Division of Land / Environmental Review

City Hall • 200 N. Spring Street, Room 750 • Los Angeles, CA 90012

DRAFT ENVIRONMENTAL IMPACT REPORT

VOLUME II – TECHNICAL APPENDICES

NORTHEAST LOS ANGELES COMMUNITY PLAN AREA

USC Health Sciences Campus Project

ENV-2004-1950-EIR
State Clearinghouse No. 2004101084

Council District 14

THIS DOCUMENT COMPRISES THE FIRST PART OF THE ENVIRONMENTAL IMPACT REPORT (EIR) FOR THE PROJECT DESCRIBED. THE FINAL EIR, WHICH WILL ALSO CIRCULATE FOR PUBLIC REVIEW AND COMMENT, COMPRISES THE SECOND AND FINAL PART.

Project Address: USC Health Sciences Campus/1510–1520 San Pablo Street
Los Angeles, CA 90033

Project Description: The Project is proposed to occur on seven development sites within the USC Health Sciences Campus (HSC). The seven development sites are identified as Development Sites A through G. The Project consists of the development of between 585,000 and 765,000 square feet of academic and medical research facilities as well as medical clinic facilities. The development sites currently contain surface parking lots and/or are underdeveloped. Parking accommodations to support the proposed academic and medical-related uses are also included as part of the Project. The seven development sites comprise approximately 22 acres within the existing HSC. Actions requested by the applicant include: a General Plan Amendment from Public Facilities to General Commercial for Development Site C; a General Plan Amendment from Limited Industrial to General Commercial for Development Sites E and F; a Zone Change from PF to C2 for Development Site C; a Zone Change for the Development Sites to establish [Q] and/or [D] conditions; a Height District Change from 1VL to 2 for Development Site D; a Zone Change from CM-1 to C2-2 for Development Sites E and F; a Variance from the distance requirement for parking to be provided within 750 feet of the proposed use; the abandonment of Henry Street through either a merger and resubdivision or a street vacation; and possible subdivision actions.

APPLICANT:
University of Southern California

PREPARED BY:
Environmental Review Section
Los Angeles City Planning Department

May 2005

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TRAFFIC IMPACT STUDY
HEALTH SCIENCES CAMPUS PROJECT
UNIVERSITY OF SOUTHERN CALIFORNIA
CITY OF LOS ANGELES, CALIFORNIA

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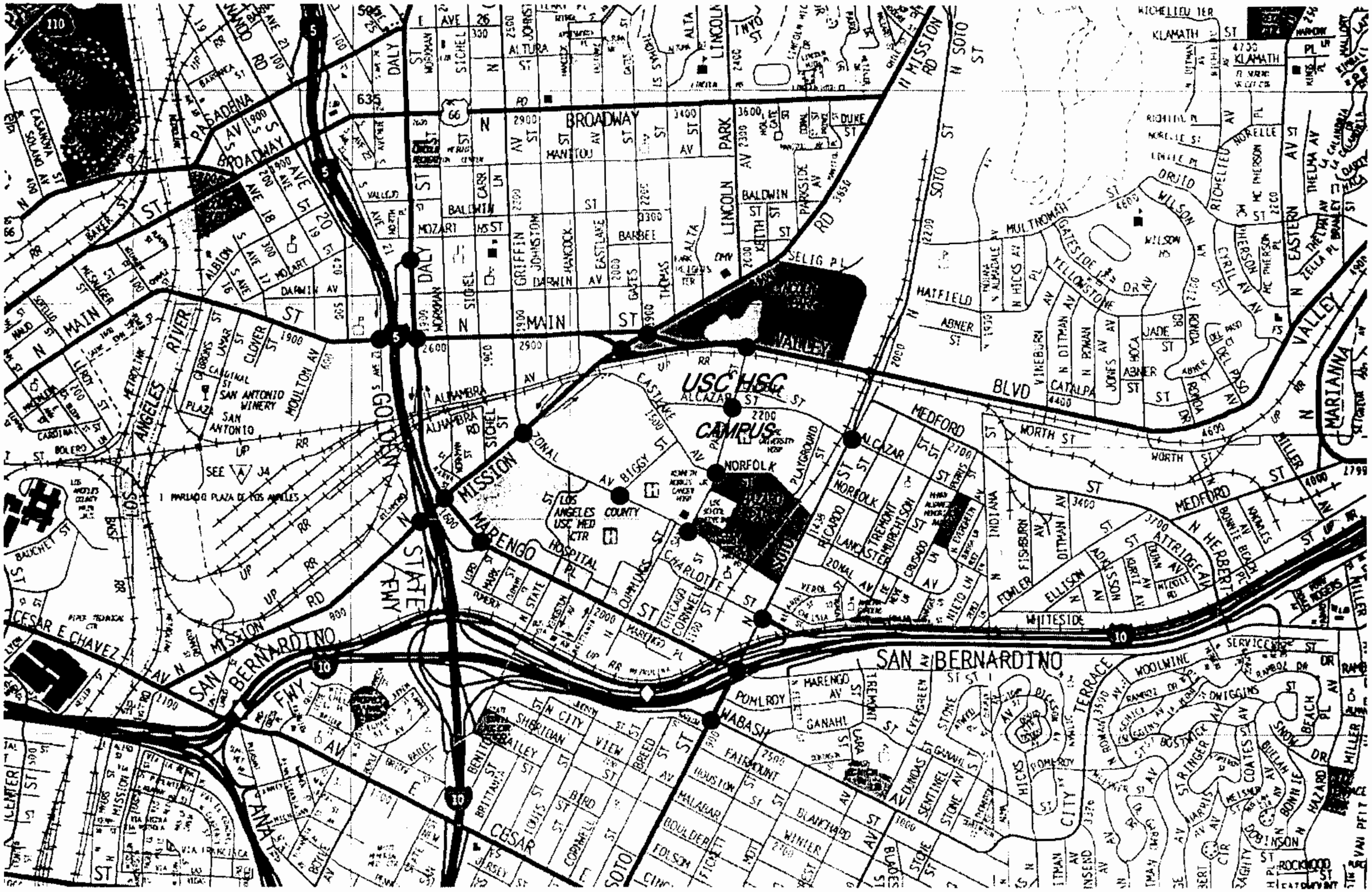
TRAFFIC IMPACT STUDY
UNIVERSITY OF SOUTHERN CALIFORNIA
HEALTH SCIENCES CAMPUS PROJECT
CITY OF LOS ANGELES, CALIFORNIA

1.0 INTRODUCTION

This traffic analysis has been conducted to identify and evaluate the potential traffic impacts of the proposed University of Southern California (USC) Health Sciences Campus (HSC) project. The HSC is located adjacent to the Lincoln Heights and Boyle Heights neighborhoods of the City of Los Angeles, California. The HSC is situated within the City's Northeast Los Angeles Community Plan area, which encompasses that portion of the City east of the Los Angeles River and north of Boyle Heights. The proposed HSC project includes development on sites within the existing HSC, which is situated approximately three miles east of downtown Los Angeles. The USC Health Sciences Campus and general vicinity are shown in Figure 1.

The traffic analysis follows the City of Los Angeles traffic study guidelines and is consistent with traffic impact assessment guidelines set forth in the *2004 Congestion Management Program for Los Angeles County.* This traffic analysis evaluates potential project-related impacts at 18 study intersections in the vicinity of the USC HSC. The study intersections were determined by City of Los Angeles Department of Transportation staff. The Critical Movement Analysis method was used to determine Volume-to-Capacity ratios and Levels of Service for the study intersections. In addition, a review was conducted of Los Angeles County Metropolitan Transportation Authority intersection and freeway monitoring stations to determine if a Congestion Management Program transportation impact assessment analysis is required for the proposed USC HSC project.

This study i) presents existing traffic volumes, ii) forecasts future traffic volumes with the related projects, iii) forecasts future traffic volumes with the proposed USC Health Sciences Campus project, iv) determines proposed project-related impacts, and v) recommends mitigation measures, where necessary.



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MAP SOURCE: THOMAS BROS. GUIDE

● STUDY INTERSECTION

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FIGURE 1
VICINITY MAP

USC HEALTH SCIENCES CAMPUS PROJECT

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2.0 USC HEALTH SCIENCES CAMPUS

The USC Health Sciences Campus features state-of-the-art educational and medical research facilities devoted to biomedical research, with specific work in the fields of cancer, gene therapy, neurosciences, and transplantation biology, as well as programs in occupational therapy and physical therapy. The HSC is located approximately three miles east of downtown Los Angeles, approximately one-half mile north of the San Bernardino (I-10) Freeway and roughly one-half mile east of the Golden State (I-5) Freeway, as shown in Figure 1.

The HSC is located adjacent to the Lincoln Heights and Boyle Heights neighborhoods of the City of Los Angeles and is within the City's Northeast Los Angeles Community Plan area, which encompasses that portion of the City east of the Los Angeles River and north of Boyle Heights. The HSC is also situated within the Adelante Eastside Redevelopment Project area, which is administered by the Community Redevelopment Agency of the City of Los Angeles.

2.1 Existing Health Sciences Campus

The existing Health Sciences Campus features state-of-the-art educational and medical research facilities devoted to biomedical research, with specific work in the fields of cancer, gene therapy, neurosciences, and transplantation biology, as well as programs in occupational therapy and physical therapy. The following medical office, hospital, research and development, and educational facilities are included within the Health Sciences Campus:

- Bishop Medical Teaching and Research Building (BMT)
- Center for the Health Professionals Building (CHP)
- Central Services Building (CSB)
- Child Care Center (CCC)
- Clinical Administration Building (CAB)
- Clinical Sciences Building (CSB)
- Doheny Eye Institute (DEI)
- Edmondson Building (EDM)
- Harlyne Norris Research Tower Building - under construction (HNRT)

- Healthcare Consultation Center I (HCC I)
- Healthcare Consultation Center II (HCC II)
- Hoffman Medical Research Building (HMR)
- Keith Administration Building (KAM)
- McKibben Hall (MCH)
- Mudd Memorial Laboratory (MMR)
- Norris Cancer Center and Hospital (NOR)
- Norris Medical Library (NML)
- Parkview Medical Building (PMB)
- Seaver Residence Hall (SRH)
- Stauffer Pharmaceutical Sciences Center (PSC)
- University Hospital (UNH)
- Zilkha Neurogenetics Research Institute (ZNRI)

The Harlyne Norris Research Tower ("HNRT") building, which will be located at the southeast corner of the Biggy Street/Eastlake Avenue intersection, is currently under construction. This research and development building will comprise a total of approximately 175,000 square feet of building floor area and is anticipated to be completed in the year 2005.

3.0 PROPOSED HEALTH SCIENCES CAMPUS PROJECT DESCRIPTION

USC is proposing to develop additional educational, medical research and office facilities within its existing HSC in northeast Los Angeles. The new facilities would be utilized by USC for educational purposes, research laboratories and offices, as well as medical office space by tenants associated with the HSC. The USC HSC project also includes the development of parking facilities to support the proposed educational and medical-related uses.

