESTBOUND TH	WESTBOUND RT	EASTBOUND LT	EASTBOUND TH	EASTBOUND RT
EXISTING	111	854	89	152	1310	116	123	170	164	128	1036	140
AMBIENT												
RELATED												
PROJECT												
TOTAL	111	854	89	152	1310	116	123	170	164	128	1036	140

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	1 0 1 0 1 0 0	1 0 1 0 1 0 0	1 0 3 0 0 1 0	1 0 2 0 1 0 0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 713
B: 152

EastBound
A: 392
B: 128

WestBound
A: 164
B: 123

NorthBound
A: 472
B: 111

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{111 + 713 + 123 + 392}{*1500} = 0.823$$ LOS = D

August 26, 2003 ,Tuesday 04:38:47 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

Normandie Av W/E: Exposition Bl I/S No: 18

PM Comments:

ATI STUDY DATE: GROWTH FACTOR:

/Lane/Signal Configurations

	NORTHBOUND TH	NORTHBOUND RT	SOUTHBOUND LT	SOUTHBOUND TH	SOUTHBOUND RT	WESTBOUND LT	WESTBOUND TH	WESTBOUND RT	EASTBOUND LT	EASTBOUND TH	EASTBOUND RT
	1051	50	61	1514	67	15	1057	77	8	716	140
	1051	50	61	1514	67	15	1057	77	8	716	140

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
	1 0 1 0 1 0 0	1 0 1 0 1 0 0	0 1 1 0 1 0 0	0 1 1 0 1 0 0

Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
m	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Mo... ents Diagram

SouthBound
A: 791
B: 61

EastBound
A: 361
B: 8

WestBound
A: 398
B: 15

NorthBound
A: 551
B: 103

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

ed ugh/Right Volume
ed Volume
C Be t

North/South Critical Movements = B(N/B) + A(S/B)

t/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{103 + 791 + 398 + 8}{*1500} = 0.797$$ LOS = C

August 26, 2003 ,Tuesday 04:38:47 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: Jefferson Bl I/S No: 19

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND LT	NORTHBOUND TH	NORTHBOUND RT	SOUTHBOUND LT	SOUTHBOUND TH	SOUTHBOUND RT	WESTBOUND LT	WESTBOUND TH	WESTBOUND RT	EASTBOUND LT	EASTBOUND TH	EASTBOUND RT
EXISTING	108	1223	288	114	1240	94	333	1090	168	110	565	145
AMBIENT												
RELATED												
PROJECT												
TOTAL	108	1223	288	114	1240	94	333	1090	168	110	565	145

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	1 0 2 0 0 1 0	1 0 2 0 0 1 0	1 0 2 0 0 1 0	1 0 1 0 1 0 0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	OLA	Perm	Auto	Prot-Fix	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 620
B: 114

EastBound
A: 355
B: 110

WestBound
A: 545
B: 333

NorthBound
A: 612
B: 108

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{108 + 620 + 333 + 355}{*1425} = 0.924$$ LOS = E

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August 26, 2003 ,Tuesday 04:39:15 PM

INTERSECTION DATA SUMMARY SHEET

N/S: I-110 HOV Ramps W/E: 39th St I/S No: 8

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	903	0	91	0	0	0	121	149	0	0	104	190
AMBIENT												
RELATED												
PROJECT												
TOTAL	903	0	91	0	0	0	121	149	0	0	104	190

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	1 0 0 0 0 1 0	0 0 0 0 0 0 0	1 0 2 0 0 0 0	0 0 2 0 0 1 0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto			Perm	<none>	Perm	Auto

Critical Movements Diagram

SouthBound A: 0 B: 0

EastBound A: 190 B: 0

WestBound A: 75 B: 121

NorthBound A: 91 B: 903

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{903 + 0 + 121 + 190}{*1500} = 0.739 \qquad LOS = C$$

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1618_CBP

CalcaDB

August 26, 2003 ,Tuesday 04:39:15 PM

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: 39th St I/S No: 9

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	53	747	85	117	2515	525	163	701	184	240	39	107
AMBIENT												
RELATED												
PROJECT												
TOTAL	53	747	85	117	2515	525	163	701	184	240	39	107

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	1 0 2 0 1 0 0	1 0 2 0 1 0 0	2 0 0 0 1 1 0	2 0 0 0 1 0 0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Prot-Var	Auto	Prot-Var		Split	Auto	Split	Auto

Critical Movements Diagram

SouthBound A: 1013 B: 117

EastBound A: 146 B: 132

WestBound A: 701 B: 90

NorthBound A: 277 B: 53

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{53 + 1013 + 701 + 146}{*1375} = 1.321 \qquad LOS = F$$

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August 26, 2003 ,Tuesday 04:39:15 PM

INTERSECTION DATA SUMMARY SHEET

N/S: I-110 NB Ramps W/E: M.L.King Jr. Bl I/S No: 10

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	1108	81	178	105	5	383	40	1518	53	83	842	143
AMBIENT												
RELATED												
PROJECT												
TOTAL	1108	81	178	105	5	383	40	1518	53	83	842	143

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	1 0 0 1 0 0 0	1 0 1 0 1 0 0	1 0 2 0 1 0 0	1 0 2 0 1 0 0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Split	Auto	Split	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound A: 383 B: 105

EastBound A: 328 B: 83

WestBound A: 524 B: 40

NorthBound A: 684 B: 684

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{684 + 383 + 524 + 83}{1425} = 1.175 \qquad LOS = F$$

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August 26, 2003 ,Tuesday 04:39:15 PM

INTERSECTION DATA SUMMARY SHEET

N/S: I-110 SB Ramps W/E: M.L.King Jr. Bl I/S No: 11

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	0	0	206	4	139	303	2730	0	0	855	384
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	0	0	206	4	139	303	2730	0	0	855	384