The University of Southern California (the Applicant) is proposing to develop between approximately 585,000 and 765,000 gross square feet of additional academic and medical-related (e.g., medical research, medical clinic, etc.) facilities within its existing HSC. A maximum of 765,000 square feet of development may occur, consisting of a maximum of 720,000 gross square feet of academic and medical research facilities, with the remaining 45,000 gross square feet dedicated to medical clinic facilities. Should additional medical clinic facilities be developed in lieu of academic and medical research facilities, a maximum of 120,000 gross square feet of medical clinic area would be developed. Should this occur, the amount of academic and medical research facilities would be reduced to 465,000 gross square feet, for an overall total of 585,000 gross square feet of development. Through application of a trip generation equivalency program, the environmental analysis conducted for the project addresses development of the full range of floor area (i.e., 585,000 to 765,000 gross square feet) and uses (i.e., academic, medical research and medical clinic) as the above scenarios are equivalent from a peak hour trip generation perspective. A comprehensive discussion of the trip generation equivalency topic is contained in Section 10.0 of this study.

The educational and medical-related facilities that would be developed in association with the USC HSC project would be located within the existing HSC on sites that currently contain surface parking lots or are underdeveloped as described in further detail below. The USC HSC project proposes that development would occur on up to seven (7) designated development sites. The seven development sites are hereafter referred to as Development Sites A, B, C, D, E, F and G. Development Sites A, B and G are considered infill sites located within the existing HSC. Development Site C is an existing HSC surface parking lot located on the west side of the HSC. Development Site D is an existing surface parking lot located along the west side of Biggy Street between Zonal Avenue and Eastlake Avenue. Development Sites E and F consist of a surface parking lot and vacant land located in the northern portion of the HSC on the east and west sides of San Pablo Street, respectively. The locations of the seven development sites are displayed in Figure 2.

3.1 Development Site A Description

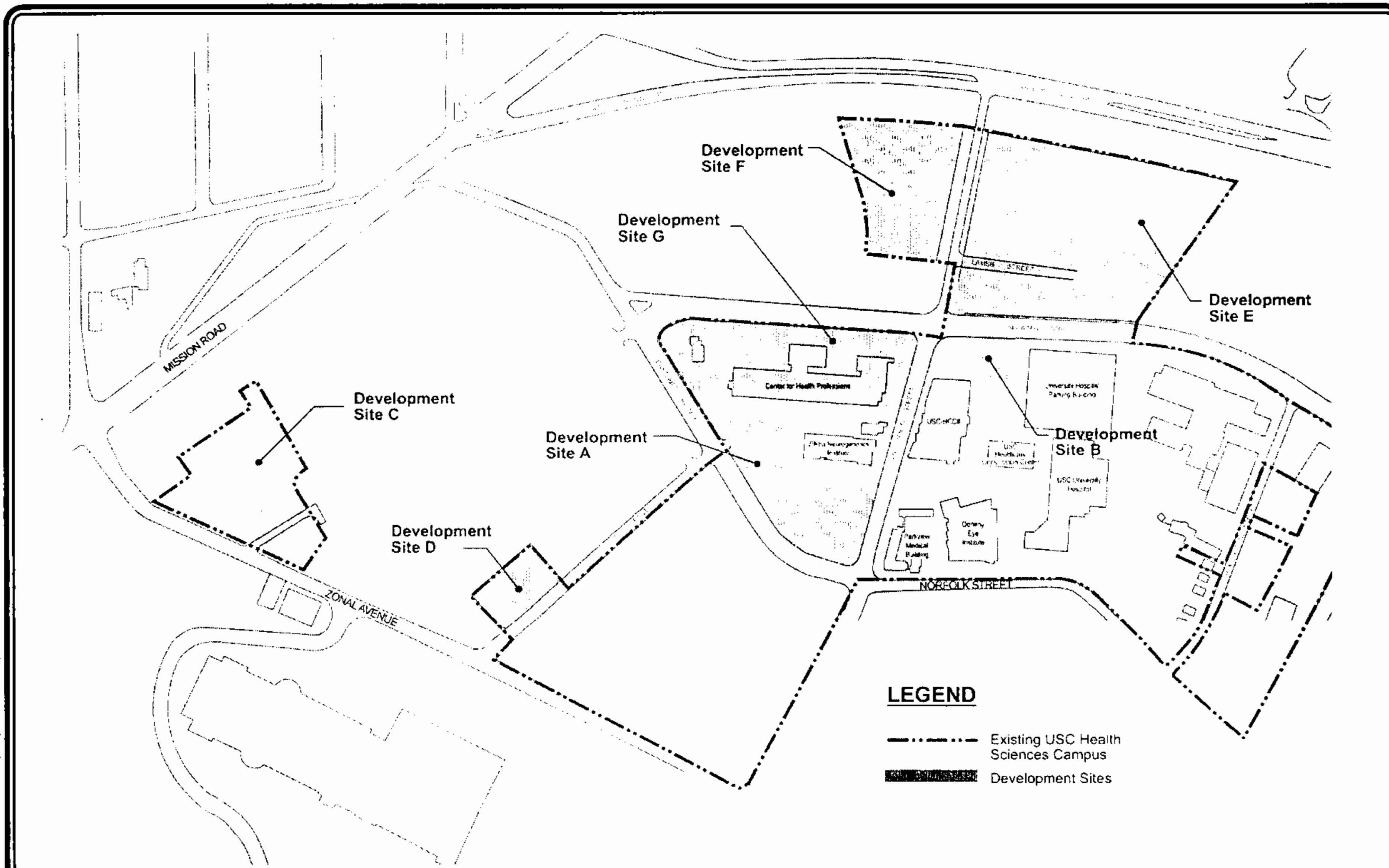
Development Site A is situated along the north side of Eastlake Avenue, extending between San Pablo Street to the east to roughly Biggy Street to the west. Development Site A is currently occupied by a surface parking lot (i.e., Eastlake Lot) that will be removed to accommodate development on the site. The maximum amount of development proposed for Development Site A would range from approximately 120,000 gross square feet of medical clinic facilities to 465,000 gross square feet of academic and/or medical research facilities.

3.2 Development Site B Description

Development Site B is situated at the southeast corner of the San Pablo Street/Alcazar Street intersection. Development Site B is occupied by a surface parking lot (i.e., San Pablo Lot) that will be removed to accommodate development on the site. The maximum amount of development proposed for Development Site B would range from 120,000 gross square feet of medical clinic facilities to approximately 295,000 gross square feet of academic and/or medical research facilities. Some parking for these uses may also be provided in Development Site B.

3.3 Development Site C Description

Development Site C is located in the western portion of the HSC. This site is located on the north side of Zonal Avenue, between State Street to the east and Mission Road to the west. Development Site C is currently occupied by a surface parking lot (i.e., Lot 71) that would be removed should development occur on this site. Proposed activity on Development Site C would be limited to parking only, and may include a multi-story parking structure providing up to 2,800 parking spaces. This parking structure would provide parking to support the current development program, as well as replacement parking (i.e., to account for the removal of the existing surface lot which occupies the site today). Additionally, this proposed parking structure may be developed in two phases of construction.



SOURCE: PCR

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FIGURE 2
USC HSC DEVELOPMENT SITES

USC HEALTH SCIENCES CAMPUS PROJECT

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3.4 Development Site D Description

Development Site D is situated at the northwest corner of the Biggy Street/Zonal Avenue intersection. Development Site D is currently occupied by a surface parking lot (i.e., Lot 70) that may be removed should development occur on this site. Development on the site is proposed to include the type of University and/or medical-related uses that are described above for Development Sites A and B, or as parking facilities that support the proposed uses. In addition, new construction on Development Site D may be a combination of University/medical-related uses and parking. The maximum amount of development would range from approximately 59,000 gross square feet of medical clinic facilities to 200,000 gross square feet of academic and/or medical research facilities. Also, if a parking facility is developed on Development Site D, a maximum of 600 parking spaces could be constructed.

3.5 Development Site E Description

Development Site E is located on the east side of San Pablo Street, between Valley Boulevard to the north and Alcazar Street to the south. Development Site E is currently occupied by a surface parking lot (i.e., SSP Lot) that may be removed should development occur on this site. This development site would be developed with the type of academic and/or medical-related uses that are described above for Development Sites A, B and D. The maximum amount of development proposed for Development Site E would range from approximately 118,000 gross square feet of medical clinic facilities to 400,000 gross square feet of academic and/or medical research facilities. Parking to accommodate the proposed project may also be provided within this site.

3.6 Development Site F Description

Development Site F is located on the west side of San Pablo Street, between Valley Boulevard to the north and Alcazar Street to the south. Development Site F is currently vacant. Academic and/or medical-related uses that are described above for Development Sites A, B, D and E may also be developed on Development Site F. The maximum amount of development proposed for Development Site F would range from approximately 118,000 gross square feet of medical clinic facilities to 400,000 gross square feet of academic and/or medical research facilities. In addition, parking to accommodate the proposed project may be provided within this site.

3.7 Development Site G Description

Development Site G is centrally located within the HSC and is situated south of Alcazar Street, west of San Pablo Street. The maximum amount of development proposed for Development Site G would range from approximately 29,500 gross square feet of medical clinic facilities to 100,000 gross square feet of academic and/or medical research facilities.

3.8 Summary of Project Alternatives

3.8.1 Project Alternative 1 Description: No Project

The Project Alternative 1 description represents a no project, no development alternative. Alternative 1 project involves no new development and continued operation of the site (i.e., existing conditions or the status quo).

3.8.2 Project Alternative 2 Description: Reduced Density Project

The Reduced Density alternative reflects a 30 percent (30%) reduction in project square footage. Thus, this alternative would include development of between approximately 409,500 square feet and 535,500 gross square feet of additional academic and medical-related (e.g., medical research, medical clinic, etc.) facilities within the existing HSC.

3.8.3 Project Alternative 3 Description: Alternative Land Use Project

The Alternative Land Use alternative consists of the following land use mix: 305,000 square feet of academic-related research square footage, 80,000 square feet of medical-related (e.g., medical research, medical clinic, etc.) facilities within the existing HSC, and a 200-room hotel. The hotel will be designed to house people with family members undergoing treatment at HSC facilities.

3.8.4 Project Alternative 4 Description: Alternative Site Project

The Alternative Site alternative assumes development of the proposed USC HSC project at the Women and Children's Hospital site. This hospital site is located along the east side of Mission Road, generally between Zonal Avenue to the north and Marengo Street to the south.

4.0 SITE ACCESS AND CIRCULATION

Regional freeway access to the USC HSC is provided by the I-5 (Golden State) Freeway and the I-10 (San Bernardino) Freeway. Additional freeways providing indirect access to the project site area are the State Route 110 (Pasadena) Freeway, I-710 (Long Beach) Freeway, State Route 101 (Hollywood) Freeway, and the State Route 60 (Pomona) Freeway. Arterial vehicular access to the USC Health Sciences Campus is provided via Mission Road, Zonal Avenue, Eastlake Avenue, San Pablo Street, Soto Street, Valley Boulevard, Main Street, Alcazar Street, and Marengo Street, as well as others. The following paragraphs summarize the access points as they relate to parking.