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	0 0 0 0 0 0 0	1 0 0 0 0 1 1	1 0 3 0 0 0 0	0 0 2 0 1 0 0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL			Perm	Auto	Perm	<none>	Perm	Auto

Critical Movements Diagram

SouthBound A: 115 B: 115

EastBound A: 413 B: 0

WestBound A: 910 B: 303

NorthBound A: 0 B: 0

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{0 + 115 + 910 + 0}{*1500} = 0.683 \qquad LOS = B$$

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1618_CBP

CalcaDB

August 26, 2003 ,Tuesday 04:39:15 PM

INTERSECTION DATA SUMMARY SHEET

N/S: Figueroa St W/E: M.L.King Jr. Bl I/S No: 12

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	119	705	97	201	1655	943	470	2934	83	125	1048	154
AMBIENT												
RELATED												
PROJECT												
TOTAL	119	705	97	201	1655	943	470	2934	83	125	1048	154

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	2	0	1	0	0	1	0	2	0	1	0	0	1	0	2	0	1	0	0	1	0	2	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Prot-Var	Auto	Prot-Var	Auto

Critical Movements Diagram

SouthBound
A: 943
B: 201

EastBound
A: 401
B: 125

WestBound
A: 1006
B: 470

NorthBound
A: 267
B: 119

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{119 + 943 + 1006 + 125}{{}^{*}1375} = 1.525$$

LOS = F

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1618_CBP

CalcaDB

August 26, 2003 ,Tuesday 04:39:15 PM

INTERSECTION DATA SUMMARY SHEET

N/S: Hoover St W/E: M.L.King Jr. Bl I/S No: 13

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	244	553	132	34	21	20	309	2854	700	19	1088	202
AMBIENT												
RELATED												
PROJECT												
TOTAL	244	553	132	34	21	20	309	2854	700	19	1088	202

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	2	0	1	0	0	1	0	2	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 21
B: 34

EastBound
A: 430
B: 19

WestBound
A: 1185
B: 309

NorthBound
A: 343
B: 244

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + B(S/B)
West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{343 + 34 + 1185 + 19}{{}^{*}1500} = 0.984$$

LOS = E

Developed by Chun Wong 12/9-

1618_CBP

CalcaDB

August 26, 2003 ,Tuesday 04:39:15 PM

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: M.L.King Jr. Bl I/S No: 14

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	91	1874	65	230	1408	128	114	1472	754	749	1119	145
AMBIENT												
RELATED												
PROJECT												
TOTAL	91	1874	65	230	1408	128	114	1472	754	749	1119	145

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	2	0	1	0	0	1	0	2	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Prot-Fix	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 768
B: 230

EastBound
A: 421
B: 749

WestBound
A: 754
B: 114

NorthBound
A: 970
B: 91

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + B(S/B)
West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{970 + 230 + 754 + 749}{{}^{*}1425} = 1.827$$

LOS = F

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1618_CBP

CalcaDB

August 26, 2003 ,Tuesday 04:39:15 PM

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: 39th St I/S No: 15

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	41	2717	693	0	1665	47	71	19	124	49	3	53
AMBIENT												
RELATED												
PROJECT												
TOTAL	41	2717	693	0	1665	47	71	19	124	49	3	53

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	1	0	1	0	0	1	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 856
B: 0

EastBound
A: 105
B: 49

WestBound
A: 214
B: 71

NorthBound
A: 1705
B: 41

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + B(S/B)
West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{1705 + 0 + 214 + 49}{{}^{*}1500} = 1.242$$

LOS = F

Developed by Chun Wong 12/9-

1618_CBP

August 26, 2003 ,Tuesday 04:39:15 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: Exposition Bl I/S No: 16

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	65	2204	605	118	1372	124	181	1035	302	4	1572	71
AMBIENT												
RELATED												
PROJECT												
TOTAL	65	2204	605	118	1372	124	181	1035	302	4	1572	71

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	1	0	1	0	0	1	0	2	0	0	1	0	1	0	1	0	1	0	0	0	0	2	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 686
B: 118

EastBound
A: 548
B: 0

WestBound
A: 669
B: 181

NorthBound
A: 1405
B: 65

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + B(S/B)

West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{1405 + 118 + 181 + 548}{{}^{*}1500} = 1.431$$

LOS = F

1618_CBP

August 26, 2003 ,Tuesday 04:39:15 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av W/E: M.L.King Jr. Bl I/S No: 17

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	111	854	89	701	1310	116	123	170	164	128	1173	140
AMBIENT												
RELATED												
PROJECT												
TOTAL	111	854	89	701	1310	116	123	170	164	128	1173	140

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	3	0	0	1	0	1	0	2	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 713
B: 701

EastBound
A: 438
B: 128

WestBound
A: 164
B: 123

NorthBound
A: 472
B: 111

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + B(S/B)

West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{472 + 701 + 123 + 438}{{}^{*}1500} = 1.086$$

LOS = F

1618_CBP

August 26, 2003 ,Tuesday 04:39:15 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av W/E: Exposition Bl I/S No: 18

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	103	1051	50	747	2063	67	15	1057	77	8	853	140
AMBIENT												
RELATED												
PROJECT												
TOTAL	103	1051	50	747	2063	67	15	1057	77	8	853	140

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	1	0	1	0	0	1	0	1	0	1	0	0	0	1	1	0	1	0	0	0	1	1	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 1065
B: 747

EastBound
A: 347
B: 8

WestBound
A: 398
B: 15

NorthBound
A: 551
B: 103

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + B(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{551 + 747 + 398 + 8}{{}^{*}1500} = 1.066$$