4.1 Parking Access

Project parking could be satisfied by parking facilities within Development Sites B, C, D, E, and F, as well as within existing HSC parking facilities. Although parking may be provided in any combination of Development Sites B, C, D, E and F, two parking scenarios have been fully analyzed for the provision of parking for the proposed project. In order to provide a conservative analysis of the project's potential transportation impacts, these two parking scenarios reflect the greatest concentration of project-related traffic on the local roadway system. As such, should parking be proposed for any other combination of sites (i.e., including sites from the east end or west end of the campus), off-site impacts will be within the range identified under the two parking scenarios.

Descriptions of the two parking scenarios, Parking Scenario No. 1 and Parking Scenario No. 2, are provided in the following subsections. In short, Parking Scenario No. 1 analyzes transportation impacts if all project parking is located on the western side of the HSC site (i.e., at Development Site C). Parking Scenario No. 2 analyzes transportation impacts if all project parking is located on the northern side of the campus (i.e., at Development Sites E and F).

4.1.1 Parking Scenario No. 1

Parking Scenario No. 1 assumes that parking for the USC Health Sciences Campus project will be provided entirely within Development Site C. Access to the parking structure located within Development Site C would be provided via Zonal Avenue. The Parking Scenario No. 1 analysis will identify the greatest off-site transportation impacts near the western portion of the campus. The driveway locations and overall internal circulation for Parking Scenario No. 1 would be reviewed during the formal site access and circulation review to be conducted in conjunction with the Los Angeles Department of Transportation (LADOT).

4.1.2 Parking Scenario No. 2

Parking Scenario No. 2 assumes that parking for the USC Health Sciences Campus project will be provided entirely within Development Site E or in a combination of Development Sites E and F. Access to the parking structure located within Development Site E would be provided via San Pablo Street and Alcazar Street while access to parking within Development Site F would be provided only via San Pablo Street. The Parking Scenario No. 2 analysis will identify the greatest off-site transportation impacts near the northern/eastern portion of the campus. The driveway locations and internal circulation for Parking Scenario No. 2 would be reviewed during the formal site access and circulation review to be conducted in conjunction with LADOT.

4.2 USC HSC Tram Service

USC currently provides a tram/shuttle service on the Health Sciences Campus as well as a service between the University Park Campus and HSC. The service is provided Monday through Friday beginning at 7:30 AM and ending at 5:00 PM with headways of two trams/shuttles per hour. A HSC circuit tram runs from approximately 9:00 AM to 4:00 PM with stops at the Norris Cancer Center, University Hospital, Doheny Eye Institute, HCC I, Ambulatory Care Center, Clinical Sciences, IGM, Outpatient Clinic at LAC+USC, LAC+USC main entrance and the Women and Children Hospital on Mission Road and Zonal Avenue. This circuit tram provides headways of 20 minutes per tram/shuttle (i.e., three trams/shuttles per hour). In addition, trams run during peak hours to transport train riders from Union Station to the HSC.

4.3 USC Carpool/Vanpool and Transit Subsidies

4.3.1 USC Carpool Program

USC currently provides carpool services and information through the University's Transportation Services office. Carpool candidates are required to register through the Transportation Services office to list their departure and arrival locations, and the University then assists in the matching of candidates. Pending determination of the University's requirements, carpool permits are issued after an appropriate application is reviewed and approved and permit fees are paid.

4.3.2 USC Vanpool Program

USC currently provides vanpool services and information through the University's Transportation Services office. Vanpool services/routes are currently provided to and from 26 surrounding and outlining communities. Vanpool services are available after payment of either a daily or monthly fee. Early morning arrivals and late afternoon departures to/from the University Park Campus are provided. As described above, tram/shuttle service is also provided between the University Park Campus and the HSC.

4.3.3 USC Transit Services

USC Transportation Services also sells monthly transit passes and stamps in the Transportation Services office between the 25th and 10th of each month. USC also offers a $25 a month subsidy for public transportation to benefit eligible employees. The $25 subsidy can be applied toward the purchase of a monthly pass for Metro (light rail or bus), LADOT, and Metrolink transit services. USC also offers a transit voucher worth $25.

5.0 PROJECT PARKING

An analysis of future parking conditions was prepared for the USC Health Sciences Campus based on the build-out and occupancy of planned facilities. For purposes of the project parking analysis, both the 765,000 square feet of additional educational, medical-related (e.g., medical research, medical clinic, etc.) and academic support facilities and the 585,000 square-foot scenario are included for example purposes. The new facilities would be utilized for educational and academic support purposes, research laboratories and offices, as well as medical office space by tenants associated with the HSC within the project's development sites.

5.1 USC HSC Existing Parking Supply

The existing parking supply at the HSC was documented by conducting an inventory of the spaces provided in each of the Health Sciences Campus parking structures and lots. The inventory was conducted to verify and validate the number of spaces provided in the parking facilities. A total of 3,798 parking spaces (including 253 spaces USC has rights to in the University Hospital parking structure and excluding 37 spaces provided in the TRC lot) are provided on the existing USC Health Sciences Campus. A summary of the existing USC HSC parking facilities is provided in Appendix A (see Appendix Table A1). The location of the HSC parking facilities is shown on a map also provided in Appendix A.

5.2 Existing City of Los Angeles Code Parking Requirement

The City of Los Angeles generally determines Code parking for an environment such as the HSC on a campus-wide basis, rather than on a building-by-building or lot-by-lot basis. For example, a parking space on one block at the HSC may be considered to satisfy the City Code parking requirement for a building located across the street.

The baseline for the existing City Code parking requirements for the HSC was established in a parking analysis dated January 31, 1991, that was prepared by Gin Wong Associates. This parking analysis, which summarizes the HSC parking supply and Code requirement, was approved by the City of Los Angeles Department of Building and Safety on March 21, 1991. The City Code parking requirement for the 996,939 square feet of building area provided on the HSC in 1991 was a total of 2,129 parking spaces. A copy of the 1991 USC HSC parking supply and requirement analysis is contained in Appendix A.

The current year 2004 City Code parking requirement was calculated based on the addition and removal of buildings within the HSC since 1991. As the HCC II building has been completed and the HNRT is currently under construction, the Code required parking for these buildings was included in the existing City Code parking requirements. A summary of the existing Code parking requirements is provided in Appendix A (see Appendix Table A2). As indicated in Appendix A, a total of 3,638 parking spaces are currently required for the USC Health Sciences Campus (including the HCC II and HNRT buildings) based on City Code parking requirements.

5.2.1 Existing Supply-Code Parking Requirement Summary

As previously discussed, a total of 3,798 parking spaces (including 253 spaces USC has rights to in the University Hospital parking structure and excluding 37 spaces provided in the TRC lot) are provided on the existing USC Health Sciences Campus. A total of 3,638 parking spaces are currently required for the USC Health Sciences Campus (including the HCC II and HNRT buildings) based on City Code parking requirements. Thus, the existing parking supply of 3,798 spaces exceeds the City Code parking requirement of 3,638 spaces.

5.3 USC HSC Existing Parking Demand

The existing actual parking demand was determined by conducting parking accumulation surveys of the HSC off-street parking facilities (i.e., surface parking lots and parking structures) and adjacent on-street spaces provided within the campus. At the time of the parking surveys, a total of 3,942 spaces were available for the USC Health Sciences Campus, including surface lots, structures and leased spaces. This total differs from the existing parking supply in that it included spaces USC was leasing at that time from the County of Los Angeles in its Marengo Street parking structure, as well as accounts for spaces that were not available due to current construction activities or other reasons. The parking accumulation surveys were conducted on an hourly basis in December, 2003, and April, 2004. A summary of the parking accumulation surveys is provided in Appendix A (see Appendix Table A3).

On the day of the parking accumulation observations, approximately 3,942 parking spaces were available in parking facilities controlled by USC and leased spaces. On a campus-wide basis, the peak demand for parking on the HSC occurred at 11:00 AM when 2,707 parking spaces of the 3,942 total available spaces were occupied (i.e., approximately 69 percent of the spaces were occupied). This total includes the 253 spaces allocated to USC in the University Hospital parking structure and the 200 spaces that were being leased from the County of Los Angeles in its Marengo Street parking structure. Thus, roughly 1,235 parking spaces were available during the peak hour of the observations. In addition, peak use of the 566 on-street parking spaces within the HSC occurred at 11:00 AM (i.e., 100 percent utilization), with similarly high levels of use throughout other periods of the day.

In order to calculate a conservative analysis of actual current parking demand and based on general visual observations of motorists parking their vehicles, it was assumed that 75 percent (75%) of the on-street parking demand within the HSC area is associated with the HSC. The other 25 percent (25%) of on-street parking was generally observed to be utilized by other adjacent users (e.g., County of Los Angeles Juvenile Hall, Los Angeles County Hospital, etc.). Thus, a peak existing parking demand of 3,132 spaces is calculated for the USC HSC, as shown below:

- 566 SP × 0.75 = 425 SP + 2,707 SP = 3,132 Spaces

The actual existing parking demand was measured to determine the adequacy of the existing parking supply to accommodate the peak parking demand generated by the existing facilities at the HSC. Additionally, the parking demand surveys were used as a basis to forecast future parking demand at the HSC following build-out and occupancy of the proposed new facilities, irrespective of the City Code parking requirements.

A generalized parking demand model was prepared based on the current ratio of parking demand to building facilities at the HSC. The factors considered in development of the HSC parking demand model include the total existing HSC parking demand of 3,132 spaces as described above, and the total existing HSC building facilities of 1,286,620 square feet at the time of the parking surveys. The parking demand model for the HSC is calculated at 2.79 parking spaces for every 1,000 square feet of building floor area as shown below:

- 3,132 parking spaces ÷ 1,286.62 square feet = 2.43 spaces/1,000 square feet
- 2.43 × 1.15 (15% for circulation) = 2.79 spaces/1,000 square feet

This parking rate can be considered conservative in that it is based on the following; 1) seventy-five percent (75%) of area on-street parking is assumed to be related to the HSC, 2) all of the USC allocated spaces in the University Hospital parking structure are assumed to be fully utilized, 3) all of the spaces previously leased from the County were accounted for in the parking demand, and 4) demand at the dialysis center (TRC Lot) is included in the existing demand. In addition, this parking rate considers the interaction of parking demand generated by the teaching, outpatient, and research facilities provided at the HSC.

5.4 Future Parking Supply

The future parking supply at the HSC will be modified based on development of the campus plan. Project parking could be satisfied by parking facilities within Development Sites B, C, D, E, and F, as well as within existing HSC parking facilities. For example, some existing parking on the Eastlake Lot may be removed to accommodate future development on Development Site A while the spaces in the San Pablo Lot may be removed to accommodate future development on Development Site B.

As discussed in Subsection 4.1, in order to provide a conservative analysis of the project's potential off-site transportation impacts, two parking scenarios have been analyzed for the provision of parking for the proposed project. These two parking scenarios reflect the greatest concentration of project-related traffic on the local roadway system. As such, should parking be proposed for any other combination of sites (i.e., including sites from the east end or west end of the campus), off-site impacts will be within the range identified under the two parking scenarios.

Under Parking Scenario No. 1, project parking may be provided on the site of Development Site C (access via Zonal Avenue). Development Site C (i.e., the Lot 71 site) could accommodate a parking structure containing 2,800 spaces. Under Parking Scenario No. 2, project parking may be provided on the site of Development Site E (access via San Pablo Street and Alcazar Street) and Development Site F (access via San Pablo Street). It is anticipated that Development Site E and/or Development Site F could accommodate parking facilities that would provide a parking supply similar to the net increase anticipated should a parking structure be developed on Development Site C (i.e., 2,800 future spaces less 548 existing spaces equals 2,252 spaces). Thus, a net increase of 2,252 spaces is calculated for future parking facilities under both parking scenarios for provision of parking for the proposed project. In addition, it is assumed that this net increase in project parking may be provided in parking facilities within a combination of Development Sites B, C, D, E, and F, as well as within existing HSC parking facilities.

The additional supply in the range of 2,252 parking spaces (i.e, net increase) has been considered in this analysis (i.e., parking provided in any combination of Development Sites B, C, D, E, and F). Only Development Site A and Development Site G have not been included as an option for future or replacement parking. As such, the parking supply at the HSC is anticipated to increase by approximately 2,072 spaces as detailed below:

•	Loss of parking spaces on Eastlake Lot (Development Site A):	(180 spaces)
•	Net increase of spaces due to future parking facilities: (Any combination of Development Sites B, C, D, E, and F)	2,252 spaces
•	Total future net increase in HSC parking supply:	2,072 spaces

Thus, the future parking supply for the USC Health Sciences Campus would increase to 5,870 spaces (i.e., 3,798 + 2,072 = 5,870 spaces).

5.5 Future City of Los Angeles Code Parking Requirement

City Code requirements for the future buildings at the HSC are calculated based on the following rates:

- Medical Office Space: One (1.0) parking space for every 200 square feet of building floor area

- Research, Office, Support, Etc.: One (1.0) parking space for every 500 square feet of building floor area

The Los Angeles Municipal Code calculates parking requirements based on floor area, as defined in Section 12.21. That is, the gross floor area (i.e., the building area contained within the outside walls) less floor area devoted to elevator shafts, stairwells, mechanical rooms and storage. For building facilities such as those with the HSC, the "net floor area" has generally corresponded to 93% of the gross floor area, based on recent City of Los Angeles Department of Building and Safety parking determinations for other buildings on campus. This correlation was determined based on a detailed review of building floor plans. Therefore, use of the 93% net floor area/gross floor area factor is appropriate. Further, if a vivarium is planned, additional parking reductions could be anticipated based on recent Department of Building and Safety determinations for the ZNRI. However, no further reductions are considered in this analysis so as to provide a conservative forecast of future parking requirements.

In order to describe the range of potential parking requirement calculations, the development descriptions as provided in Section 3.0 were utilized and are summarized below:

- Research & Development
  - [(720,000 SF × 0.93 = 669,600 SF) ÷ 1,000 SF] = 669.6 × 2.0 SP = 1,339 Spaces
- Medical Office
  - [(45,000 SF × 0.93 = 41,850 SF) ÷ 1,000 SF] = 41.85 × 5.0 SP = 209 Spaces
- Code parking requirement for this example: 1,548 Spaces

- Research & Development
  - [(465,000 SF × 0.93 = 432,450 SF) ÷ 1,000 SF] = 432.45 × 2.0 SP = 865 Spaces
- Medical Office
  - [(120,000 SF × 0.93 = 111,600 SF) ÷ 1,000 SF] = 111.6 × 5.0 SP = 558 Spaces
- Code parking requirement for this example: 1,423 Spaces

Based on the Code parking requirements for the development programs similar to the ones described above, the future City Code parking requirement for the HSC could range between 5,061 and 5,186 spaces. This is based on the existing Code requirement of 3,638 spaces and the future Code requirement of 1,548 spaces for the former development scenario (3,638 + 1,548 = 5,186 spaces), and the future Code requirement of 1,423 spaces for the latter development scenario (3,638 + 1,423 = 5,061 spaces).

5.5.1 Future Supply-Code Parking Requirement Summary

The future Code parking requirement for the USC Health Sciences Campus would total up to approximately 5,186 spaces. The future parking supply for the USC Health Sciences Campus would increase to approximately 5,870 spaces (i.e., 3,798 existing + 2,072 net future = 5,870 spaces). Thus, the future parking supply of 5,870 spaces is anticipated to satisfy the future Code parking requirement of up to approximately 5,186 spaces at the USC Health Sciences Campus.

As previously mentioned, although the final determination of the project's Code parking requirements will be made by the Department of Building and Safety on a building by building basis (i.e., dependent upon the type and size of buildings planned for the HSC), the above analysis can be considered conservative, as no reductions have been made to account for any planned vivariums and related imaging space. These areas may be considered by the Department of Building and Safety as ancillary to primary academic and/or medical research space for purpose of Code parking.

5.6 Forecast Future USC HSC Parking Demand Analysis

Future parking demand for the HSC accounts for the following three elements: 1) future parking demand generated by new development, 2) on-street parking demand assumed to be associated with the HSC, and 3) parking demand with spaces that were leased in the County's Marengo parking structure. As previously noted, the parking demand model for the HSC indicates that an actual peak period demand of 2.79 parking spaces per 1,000 square feet of building floor area can be anticipated. This is a blended rate that can be applied to all building floor area proposed on the campus (i.e., educational, medical research, medical clinic, etc.).

The parking demand for new facilities at HSC was forecast by multiplying the building floor area by the calculated parking demand rate of 2.79 spaces per 1,000 square feet of floor area. In order to describe the range of potential future parking demand, the development descriptions as provided in Section 3.0 were utilized and are summarized below:

- Research & Development
  - [(720,000 SF × 0.93 = 669,600 SF) ÷ 1,000 SF] = 669.6 × 2.79 SP = 1,868 Spaces
- Medical Office
  - [(45,000 SF × 0.93 = 41,850 SF) ÷ 1,000 SF] = 41.85 × 2.79 SP = 117 Spaces
- Future parking demand for this example: 1,985 Spaces

- Research & Development
  - [(465,000 SF × 0.93 = 432,450 SF) ÷ 1,000 SF] = 432.45 × 2.79 SP=1,207 Spaces
- Medical Office
  - [(120,000 SF × 0.93 = 111,600 SF) ÷ 1,000 SF] = 111.6 × 2.79 SP = 311 Spaces
- Future parking demand for this example: 1,518 Spaces

Based on a peak existing demand of 3,132 spaces and a future peak demand of up to approximately 1,985 spaces, a total future peak parking demand of 5,117 spaces (3,132 + 1,985 = 5,117 spaces) is calculated. This peak parking demand can be considered conservative in that the existing demand includes 75 percent of area on-street parking as part of the rate, as well as all of the USC allocated spaces in the University Hospital parking structure, the leased spaces from the County and demand at the dialysis center (TRC Lot). Further, parking associated with these areas is included in the parking demand model developed for the HSC.

5.6.1 Future Supply-Demand Summary

The peak future parking demand for the USC Health Sciences Campus would total approximately 5,117 spaces. The future parking supply for the USC Health Sciences Campus would increase to approximately 5,870 spaces (i.e., 3,798 existing + 2,072 net future = 5,870 spaces). Thus, the future parking supply of 5,870 spaces is anticipated to exceed the peak future parking demand of 5,117 spaces at the USC Health Sciences Campus.

5.7 Parking Summary of Project Alternatives

City Code requirements for the project alternatives to the proposed USC HSC project are calculated based on the following rates:

- Medical Office Space: One (1.0) parking space for every 200 square feet of building floor area

- Research, Office, Support, Etc.: One (1.0) parking space for every 500 square feet of building floor area

- Hotel: [1] One (1.0) parking space for each individual guest room or suite of rooms for the first 30; [2] One (1.0) additional parking space for each two guest rooms or suites of rooms in excess of 30 but not exceeding 60; and [3] One additional parking spaces for each three guest rooms or suites of rooms in excess of 60.

The methodology and approach described for the proposed project in Subsection 5.5 above has been assumed for the future Code supply-requirement analysis for the project alternatives.

5.7.1 Project Alternative 1 (No Project) Parking Analysis

The Project Alternative 1 description represents a no project, no development alternative. The Project Alternative 1 involves the continued operation of the site (i.e., existing conditions or the status quo). Thus, no changes are anticipated to the Health Sciences Campus Code requirement or parking supply under the Project Alternative 1 scenario.

5.7.2 Project Alternative 2 (Reduced Density) Parking Analysis

The Reduced Density alternative reflects a 30 percent (30%) reduction in project square footage. Thus, this alternative would include development of between approximately 409,500 square feet and 535,500 gross square feet of additional academic and medical-related (e.g., medical research, medical clinic, etc.) facilities within the existing HSC. In order to describe the range of potential parking requirements under Project Alternative 2, the following calculations are provided:

- Research & Development
  - [(504,000 SF × 0.93 = 468,720 SF) ÷ 1,000 SF] = 468.72× 2.0 SP = 938 Spaces
- Medical Office
  - [(31,500 SF × 0.93 = 29,295 SF) ÷ 1,000 SF] = 29.295 × 5.0 SP = 147 Spaces
- Code parking requirement for this example: 1,085 Spaces

- Research & Development
  - [(325,500 SF × 0.93 = 302,715 SF) ÷ 1,000 SF] = 302.715 × 2.0 SP = 606 Spaces
- Medical Office
  - [(84,000 SF × 0.93 = 78,120 SF) ÷ 1,000 SF] = 78.12 × 5.0 SP = 391 Spaces
- Code parking requirement for this example: 997 Spaces

Based on the Code parking requirements for the development programs similar to the ones described above, the future City Code parking requirement for the HSC with Project Alternative 2 could range between 4,635 and 4,723 spaces. This is based on the existing Code requirement of 3,638 spaces and the future Code requirement of 1,085 spaces for the former development scenario (3,638 + 1,085 = 4,723 spaces), and the future Code requirement of 997 spaces for the latter development scenario (3,638 + 997 = 4,635 spaces).

For purposes of this analysis, it is assumed that project parking could be satisfied by parking facilities within Development Sites B, C, D, E, and F, as well as within existing HSC parking facilities, under Project Alternative 2. Further, it is assumed that the future parking supply for the USC Health Sciences Campus under Project Alternative 2 would increase to a maximum of 4,723 spaces. Thus, a future parking supply of up to 4,723 spaces is anticipated to satisfy the future Code parking requirement of up to approximately 4,723 spaces at the USC Health Sciences Campus under Project Alternative 2.