LOS = F

1618_CBP

August 26, 2003 ,Tuesday 04:39:15 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: Jefferson Bl I/S No: 19

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	108	1223	288	1486	1240	94	333	1090	168	110	1114	145
AMBIENT												
RELATED												
PROJECT												
TOTAL	108	1223	288	1486	1240	94	333	1090	168	110	1114	145

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	2	0	0	1	0	1	0	2	0	0	1	0	1	0	2	0	0	1	0	1	0	1	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	OLA	Perm	Auto	Prot-Fix	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 620
B: 1486

EastBound
A: 630
B: 110

WestBound
A: 645
B: 333

NorthBound
A: 612
B: 108

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + B(S/B)

West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{612 + 1486 + 333 + 630}{{}^{*}1425} = 2.078$$

LOS = F

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av W/E: Jefferson Bl I/S No: 20
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	107	945	109	356	2468	53	251	843	114	67	801	177
AMBIENT												
RELATED												
PROJECT												
TOTAL	107	945	109	356	2468	53	251	843	114	67	801	177

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	2	0	0	1	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Perm	Auto	Perm	Auto	Perm	Auto

Critical Movements Diagram

SouthBound
A: 1261
B: 356

EastBound
A: 401
B: 67

WestBound
A: 479
B: 251

NorthBound
A: 527
B: 107

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = B(W/B) + A(E/B)

V/C = (107 + 1261 + 251 + 401) / *1500 = 1.277 LOS = F

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: Adams Bl I/S No. 21
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	85	1097	65	125	2675	73	124	946	127	118	1418	88
AMBIENT												
RELATED												
PROJECT												
TOTAL	85	1097	65	125	2675	73	124	946	127	118	1418	88

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	2	0	0	1	0	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	1	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Prot-Fix	Auto	Perm	Auto	Prot-Fix	Auto

Critical Movements Diagram

SouthBound
A: 1374
B: 125

EastBound
A: 753
B: 118

WestBound
A: 537
B: 124

NorthBound
A: 549
B: 85

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = B(W/B) + A(E/B)

V/C = (85 + 1374 + 124 + 753) / *1375 = 1.629 LOS = F

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av W/E: Adams Bl I/S No: 22
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	82	1109	116	188	2759	95	134	994	96	124	1338	88
AMBIENT												
RELATED												
PROJECT												
TOTAL	82	1109	116	188	2759	95	134	994	96	124	1338	88

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	1	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Prot-Fix	Auto	Perm	Auto	Prot-Fix	Auto

Critical Movements Diagram

SouthBound
A: 1427
B: 188

EastBound
A: 713
B: 124

WestBound
A: 645
B: 134

NorthBound
A: 613
B: 82

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)
West/East Critical Movements = B(W/B) + A(E/B)

V/C = (82 + 1427 + 134 + 713) / *1375 = 1.643 LOS = F

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: I-10 EB Ramps I/S No: 23
AM/PM: PM Comments:
COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	1309	103	358	1408	0	0	0	0	492	12	1458
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	1309	103	358	1408	0	0	0	0	492	12	1458

	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱	↰	↰↑	↑	↰↑↱	↑↱	↱	↰↱
LANE	0	0	2	0	0	1	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Prot-Fix	Auto	<none>	<none>	Perm	Auto

Critical Movements Diagram

SouthBound
A: 704
B: 197

EastBound
A: 1470
B: 492

WestBound
A: 0
B: 0

NorthBound
A: 655
B: 0

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + B(S/B)
West/East Critical Movements = A(W/B) + A(E/B)

V/C = (655 + 197 + 0 + 1470) / *1425 = 1.659 LOS = F

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av W/E: I-10 EB Ramps I/S No: 24

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	1161	142	376	1335	0	0	0	0	251	0	1643
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	1161	142	376	1335	0	0	0	0	251	0	1643

LANE	0	0	2	0	0	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	Auto	Prot-Fix	Auto	<none>	<none>	Perm	Auto

Critical Movements Diagram

SouthBound A: 668 B: 376

EastBound A: 1643 B: 251

WestBound A: 0 B: 0

NorthBound A: 581 B: 0

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = A(N/B) + B(S/B)

West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{581 + 376 + 0 + 1643}{*1425} = 1.755$$

LOS = F

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Vermont Av W/E: I-10 WB Ramps I/S No: 25

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	464	1427	0	0	1625	285	203	2	332	0	0	0
AMBIENT												
RELATED												
PROJECT												
TOTAL	464	1427	0	0	1625	285	203	2	332	0	0	0

LANE	2	0	2	0	0	0	0	0	0	2	0	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Prot-Fix	Auto	Perm	Auto	Perm	Auto	<none>	<none>

Critical Movements Diagram

SouthBound A: 813 B: 0

EastBound A: 0 B: 0

WestBound A: 332 B: 203

NorthBound A: 714 B: 255

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{255 + 813 + 332 + 0}{*1425} = 0.912$$

LOS = E

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: Normandie Av W/E: I-10 WB Ramps I/S No: 26

AM/PM: PM Comments:

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	293	1179	0	0	1466	345	247	0	397	0	0	0
AMBIENT												
RELATED												
PROJECT												
TOTAL	293	1179	0	0	1466	345	247	0	397	0	0	0

LANE	1	0	2	0	0	0	0	0	0	2	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0

	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Prot-Fix	Auto	Perm	Auto	Perm	Auto	<none>	<none>

Critical Movements Diagram

SouthBound A: 733 B: 0

EastBound A: 0 B: 0

WestBound A: 322 B: 247

NorthBound A: 590 B: 293

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{293 + 733 + 322 + 0}{*1425} = 0.876$$

LOS = D

APPENDIX D

SUPPORTING DOCUMENTS AND REFERENCES

Average Vehicle Occupancy (AVO)

TABLE 33 EXISTING COLISEUM PARKING SUPPLY		
LOCATION	NUMBER OF SPACES	PERCENT OF TOTAL SPACES
Exposition Park/Coliseum Parking	7,890	41%
USC Campus Parking	7,700[1]	40%
Parking in Small Lots or Private Yards	3,500	19%
TOTAL SPACES	19,090	100%

[1] USC has recently added 500 spaces in addition to the 7,700 available for public parking, but these are only temporary until a new building is constructed on the 500-space lot.

Figure 64 illustrates the access points to parking facilities at Exposition Park and the directions from which they can be approached. The access points are concentrated along Martin Luther King Jr. Boulevard with one access point on Exposition Boulevard at Menlo Avenue. Only courtesy parking (VIP) can be accessed via Figueroa Street.

Trip Generation and Parking Demand

As is discussed in the body of this report, the Coliseum is host to a variety of major entertainment events throughout the year. Events taking place in the Coliseum include professional football, college football, soccer, concerts, motocross and other special events. Although the fixed seating capacity at the Coliseum is 92,516 seats, there is a wide variation in attendance. Average attendance ranges from approximately 18,000 persons for soccer games to 65,000 persons for a USC college football game. Maximum attendance in recent years for the largest events, football and concerts, ranged from 75,313 persons for a concert to 86,091 persons for a USC football game and 81,237 for a Raiders NFL playoff game.[1]

An estimate of vehicle trips generated by an event can be determined by noting that 20 percent of the Coliseum patrons arrived by transit or charter bus and that those patrons that arrived by private

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[1] It is noted that the attendance at the January 1991 NFL playoff game between the Los Angeles Raiders and the Cincinnati Bengals was 91,058 persons. However, the traffic analysis examined attendance data for the three-year period from 1988 through 1990.

"Los Angeles Memorial Coliseum Renovation Project", DKS Associates, 1991.

automobile have an average vehicle occupancy ratio of 2.7 persons per vehicle.[2] This compares to auto occupancy ratios of 2.9 at Dodger Stadium and 2.8 at Greek Theater events.[3] For example, if the Coliseum were at capacity (92,516 persons), it would mean that approximately 18,500 persons arrived by transit or charter bus (20 percent) and that the remaining 74,000 patrons arrived in approximately 27,400 cars. In this context, typical vehicle trip generation for average attendance at various Coliseum events ranges from approximately 5,000 vehicles to 19,700 vehicles and is shown in Table 34.

TABLE 34
AVERAGE ONE-WAY VEHICLE TRIP GENERATION AT COLISEUM EVENTS

EVENT TYPE	AVERAGE ATTENDANCE	PATRONS ARRIVING BY TRANSIT OR CHARTER BUS	PATRONS ARRIVING BY PRIVATE AUTOMOBILE	AVERAGE ONE WAY VEHICLE TRIP GENERATION (Parking demand)
College Football	65,178	13,036	52,142	19,312
Professional Football	47,032	9,406	37,626	13,936
Soccer	17,757	3,551	14,206	5,261
Concerts	66,598	13,320	53,278	19,732
Motocross	35,391	7,078	28,313	10,486
Special Events	16,700	3,340	13,360	4,948

Maximum trip generation in recent years for football and concerts ranges from approximately 22,000 vehicles to approximately 26,000 vehicles and is shown in Table 35. These values represent the number of vehicles travelling to/from the Coliseum and seeking a parking space. Each results in two one-way trips; one inbound and one outbound.

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[2] "Feasibility Study of Estimated Parking Demand and Revenues," Wilbur Smith Associates, 1986, pg. 8; also corroborated by the City of Los Angeles Department of Transportation in "1984 Olympic Games Transportation Planning Status Report," September 1983.

[3] The Coliseum parking operators, Five Star Parking, estimate that vehicle occupancy ratios are, at a minimum, 3.0 persons per vehicle. The Wilbur Smith study which served as a basis for trip calculation in this EIR analysis makes has indicated a ridership of 2.7 persons per car. This would represent a conservative or "worst-case" analysis, as non-documented observations by parking lot operators would indicate higher vehicle occupancy.

ARIZONA CARDINALS
NFL STADIUM

TRAFFIC ANALYSIS

Glendale, Arizona

JUNE 2003

PREPARED FOR

ARIZONA CARDINALS

PREPARED BY

KAKU ASSOCIATES
A Corporation

There are examples where the arrival and departure patterns are more spread out than the percentages shown above. Using these lower percentages would reduce the arrival/departure patterns and reduce the overall traffic impact of the stadium. However, to remain conservative, the higher peaks will be used in this analysis.

In addition, these arrival/departure patterns are conservative because the location of the Glendale Town Center with over 850,000 square feet of Phase 1 retail, restaurant, and entertainment space should offer opportunities for spectators to come early and stay after the game to eat or visit the shops and entertainment venues.

VEHICLE OCCUPANCY

The average number of occupants per vehicle significantly affects the total number of vehicles that have to be accommodated at the stadium. For the purposes of this analysis, a vehicle occupancy rate of 3.0 persons per vehicle will be assumed. Again, this is slightly lower than the 3.2 - 3.3 persons/vehicle average for the National Football League venues, but in an effort to produce a conservative analysis, the 3.0 occupancy level will be used.