5.7.3 Project Alternative 3 (Alternative Land Use) Parking Analysis

The Alternative Land Use alternative consists of the following land use mix: 305,000 square feet of academic-related research square footage, 80,000 square feet of medical-related (e.g., medical research, medical clinic, etc.) facilities within the existing HSC, and a 200-room hotel. The hotel will be designed to house people with family members undergoing treatment at HSC facilities. In order to describe the range of potential parking requirements under Project Alternative 3, the following calculations are provided:

- Research & Development
  - [(520,000 SF × 0.93 = 483,600 SF) ÷ 1,000 SF] = 483.6 × 2.0 SP = 967 Spaces
- Hotel
  - [30 × 1.0 SP] + [(30 ÷ 2) = 15 × 1.0] + [(140 ÷ 3) = 46.7 × 1.0] = 92 Spaces
- Medical Office
  - [(45,000 SF × 0.93 = 41,850 SF) ÷ 1,000 SF] = 41.85 × 5.0 SP = 209 Spaces
- Code parking requirement for this example: 1,268 Spaces

- Research & Development
  - [(265,000 SF × 0.93 = 246,450 SF) ÷ 1,000 SF] = 246.45 × 2.0 SP = 493 Spaces
- Hotel
  - [30 × 1.0 SP] + [(30 ÷ 2) = 15 × 1.0] + [(140 ÷ 3) = 46.7 × 1.0] = 92 Spaces
- Medical Office
  - [(107,500 SF × 0.93 = 99,975 SF) ÷ 1,000 SF] = 100.0 × 5.0 SP = 500 Spaces
- Code parking requirement for this example: 1,085 Spaces

Based on the Code parking requirements for the development programs similar to the ones described above, the future City Code parking requirement for the HSC with Project Alternative 3 could range between 4,723 and 4,906 spaces. This is based on the existing Code requirement of 3,638 spaces and the future Code requirement of 1,268 spaces for the former development scenario (3,638 + 1,268 = 4,906 spaces), and the future Code requirement of 1,085 spaces for the latter development scenario (3,638 + 1,085 = 4,723 spaces).

For purposes of this analysis, it is assumed that project parking could be satisfied by parking facilities within Development Sites B, C, D, E, and F, as well as within existing HSC parking facilities, under Project Alternative 3. Further, it is assumed that the future parking supply for the USC Health Sciences Campus under Project Alternative 3 would increase to a maximum of 4,906 spaces. Thus, a future parking supply of up to 4,906 spaces is anticipated to satisfy the future Code parking requirement of up to approximately 4,906 spaces at the USC Health Sciences Campus under Project Alternative 3.

5.7.4 Project Alternative 4 (Alternative Site) Parking Analysis

The Alternative Site alternative assumes development of the proposed USC HSC project at the Women and Children's Hospital site. This hospital site is located along the east side of Mission Road, generally between Zonal Avenue to the north and Marengo Street to the south. Project Alternative 4 will generate the same Code parking requirements as described above for the proposed HSC project (see Subsection 5.5 of this report).

For purposes of this analysis, it is assumed that project parking could be satisfied by parking facilities within the alternative site (i.e., the Women and Children's Hospital site), as well as within existing HSC parking facilities, under Project Alternative 4. Further, it is assumed that the future parking supply for the USC Health Sciences Campus under Project Alternative 4 would increase to a minimum of approximately 5,186 spaces. Thus, a future parking supply of 5,186 spaces is anticipated to satisfy the future Code parking requirement of approximately 5,186 spaces at the USC Health Sciences Campus under Project Alternative 4.

6.0 REGIONAL HIGHWAY SYSTEM

Regional access to the USC HSC is provided by the I-5 (Golden State) Freeway and the I-10 (San Bernardino) Freeway. It should be noted that a full interchange with the I-5 Freeway and I-10 Freeway is situated approximately one-half mile southwest of the project site. Additional freeways providing indirect access to the project site area are the State Route 110 (Pasadena) Freeway, I-710 (Long Beach) Freeway, State Route 101 (Hollywood) Freeway, and the State Route 60 (Pomona) Freeway. Brief descriptions of the I-5 Freeway and I-10 Freeway are provided in the following paragraphs.

I-5 (Golden State) Freeway is a major north-south freeway connecting Southern California with Central and Northern California. The I-5 Freeway contains four mainline freeway lanes in each direction in the project vicinity. In the northbound direction, off-ramps from the freeway are provided at Cesar Chavez Avenue and Daly Street and on-ramps to the freeway are provided at Marengo Street and State Street. In the southbound direction, off-ramps from the freeway are provided at Main Street, Mission Road and Cesar Chavez Avenue (via State Street) and on-ramps to the freeway are provided at Mission Road and Cesar Chavez Avenue.

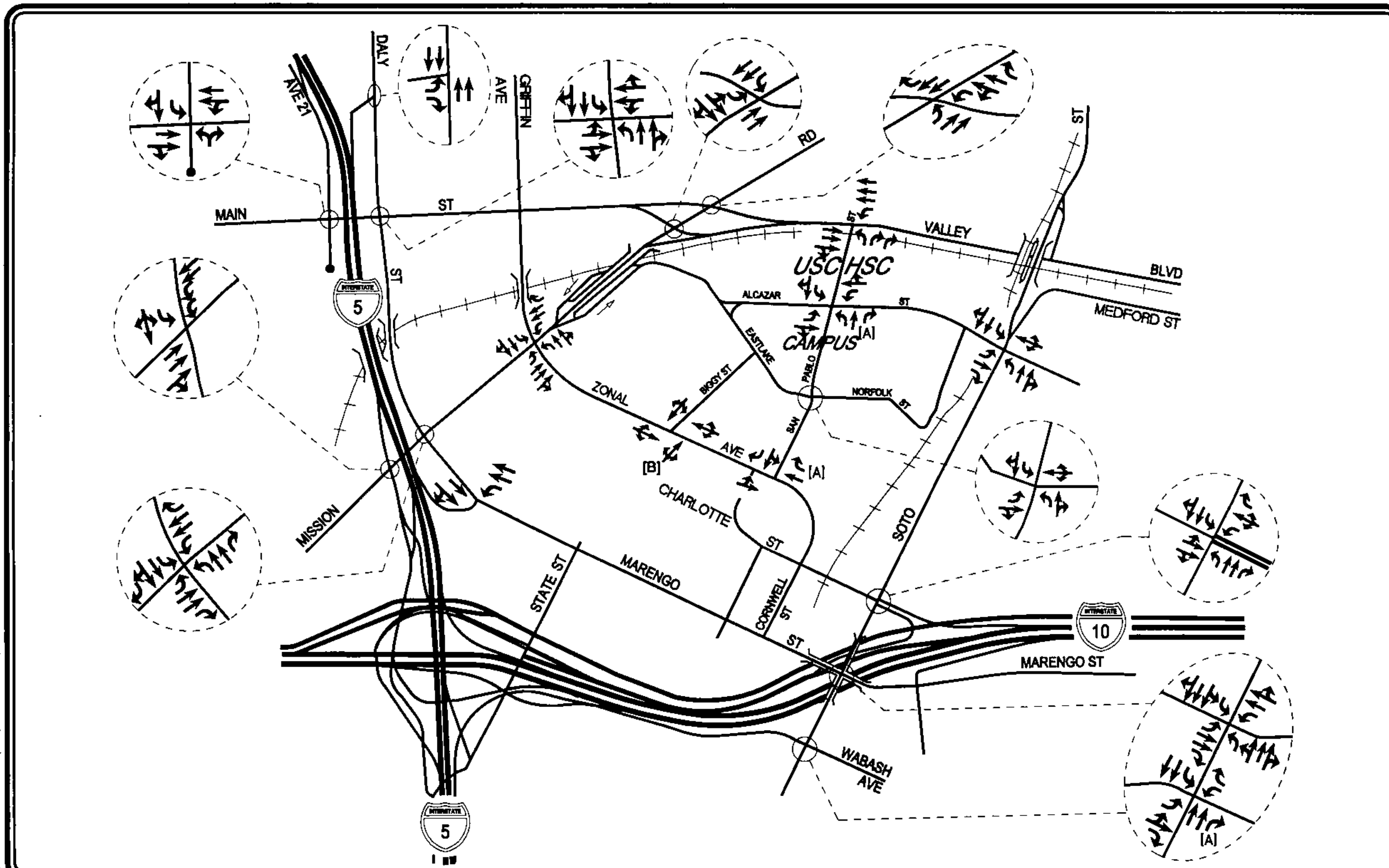
I-10 (San Bernardino) Freeway is a major east-west freeway connecting Santa Monica to the west to the Inland Empire to the east. The I-10 Freeway contains four mainline freeway lanes in each direction in the project vicinity. In the eastbound direction, an off-ramp is provided at Soto Street/Wabash Avenue and an on-ramp is provided at Marengo Street. In the westbound direction, on- and off-ramps are provided at Soto Street/Charlotte Street.

7.0 EXISTING STREET SYSTEM

Immediate access to the USC Health Sciences Campus is provided via Eastlake Avenue, Zonal Avenue, San Pablo Street, and Alcazar Street. The following 18 study intersections were selected by LADOT staff for analysis of potential impacts due to the proposed project:

1. I-5 Freeway Southbound (SB) Off-Ramp/Avenue 21-Main Street.
2. I-5 Freeway SB Ramps/Mission Road.
3. I-5 Freeway Northbound (NB) Off-Ramp/Daly Street-Main Street.
4. Daly Street/Main Street.
5. Mission Road/Daly Street-Marengo Street.
6. I-5 Freeway NB On-Ramp/Marengo Street.
7. Mission Road/Griffin Avenue-Zonal Avenue.
8. Mission Road/Valley Boulevard.
9. Mission Road/Main Street.
10. Biggy Street/Zonal Avenue.
11. San Pablo Street/Valley Boulevard.
12. San Pablo Street/Alcazar Street.
13. San Pablo Street/Eastlake Avenue-Norfolk Street.
14. San Pablo Street/Zonal Avenue.
15. Soto Street/Alcazar Street.
16. Soto Street/I-10 Freeway Westbound (WB) Ramps-Charlotte Street.
17. Soto Street/Marengo Street.
18. Soto Street/I-10 Freeway Eastbound (EB) Off-Ramp-Wabash Avenue.

A total of 11 of the 18 study intersections are currently controlled by traffic signals. The remaining seven study intersections (study intersection numbers 1, 3, 6, 10, 12, 13 and 14) are presently two or all-way stop sign controlled. The existing lane configurations at the 18 study intersections are displayed in Figure 3.



[A] FUNCTIONS AS A RIGHT-TURN ONLY LANE.

LINSCOTT LAW & GREENSPAN ENGINEERS

N

NOT TO SCALE

FIGURE 3
EXISTING LANE CONFIGURATIONS

USC HEALTH SCIENCES CAMPUS PROJECT

7.1 Roadway Classifications

The City of Los Angeles utilizes the roadway categories recognized by regional, state and federal transportation agencies. There are four categories in the roadway hierarchy, ranging from freeways with the highest capacity to two-lane undivided roadways with the lowest capacity. The roadway categories are summarized as follows:

- *Freeways* are limited-access and high-speed travel ways included in the state and federal highway systems. Their purpose is to carry regional through-traffic. Access is provided by interchanges with typical spacing of one mile or greater. No local access is provided to adjacent land uses.

- *Arterial* roadways are major streets that primarily serve through-traffic and provide access to abutting properties as a secondary function. Arterials are generally designed with two to six travel lanes and their major intersections are signalized. This roadway type is divided into two categories: principal and minor arterials. For the City of Los Angeles, these are referred to as Major and Secondary Highways. Principal arterials are typically four-or-more lane roadways and serve both local and regional through-traffic. Minor arterials are typically two-to-four lane streets that service local and commute traffic.

- *Collector* roadways are streets that provide access and traffic circulation within residential and non-residential (e.g., commercial and industrial) areas. They connect local streets to arterials and are typically designed with two through travel lanes (i.e., one through travel lane in each direction) that may accommodate on-street parking. They may also provide access to abutting properties.

- *Local* roadways distribute traffic within a neighborhood or similar adjacent neighborhoods and are not intended for use as a through-street or a link between higher capacity facilities such as collector or arterial roadways. Local streets are fronted by residential uses and do not typically serve commercial uses.