PROJECT TRAFFIC

With the assumptions above, a sold-out event would produce the following traffic levels:

<u>Project Traffic Levels</u>

$$\text{Number of Automobiles} = \frac{\text{63,000 tickets x 85\% auto arrival}}{\text{3.0 persons/auto}} = \text{17,850 automobiles}$$

$$\text{Number of Buses} = \frac{\text{63,000 tickets x 15\% bus arrival}}{\text{40.0 persons/bus}} = \text{236 buses}$$

TRAFFIC IMPACT ANALYSIS FOR THE PROPOSED LOS ANGELES SPORTS AND ENTERTAINMENT COMPLEX

PREPARED FOR:

L. A. ARENA COMPANY LLC

KORVE ENGINEERING, INC.
MARCH 18, 1997

- The extent to which downtown parking facilities (remote from the Arena site) will remain open late in the evening to accommodate CBD employees who are also Arena patrons,
- The cost of parking at or near the Arena, and
- The extent to which CBD employees who are already transit commuters are able to find a convenient way home after an event that concludes in the late evening hours, given the constraints of transit service at that hour (though Blue Line rail service, for example, currently runs until 11:00 - 11:30 PM every night).

The specific degree of such transit-oriented travel, therefore, is difficult to estimate. It is interesting to note that the City of Los Angeles Department of Transportation has estimated that approximately 20 percent of the spectators at the Los Angeles Memorial Coliseum, which is located a short distance south of the CBD, arrive via a non-auto mode (Source: Wilbur Smith Associates, *Feasibility Study of Estimated Parking Demand and Revenues*, prepared for the Los Angeles Memorial Coliseum Commission, June 1986). This figure is probably higher than would be achieved at an arena, however, due to the difference in attendance levels and the higher levels of congestion that occur at a stadium the size of the Coliseum. While the operation of the Coliseum may be different from that of the proposed Arena, the transit usage characteristics of Coliseum patrons are believed to be indicative of what could ultimately be achieved at the Arena.

For the purposes of this analysis, it has been assumed that 10 percent of the Arena patrons will arrive via some non-auto mode (i.e., bus, rail, or walk). This is felt to be a reasonable, yet conservative, estimate for this evaluation.

Auto Occupancy

A critical consideration in determining the volume of traffic generated by the Arena is the average auto occupancy of the remaining 90 percent of the Arena patrons. Substantial research has been performed in this regard.

Clearly, the average auto occupancy of arena facilities is higher than is typically found in connection with commute traffic or most other trip purposes. Sporting events and other arena events attract families, couples, and groups of friends who travel together as part of the social experience.

While the actual auto occupancy varies depending on location, type of event, etc., research has indicated that typical rates range from approximately 2.0 persons per vehicle to as high as 4.0 persons per vehicle. According to the Los Angeles Memorial Coliseum parking study referred to above, LADOT has determined that the automobile occupancy at Coliseum events averages 2.7 persons per car. This factor is consistent with the results of studies at other locations. For example, the traffic impact analysis prepared in connection with the Alameda District Plan in Los Angeles included consideration of a sports arena as a possible alternative land use (Source: Korve Engineering, Inc., *Alameda District Plan Transportation Study*

Technical Memorandum -- Equivalency Alternative Analysis, November 7, 1995). According to that document, survey data for similar facilities in San Francisco, Oakland, San Diego, and Boston indicated that the observed auto occupancy rate at those locations was typically approximately 2.75 persons per vehicle. Thus, that rate was employed in the Alameda District Plan analysis. Furthermore, the ITE document, *Traffic Considerations for Special Events*, presents auto occupancy information from eight stadium locations. Generally, the auto occupancy rates for events at those locations are in the range of 2.5 - 3.5, though some fall outside that range. Auto occupancy information for an additional five stadium locations is presented in the ITE *Transportation and Traffic Engineering Handbook*. The information provided there is generally consistent with the other data described here.

For this analysis, therefore, an average auto occupancy rate of 2.75 persons per vehicle has been assumed.

Trip Generation Summary

As described above, the key factors in determining the total spectator vehicle-trip generation for the proposed Arena are as follows:

- Mode Split -- 10 percent transit/walk/non-auto and 90 percent automobile,
- Auto occupancy -- 2.75 persons per vehicle average.

Applying these factors to the ultimate 22,000-seat capacity of the facility indicates that 2,200 patrons will arrive via some non-automobile mode, while 19,800 individuals will arrive in automobiles. Given the auto occupancy factor described above, a total of 7,200 automobile trips will be generated by a sold-out event at the Arena. These automobile trips will then be distributed across the two-hour period prior to an event as described above.

Table 8 summarizes the employee and spectator trip generation estimate for the proposed Arena, including not only the total number of auto-trips to be generated, but also the temporal distribution (by half-hour period) of those trips during the analysis time periods. As shown, during the typical PM peak hour, the Arena is projected to generate a total of 605 vehicle-trips, with 550 inbound and 55 outbound. Between 5:30 and 6:30 PM, the estimated number of Arena-generated trips increases to 1,512, including 1,482 inbound and 30 outbound trips. During the 6:00 - 7:00 PM hour, the number of outbound trips falls to zero, with 3,242 inbound trips. Finally, during the one-hour period immediately preceding a sold-out event, the Arena will generate 4,680 vehicle-trips, all inbound.

The trip generation assumptions employed in this analysis are intended to provide a conservative, "worst case" evaluation of the traffic impacts associated with the proposed Arena. For example, the analysis has considered only the effects of a sold-out event attended by 22,000 people, though the majority of events at the Arena will attract fewer than that.

Table 8
Trip Generation Summary

Time Period	Spectator Trips (Inbound)		Employee Trips		Total Trips	
	% of Total Spectators	Vehicle-Trips	In	Out	In	Out
5:00 - 5:30 PM	0%	0	150	25	150	25
5:30 - 6:00 PM	5%	360	40	30	400	30
6:00 - 6:30 PM	15%	1,080	2	0	1,082	0
6:30 - 7:00 PM	30%	2,160	0	0	2,160	0
7:00 - 7:30 PM	35%	2,520	0	0	2,520	0
7:30 - 8:00 PM	15%	1,080	0	0	1,080	0
TOTAL	100%	7,200	192	55	7,392	55

Arena Trip Distribution

The regional distribution of automobile trips to and from the proposed Arena was derived from several sources.