7.2 Roadway Descriptions

A brief description of the important roadways in the project site vicinity is provided in the following paragraphs.

Daly Street is a north-south oriented roadway that is located west of the project study area. Daly Street is designated as a Secondary Highway in the Transportation Element of the City of Los Angeles General Plan. Two through travel lanes are provided in both directions on Daly Street in the project study area. Separate left-turn lanes are provided on Daly Street at major intersections. Parking is generally allowed on both sides of the roadway in the project vicinity. Daly Street is posted for a 35 miles per hour speed limit in the project vicinity.

Biggy Street is a local north-south oriented roadway that extends between Eastlake Avenue to the north and Zonal Avenue to the south. One through travel lane is provided in both directions on Biggy Street in the study area. Biggy Street forms "Tee" intersections with both Eastlake Avenue and Zonal Avenue. However, a driveway to a parking lot forms the north leg of the Biggy Street/Eastlake Avenue intersection, and the County General Hospital loading dock driveway (excluding the adjacent County General Hospital driveways) forms the south leg of the Biggy Street/Zonal Avenue intersection. Four-hour metered parking is allowed from 8:00 AM to 6:00 PM on both sides of Biggy Street in the project vicinity. There is no speed limit posted on Biggy Street in the project vicinity, thus the prima-facie speed limit of 25 miles per hour is assumed.

San Pablo Street is a north-south oriented roadway that traverses the USC Health Sciences Campus between Valley Boulevard to the north and Zonal Avenue to the south. San Pablo Street is designated as a Secondary Highway in the Transportation Element of the City of Los Angeles General Plan. One through travel lane is provided in both directions on San Pablo Street in the project study area. At the Valley Boulevard "Tee" intersection, one left-turn lane and dual right-turn lanes are provided at the northbound approach on San Pablo Street. At the Alcazar Street and Norfolk Street intersections, one left-turn lane and one shared through/right-turn lane is provided in both directions on San Pablo Street. North of Alcazar Street, ten-hour metered parking is allowed from 8:00 AM to 6:00 PM on both sides of San Pablo Street. Between Alcazar Street and Zonal

Avenue, four-hour metered parking is allowed from 8:00 AM to 6:00 PM on both sides of the roadway. There is no speed limit posted on San Pablo Street in the project vicinity, thus the prima-facie speed limit of 25 miles per hour is assumed.

There is an existing Union Pacific Railroad crossing on San Pablo Street, immediately south of Valley Boulevard. This is an existing at-grade rail crossing with advance warning signals and control gates situated north and south of the tracks. Also, this is an active rail line that extends from Downtown Los Angeles easterly to the Inland Empire and points east. Trains currently slow or stop at this crossing, causing vehicle queuing and occasionally rerouting of local traffic.

Soto Street is a north-south oriented roadway that borders portions of the USC Health Sciences Campus to the east. In the project study area, Soto Street is designated as a Major Class II Highway in the Transportation Element of the City of Los Angeles General Plan. Two through travel lanes are provided in each direction on Soto Street in the project vicinity. Separate left-turn lanes are provided in both directions on Soto Street at major intersections. At the Marengo Street intersection, one left-turn lane, one combination left-turn/through lane, one through lane, and one combination through/right-turn lane is provided in both directions on Soto Street. Parking is prohibited along both sides of Soto Street in the project study area with posted Tow Away No Stopping Anytime signs. Soto Street is posted for a 35 miles per hour speed limit in the project vicinity.

Mission Road is oriented northeast to southwest and is located just west of the USC Health Sciences Campus. In the project study area, Mission Road is designated as a Major Class II Highway in the Transportation Element of the City of Los Angeles General Plan. Two through travel lanes are provided in each direction on Mission Road in the project vicinity. Separate left-turn lanes are provided at both approaches on Mission Road at major intersections. At the Zonal Avenue intersection, one right-turn only lane is also provided at the southbound approach on Mission Road. North of Zonal Avenue, parking is prohibited on both sides of Mission Road with posted Tow Away No Stopping Anytime signs, and four-hour metered parking is allowed on both sides of the roadway from 8:00 AM to 6:00 PM south of Zonal Avenue. Mission Road is posted for a 35 miles per hour speed limit in the project study area.

Main Street is a north-south oriented roadway in the project study area that is located west of the project site. Main Street is designated as a Secondary Highway in the Transportation Element of the City of Los Angeles General Plan. Two through travel lanes are provided in both directions on Main Street in the project vicinity. Separate left-turn lanes are provided in both directions on Main Street at major intersections. Parking is generally allowed in both sides of the roadway within the study area. Main Street is posted for a 35 miles per hour speed limit in the project study area.

Marengo Street is oriented northwest to southeast and is located just south of the USC Health Sciences Campus. Marengo Street extends easterly from the Mission Road/Daly Street-Marengo Street intersection. Marengo Street is designated as a Major Class II Highway between Daly Street and Soto Street and as a Secondary Highway east of Soto Street in the Transportation Element of the City of Los Angeles General Plan. Two through travel lanes are provided in each direction on Marengo Street in the project study area. Separate left-turn lanes are provided at both approaches on Marengo Street at major intersections. Additionally, right-turn only lanes are provided in both directions on the roadway at the Mission Street intersection and in the eastbound direction at the Soto Street intersection. Parking is generally allowed along both sides of Marengo Street in the project study area but is limited to 10 hours between 8:00 AM and 6:00 PM. Marengo Street is posted for a 35 miles per hour speed limit in the project vicinity.

Valley Boulevard is an east-west oriented roadway that borders the USC Health Sciences Campus to the north. Valley Boulevard is designated as a Major Class II Highway in the Transportation Element of the City of Los Angeles General Plan. Three through travel lanes are provided in both directions on Valley Boulevard in the project vicinity. At the San Pablo Street intersection, an exclusive left-turn lane is provided at the westbound approach on Valley Boulevard. Parking is generally allowed on both sides of the roadway except during the morning or afternoon peak commuter periods. Parking is prohibited on the north side of the roadway (westbound) during the morning peak commuter period and on the south side of the roadway (eastbound) during the afternoon peak commuter period with posted Tow Away No Stopping Anytime signs. Valley Boulevard is posted for a 40 miles per hour speed limit in the project vicinity. The Soto Street and Valley Boulevard intersection is grade separated.

Alcazar Street is an east-west roadway that traverses the USC Health Sciences Campus between Soto Street to the east and Eastlake Avenue to the west. Alcazar Street is designated as a Collector roadway by the City of Los Angeles General Plan. One through travel lane is provided in both directions on Alcazar Street in the project vicinity. Separate left-turn lanes are provided in both directions on Alcazar Street at the San Pablo Street intersection. At the Soto Street intersection, one left-turn lane, one through lane and one right-turn only lane is provided at the eastbound approach, and one combination left-turn/through/right-turn lane is provided at the westbound approach. Immediately west of Soto Street, parking is prohibited along both sides of Alcazar Street; however, further west of the intersection ten-hour metered parking is allowed on the north side of the roadway. Parking is generally permitted on both sides of Alcazar Street east of Soto Street. There is no speed limit posted on Alcazar Street in the project vicinity, thus the prima-facie speed limit of 25 miles per hour is assumed.

Eastlake Avenue/Norfolk Street is an east-west oriented roadway that provides access through the USC Health Sciences Campus. The roadway is identified as Eastlake Avenue west of San Pablo Street and Norfolk Street east of San Pablo Street. Eastlake Avenue extends from San Pablo Street to the east and Mission Road to the west. Norfolk Street extends from Playground Street and Hazard Park to the east to San Pablo Street to the west. One through travel lane is provided in both directions on Eastlake Avenue/Norfolk Street within the project study area. Four-hour metered parking is allowed on both sides of the roadway from 8:00 AM to 6:00 PM, east and west of San Pablo Street. There is no speed limit posted on Eastlake Avenue/Norfolk Street in the project vicinity, thus the prima-facie speed limit of 25 miles per hour is assumed.

Zonal Avenue is oriented northwest to southeast and provides access through the USC Health Sciences Campus and the adjacent County General Hospital site. Zonal Avenue extends between Mission Road to the west and just east of San Pablo Street. North of the Mission Road intersection, the roadway is identified as Griffin Avenue. Zonal Avenue is designated as a Secondary Highway in the Transportation Element of the City of Los Angeles General Plan. Two through travel lanes are provided in both directions on Zonal Avenue near the Mission Road intersection, and one through travel lane is provided in each direction east of the intersection where the roadway narrows.

Parking is generally prohibited on both sides of Zonal Avenue in the project study area with posted Tow Away No Stopping Anytime signs. Zonal Avenue is posted for a 30 miles per hour speed limit in the project vicinity.

Wabash Avenue is oriented northwest to southeast and is located southeast of the USC Health Sciences Campus. Wabash Avenue extends easterly from the Soto Street/I-10 Freeway WB Off-Ramp intersection. Wabash Avenue is designated as a Secondary Highway in the Transportation Element of the City of Los Angeles General Plan. Two through travel lanes are provided in each direction on Wabash Avenue in the project study area. At the westbound approach to the Soto Street intersection, one left-turn lane and one right-turn only lane is provided on Wabash Avenue. Parking is generally allowed along both sides of Wabash Avenue in the project study area. Wabash Avenue is posted for a 35 miles per hour speed limit in the project vicinity.

8.0 LOCAL PUBLIC TRANSIT SERVICES

Local public transit service in the vicinity of the project is currently provided by the Los Angeles County Metropolitan Transportation Authority (MTA) and the Foothill Transit Service. Additionally, MTA is presently commencing construction of the extension of the Metro Rail Gold Line Light Rail Transit system to East Los Angeles. A summary of the existing transit routes, including the route, destinations, and the peak hour headways is presented in Table 1. The existing public transit routes in the USC HSC project site vicinity are illustrated in Figure 4.

8.1 MTA Metro Bus Transit Service

MTA provides bus transit service along major roadways within the traffic analysis study area: Marengo Street, Mission Road, Soto Street, Wabash Avenue, Main Street, Valley Boulevard, Griffin Avenue, and State Street, as well as the I-10 Freeway (see MTA Route 484). MTA Routes 254 and 255 operate to and from the USC Health Sciences Campus and Los Angeles County General Hospital study area. Most of the MTA local bus transit routes provide headways of three to 12 buses per hour during the morning and afternoon peak commuter hours. As previously noted, MTA local bus transit service is provided along the I-10 (San Bernardino) Freeway in the project study area.

8.2 Foothill Transit Service

Foothill Transit provides service between Downtown Los Angeles and east San Gabriel Valley/Inland Empire communities such as Glendora, San Dimas, Pomona, and Montclair, with service to/from the Los Angeles County/USC Busway station. Foothill Transit local bus transit service operates along the I-10 (San Bernardino) Freeway in the project study area.

8.3 Future MTA Metro Gold Line Light Rail Transit

MTA is constructing an extension of the existing Metro Gold Line Light Rail Transit system to East Los Angeles. The proposed extension will provide service from Union Station in Downtown Los Angeles to the East Los Angeles community of the County of Los Angeles. It is anticipated that the Metro Gold Line Eastside Extension project will be completed by year 2009. The approximate six mile trip/segment from Downtown Los Angeles to East Los Angeles is expected to take a total of 17 minutes travel time.