Of particular interest in developing this information were the trip distribution patterns for existing season ticket holders for the Los Angeles Kings and the Los Angeles Lakers. Information was provided by those organizations indicating the locations of current season ticket holders in the Los Angeles region. Though there is some difference between those two sources (with higher levels of interest in the Kings apparent in areas having active youth hockey programs), the overall patterns were not substantially different. Such differences were further considered to be of little consequence, as it is likely that a relocation of the two teams to the downtown area would result in some redistribution of spectator travel patterns.

Further, it must be noted that the season ticket holder information must be used with a high degree of care. In particular, several factors affect the validity of this information and the ability to directly apply it to this analysis. For example, some portion of the season tickets are sold to corporations, who use the tickets as employee benefits or as a promotional tool with clients and potential clients. Thus, the origin of the spectator might be different than the address of record for the ticket holder.

A similar consideration applies even to season tickets that are held by individuals. For weekday events, in particular, such individuals might be traveling to the Arena from their work location rather than from home. Further, many season tickets are sold to consortiums of several individuals, who then split up the available tickets among themselves. If a group of

Parking

Parking/Access

A key component in how the access system is ultimately used by patrons of the Coliseum is the relative accessibility, supply and location of parking in the Coliseum vicinity. Typically, access routes are chosen by the Coliseum patrons in anticipation of where they will find parking. Figures 62 and 63 indicate the locations of off-street parking at the Coliseum and on-street/front yard parking in adjacent neighborhoods, respectively. Often this system is unpredictable – particularly for infrequent Coliseum visitors – due to unanticipated prohibited turns, street closures, or impassable intersections that cause re-routing, and parking lots that when full are closed with minimal visible signing to direct people elsewhere causing additional vehicle circulation. As will be discussed later in this analysis, drivers' preferred access routes to parking facilities creates imbalances in the distribution of traffic into the Coliseum area. A large percentage of drivers attempt to use the Harbor Freeway and either Exposition Boulevard or Martin Luther King Jr. Boulevard to reach Exposition Park parking lots because these are perceived by many to be the shortest and most direct routes to the parking lots. They are, however, also the most congested and not necessarily the fastest approach routes. In addition, the supply of parking outside of Exposition Park creates typically high pedestrian street crossing volumes, which further impacts traffic operations principally along Exposition Boulevard, Figueroa Street, Martin Luther King Jr. Boulevard, and Vermont Avenue.

Traditionally, Coliseum parking is provided in five basic areas:

- Exposition Park Parking Lots
- USC Campus Parking Lots
- Private Parking Lots located primarily along Vermont Avenue, Martin Luther King Jr. Boulevard, Hoover Street and Figueroa Street
- On-Street Curb Parking in residential areas adjacent to the Coliseum
- An informal system of pay parking on parkways, driveways and on front lawns in adjacent residential areas.

There are approximately 19,090 parking spaces in the Coliseum vicinity (Table 31 and Figures 62 and 63). Just over 40 percent of the spaces provided is Exposition Park/Coliseum parking. The parking lots are all owned by the California Museum of Science and Industry (CMSI). A private firm, Five Star Parking, is under contract to CMSI to operate all of the lots at Exposition Park. Lots available for game day parking on the USC Campus provide an additional 40 percent and parking in small lots and yards provides close to an additional 20 percent, as shown in Figure 64. A varying amount of on-street parking is also available for Coliseum event attendee's use.

TABLE 31
EXISTING COLISEUM PARKING SUPPLY

LOCATION	NUMBER OF SPACES	PERCENT OF TOTAL SPACES
Exposition Park/Coliseum Parking	7,890	41%
USC Campus Parking	7,700[1]	40%
Parking in Small Lots or Private Yards	3,500	19%
TOTAL SPACES	19,090	100%

[1] USC has recently added 500 spaces in addition to the 7,700 available for public parking, but these are only temporary until a new building is constructed on the 500-space lot.

Figure 65 illustrates the access points to parking facilities at Exposition Park and the directions from which they can be approached. The access points are concentrated along Martin Luther King Jr. Boulevard with one access point on Exposition Boulevard at Menlo Avenue. Only courtesy parking (VIP) can be accessed via Figueroa Street.