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Table 1
EXISTING TRANSIT SERVICES [1]
USC Health Sciences Campus Project

05-May-2005

ROUTE	DESTINATIONS	ROADWAY NEAR SITE	HEADWAYS (Buses per peak hour) DIR	AM	PM
MTA Route 38-71	West LA Transit Center, LAC/USC Hospital, CSULA Busway Station	Marengo Street, Mission Road, Soto Street, Wabash Avenue	EB WB	7-9 3-6	4-5 4-7
MTA Route 70	Los Angeles to El Monte (Monterey Park, Rosemead)	Marengo Street, Mission Road	EB WB	8-9 9-10	9-10 7
MTA Route 76	Los Angeles to El Monte (Lincoln Heights, Alhambra, Rosemead)	Main Street/Valley Boulevard	EB WB	5 6	6 4-5
MTA Route 78-79	Los Angeles to Arcadia (El Sereno, San Gabriel, S. Arcadia, San Marino)	Mission Road	EB WB	6-7 9-10	9-11 6-8
MTA Route 251-252-350	Boyle Heights to Lynwood (Huntington Park, South Gate)	Griffin Avenue, Marengo Avenue, Soto Street	NB SB	9-12 5-8	11-12 4-5
MTA Route 254	LAC/USC Hospital to Willowbrook (City Terrace, Boyle Heights, Vernon, Huntington Park, Watts)	Biggy Street, State Street, Marengo Street	NB SB	1-2 1-2	1-2 1
MTA Route 255	East Los Angeles to Montecito Heights (LAC/USC Outpatient Clinic, Boyle Heights, City Terrace)	Marengo Street, Soto Street, Wabash Avenue	NB SB	1 1	1 1
MTA Route 484	Downtown Los Angeles to Pomona (LAC/USC Busway Station, El Monte, La Puente, Walnut, Industry)	I-10 Freeway	EB WB	3-4 2-4	3 4

[1] Source: Los Angeles County Metropolitan Transportation Authority (LACMTA) System Map, LACMTA Website.

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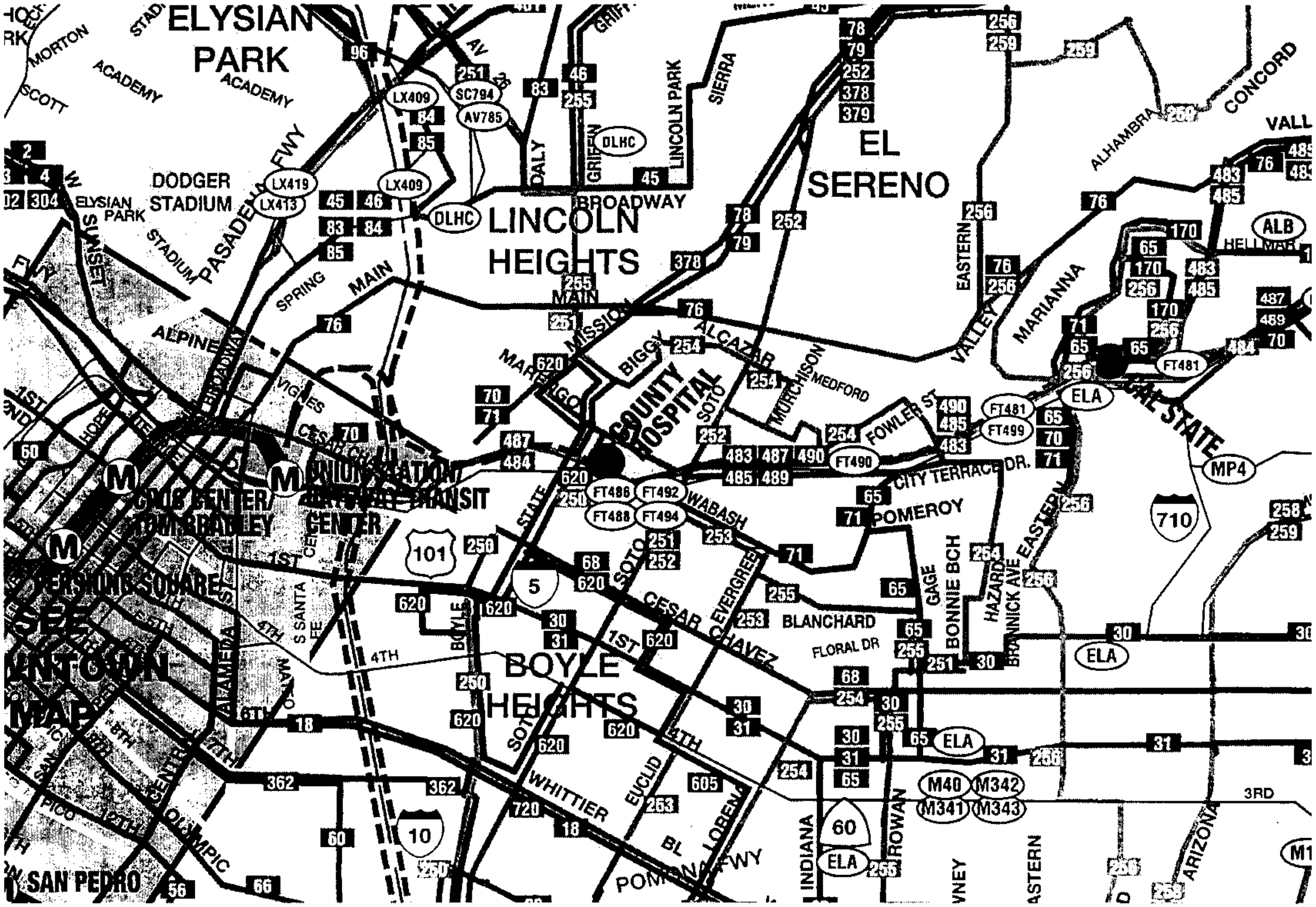
Table 1 (Continued)
EXISTING TRANSIT SERVICES [1]
USC Health Sciences Campus Project

ROUTE	DESTINATIONS	ROADWAY NEAR SITE	HEADWAYS (Buses per peak hour) DIR	AM	PM
MTA Route 485	Downtown Los Angeles to Altadena (LAC/USC Busway Station, Alhambra, San Marino, Pasadena)	I-10 Freeway	NB SB	3-4 5	4 4
MTA Route 487-489	Downtown Los Angeles to Sierra Madre (LAC/USC Busway Station, CSULA Busway Station, San Gabriel)	I-10 Freeway	EB WB	2 4-5	5 1-2
MTA Route 490	Downtown Los Angeles to Brea (LAC/USC Busway Station, El Monte, Covina, Pomona, Diamond Bar)	I-10 Freeway	EB WB	2 3	3 2
MTA Route 620	Boyle Heights	Marengo Street, Mission Road, State Street	NB SB	4 4	5 5
FT Route 486	Downtown Los Angeles to Pomona (Walnut, Valinda, La Puente, El Monte, LAC/USC Busway Station)	I-10 Freeway	EB WB	4 4	4 3-4
FT Route 488	Downtown Los Angeles to Glendora (Covina, W. Covina, Baldwin Park, El Monte, LAC/USC Busway Station)	I-10 Freeway	EB WB	1-2 2-3	2 1-2
FT Route 492	Downtown Los Angeles to Montclair (La Verne, Glendora, Arcadia, El Monte, LAC/USC Busway Station)	I-10 Freeway	EB WB	2 2-3	2-3 1-2
FT Route 494	Downtown Los Angeles to San Dimas (Glendora, Duarte, Monrovia, El Monte, LAC/USC Busway Station)	I-10 Freeway	EB WB	0 1-2	1-2 0

[1] Source: Los Angeles County Metropolitan Transportation Authority (LACMTA) System Map, LACMTA Website.



MAP SOURCE: METROPOLITIAN TRANSPORTATION AUTHORITY

FIGURE 4
EXISTING PUBLIC TRANSIT ROUTES

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USC HEALTH SCIENCES CAMPUS PROJECT

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The extension is proposed to provide service along 1st Street and 3rd Street and include the following eight stations: 1) 1st Street/Alameda Street, 2) 1st Street/Utah Street, 3) 1st Street/Boyle Avenue, 4) 1st Street/Soto Street, 5) 1st Street/Lorena Street, 6) 3rd Street/Rowan Avenue, 7) 3rd Street/Mednik Avenue, and 8) Beverly Boulevard/Atlantic Boulevard. Based on information provided on the MTA website, operating hours for the Metro Gold Line Eastside Extension will be from 4:30 AM to 12:30 AM and have a capacity for 22,000 daily boardings.

9.0 TRAFFIC COUNTS

Recent manual traffic count data for the 18 study intersections were researched from LLG Engineers and LADOT files. Recent manual counts of vehicular turning movements were available for all of the study intersections for the weekday morning (AM) and afternoon (PM) commuter periods. The manual counts were conducted by a traffic count subconsultant, Accutek Traffic Data, at the 18 study intersections from 7:00 to 10:00 AM to determine the AM peak commuter hour, and from 3:00 to 6:00 PM to determine the PM peak commuter hour. Traffic volumes at the study intersections show the typical peak periods between 7:00 to 10:00 AM and 3:00 to 6:00 PM generally associated with peak commuter hours.

Based on general traffic growth factors provided in the Congestion Management Program and direction from LADOT staff, the manual count data were increased by an annual growth factor of one percent (1.0%) per year to reflect year 2004 existing traffic volumes. Thus, the existing traffic volumes utilized in this analysis (i.e., traffic volume figures, Level of Service calculations, etc.) reflect year 2004 existing conditions.

The existing AM and PM peak period manual counts of turning vehicles at the 18 study intersections are summarized in Table 2. The existing traffic volumes at the study intersections during the AM and PM peak hours are shown in Figures 5 and 6, respectively. Summary data worksheets of the manual traffic counts are contained in Appendix B.

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Table 2
EXISTING TRAFFIC VOLUMES [1]
USC Health Sciences Campus Project

05-May-2005

NO.	INTERSECTION	DATE	DIR	AM PEAK HOUR BEGAN	AM PEAK HOUR VOLUME	PM PEAK HOUR BEGAN	PM PEAK HOUR VOLUME
1	I-5 Freeway SB Off-Ramp/ Avenue 21- Main Street	10/17/02	NB	7:30	8	5:00	11
			SB		232		236
			EB		514		1,031
			WB		1,586		682
2	I-5 Freeway SB Ramps/ Mission Road	10/17/02	NB	7:15	0	4:30	0
			SB		795		352
			EB		660		1,579
			WB		1,963		1,188
3	I-5 Freeway NB Off-Ramp/ Daly Street-Main Street	10/17/02	NB	7:30	374	5:00	713
			SB		610		453
			EB		543		314
			WB		0		0
4	Daly Street/ Main Street	10/17/02	NB	7:30	326	5:00	600
			SB		1,021		649
			EB		632		1,158
			WB		1,262		598
5	Mission Road/ Daly Street-Marengo Street	04/21/05	NB	7:15	1,207	4:45	1,699
			SB		1,771		1,059
			EB		713		667
			WB		809		794
6	I-5 Freeway NB On-Ramp/ Marengo Street	10/22/02	NB	7:15	0	4:30	0
			SB		0		0
			EB		961		1,139
			WB		969		1,066
7	Mission Road/ Griffin Avenue-Zonal Avenue	04/18/02	NB	7:30	843	5:00	1,764
			SB		1,500		686
			EB		442		237
			WB		253		710
8	Mission Road/ Valley Boulevard	10/22/02	NB	7:15	398	5:00	1,427
			SB		1,655		674
			EB		685		1,097
			WB		0		0
9	Mission Road/ Main Street	10/22/02	NB	7:30	491	4:45	1,363
			SB		1,729		697
			EB		0		0
			WB		1,420		859

[1] Counts conducted by Accutek Traffic Data.
Note: The traffic count data were adjusted by one percent (1.0%) per year to reflect year 2004 existing conditions.