Trip Generation and Parking Demand

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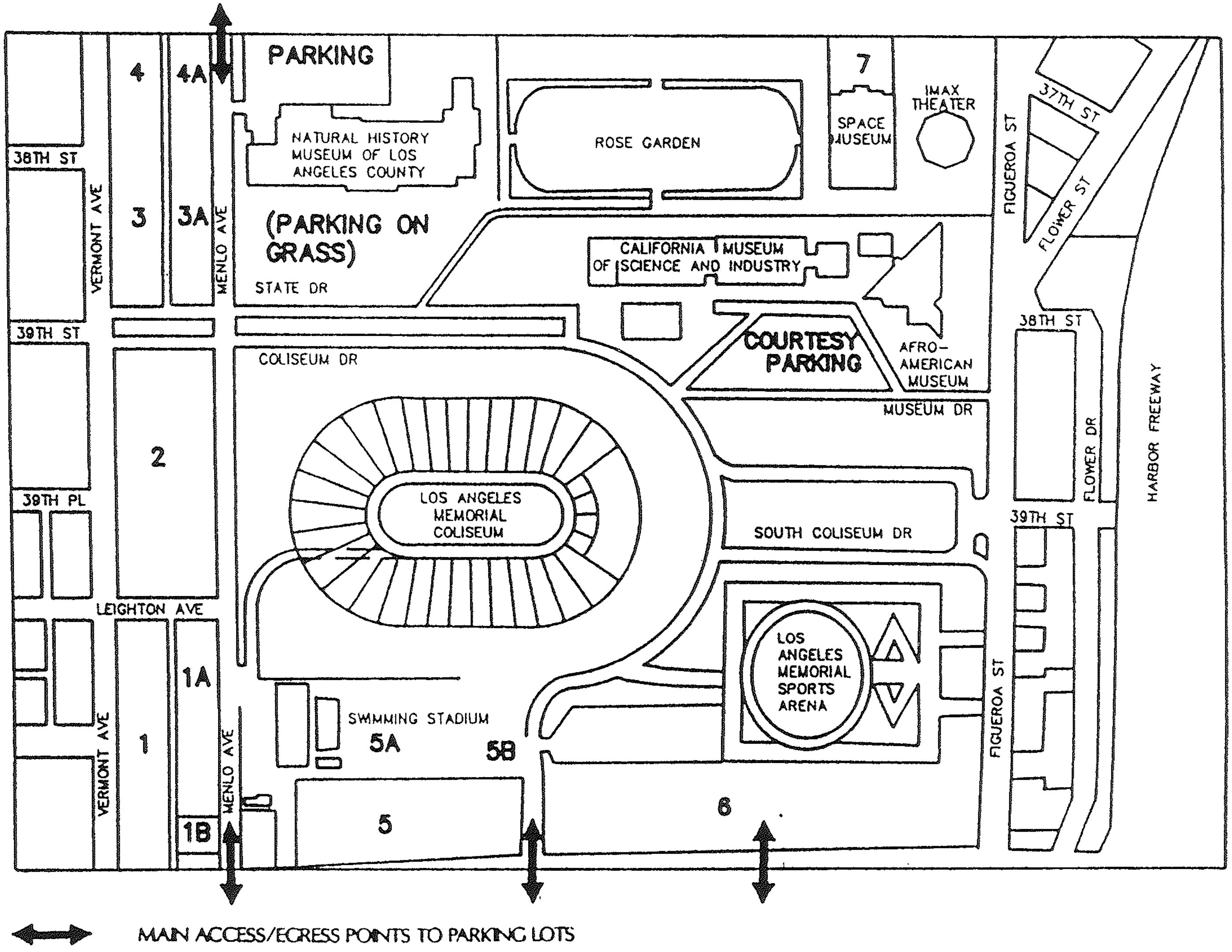
[1] It is noted that the attendance at the January 1991 NFL playoff game between the Los Angeles Raiders and the Cincinnati Bengals was 91,058 persons. However, the traffic analysis examined attendance data for the three-year period from 1988 through 1990.

NOTES

LOT	SPACE*
1	429
1A	174
1B	90
2	1006
3	275
3A	183
5	520
5A	370
5B	40
6	1220
7	70
COURTESY	361
STATE DRIVE	215
MUSEUM OF NATURAL HISTORY	260
MUSEUM OF SCIENCE & INDUSTRY	335
MUSEUM OF NATURAL HISTORY	
NORTH DRIVE	360
SOUTH DRIVE	210
ARENA VIP	262
COLISEUM SERVICE	60
SPORTS ARENA PAD/LAWN	465
TOTALS:	7890

* 1990 Data



ENVIRONMENTAL
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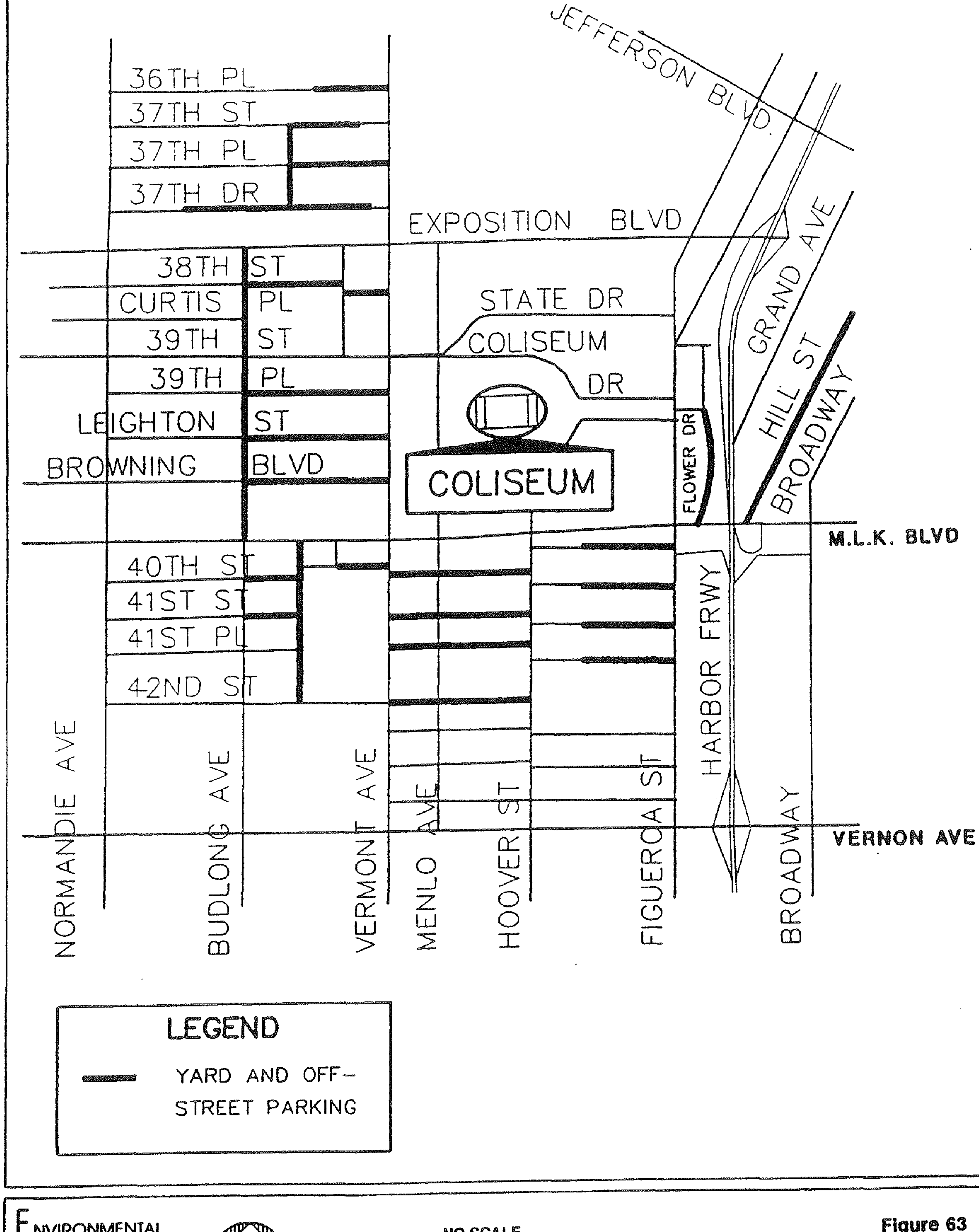
Source: DKS Associates

NO SCALE

Figure 62
EXPOSITION PARK
PARKING AREA LOCATIONS



ENVIRONMENTAL
PLANNING
ASSOCIATES

NO SCALE

Source: DKS Associates

Figure 63
YARD AND OFF-STREET PARKING PATTERN IN COLISEUM VICINITY

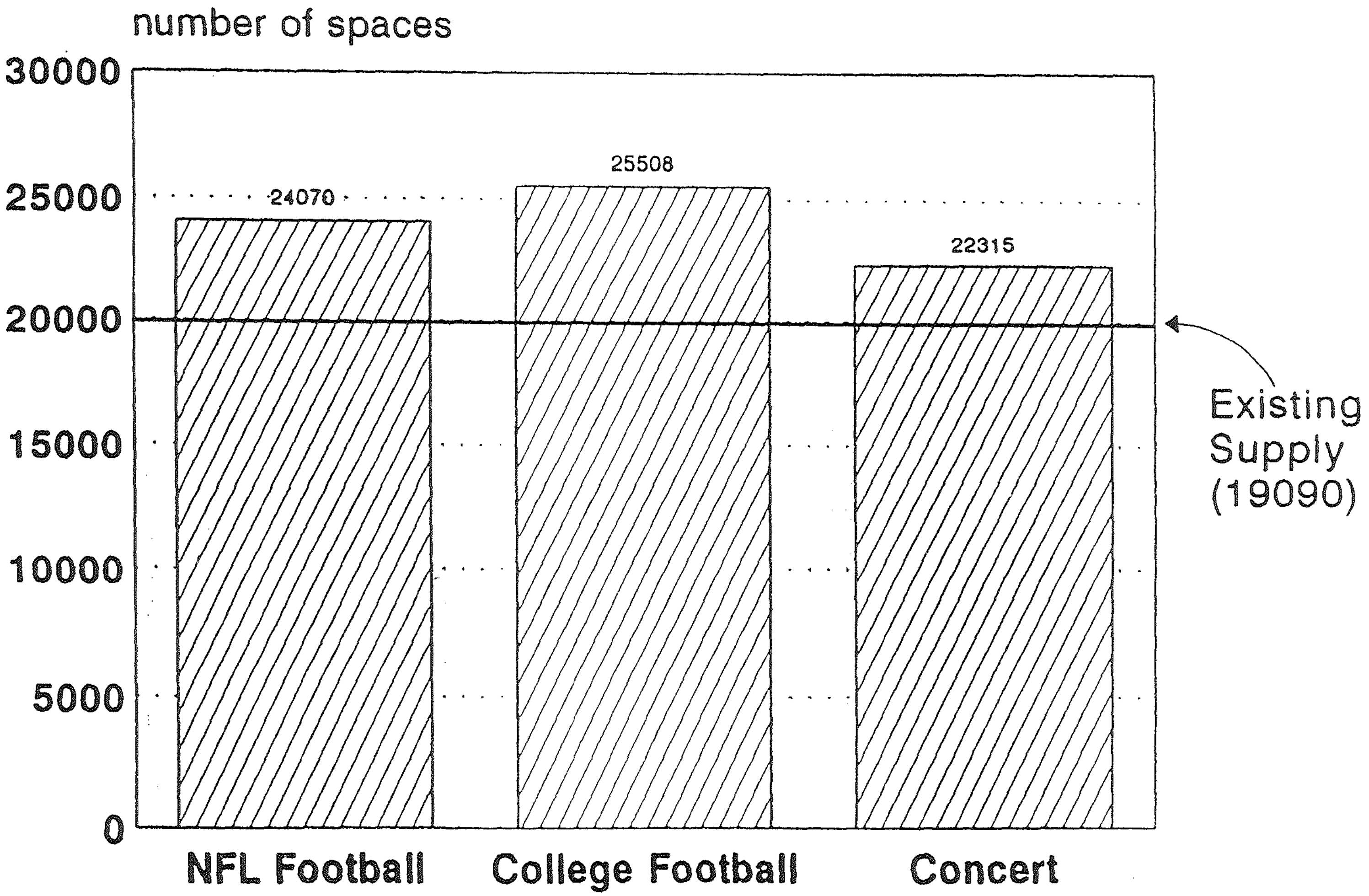


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Figure 66
COLISEUM PARKING SUPPLY AND DEMAND