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Table 2 (Continued)
EXISTING TRAFFIC VOLUMES [1]
USC Health Sciences Campus Project

05-May-2005

NO.	INTERSECTION	DATE	DIR	AM PEAK HOUR BEGAN	AM PEAK HOUR VOLUME	PM PEAK HOUR BEGAN	PM PEAK HOUR VOLUME
10	Biggy Street/ Zonal Avenue	03/05/03	NB	7:30	12	4:15	15
			SB		130		129
			EB		688		472
			WB		520		594
11	San Pablo Street/ Valley Boulevard	04/18/02	NB	7:30	66	4:45	38
			SB		0		0
			EB		684		1,253
			WB		1,554		738
12	San Pablo Street/ Alcazar Street	04/18/02	NB	7:30	213	4:45	362
			SB		204		181
			EB		168		242
			WB		550		298
13	San Pablo Street/ Eastlake Avenue-Norfolk Street	04/18/02	NB	7:30	333	3:00	328
			SB		386		230
			EB		96		217
			WB		44		75
14	San Pablo Street/ Zonal Avenue	04/18/02	NB	8:00	0	3:00	0
			SB		277		294
			EB		529		615
			WB		682		428
15	Soto Street/ Alcazar Street	09/18/03	NB	7:15	1,134	4:30	1,116
			SB		1,613		628
			EB		259		678
			WB		251		125
16	Soto Street/ I-10 Freeway WB Ramps-Charlotte Street	04/18/02	NB	7:15	1,024	4:30	1,114
			SB		1,495		1,233
			EB		406		474
			WB		1,112		828
17	Soto Street/ Marengo Street	10/22/02	NB	7:15	1,551	4:45	1,527
			SB		1,815		1,435
			EB		362		824
			WB		500		237
18	Soto Street/ I-10 Freeway EB Off-Ramp-Wabash Avenue	10/22/02	NB	7:15	752	4:45	984
			SB		894		764
			EB		712		751
			WB		443		336

[1] Counts conducted by Accutek Traffic Data.
Note: The traffic count data were adjusted by one percent (1.0%) per year to reflect year 2004 existing conditions.

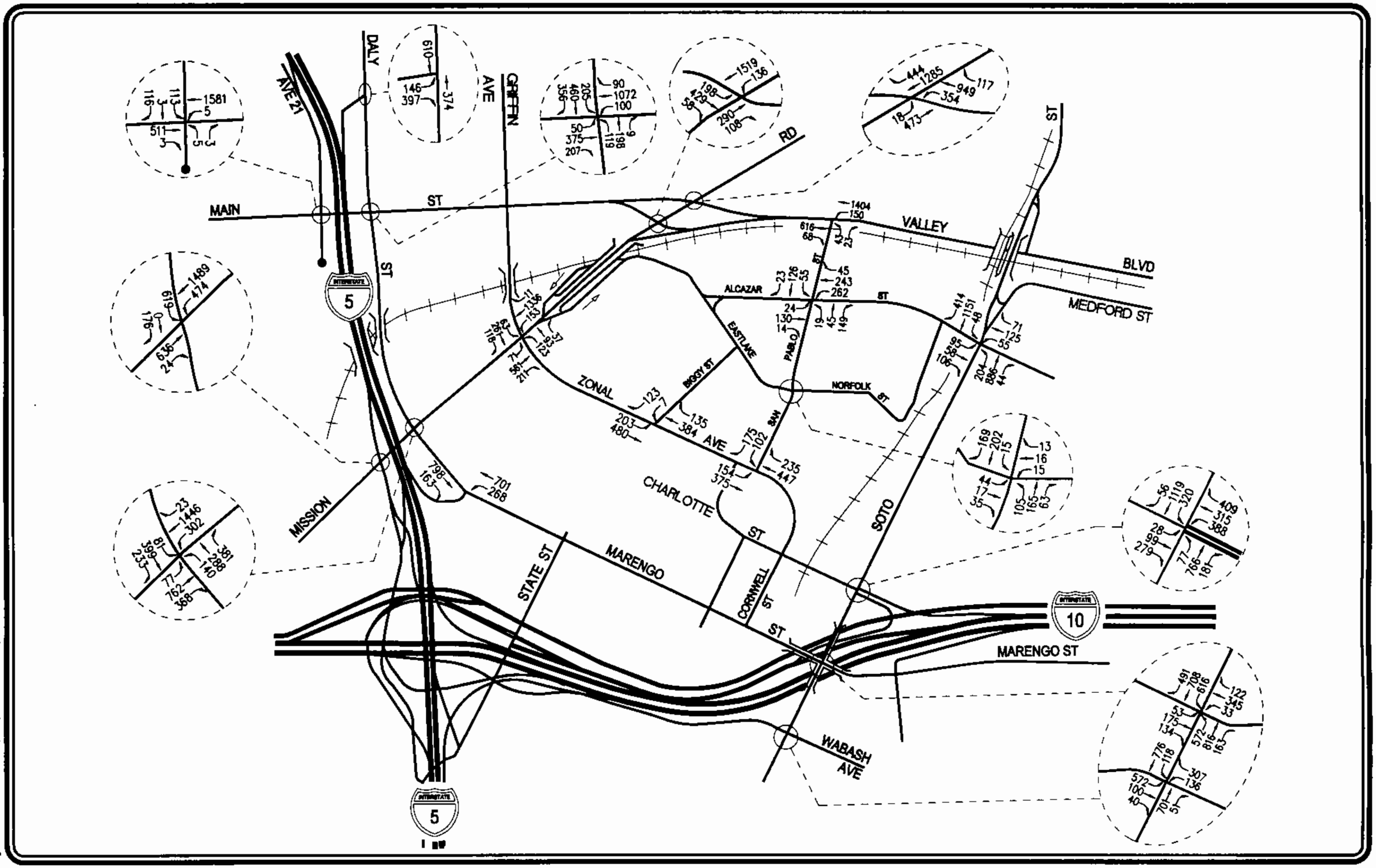

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FIGURE 5
EXISTING TRAFFIC VOLUMES
AM PEAK COMMUTER HOUR
USC HEALTH SCIENCES CAMPUS PROJECT

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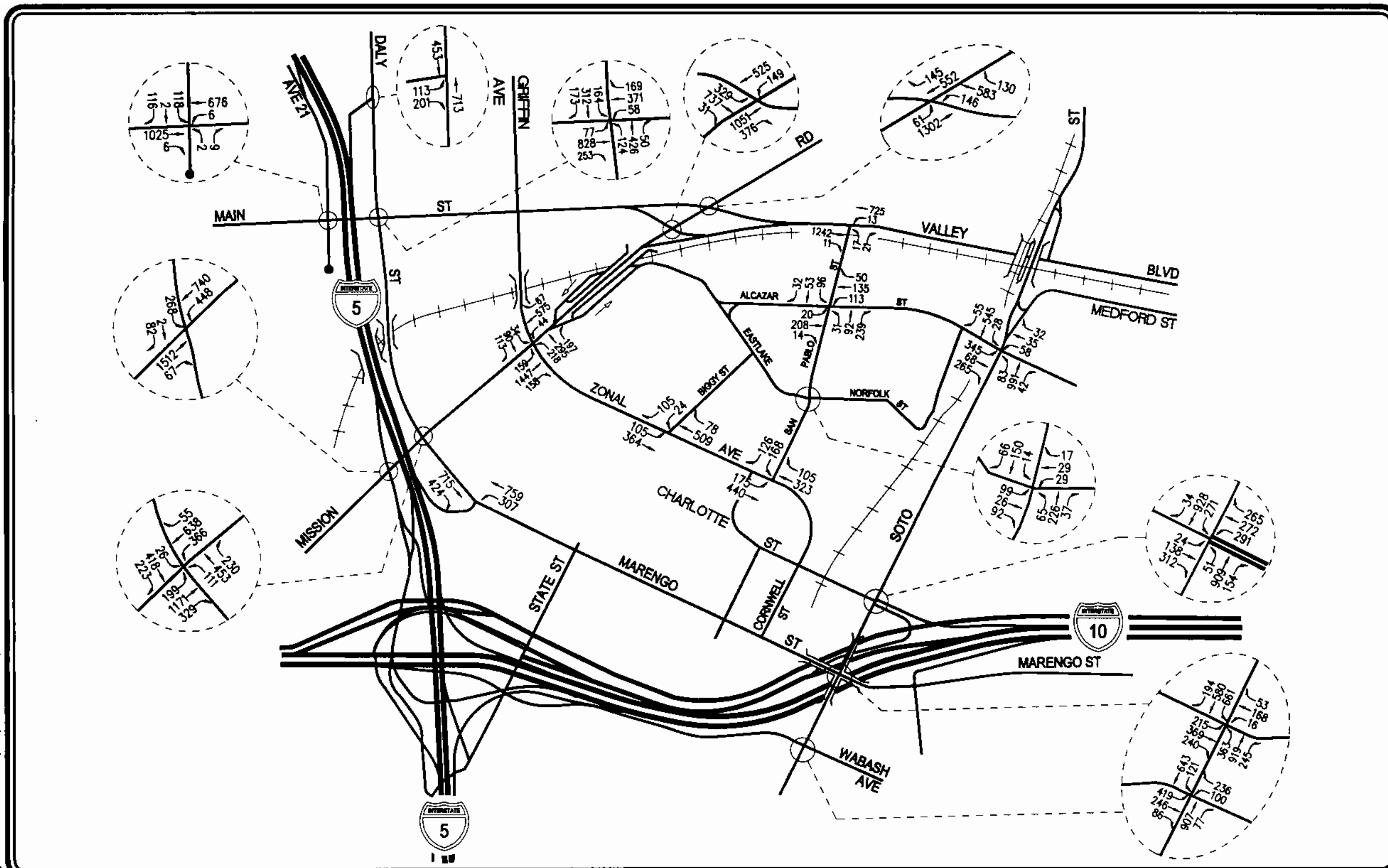

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FIGURE 6
EXISTING TRAFFIC VOLUMES
PM PEAK COMMUTER HOUR
USC HEALTH SCIENCES CAMPUS PROJECT

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10.0 PROJECT TRAFFIC GENERATION

Traffic volumes expected to be generated by the proposed USC Health Sciences Campus project were estimated for the weekday commuter AM and PM peak hours, as well as over a 24-hour daily period, using trip generation rates published in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 7th Edition, 2003. Traffic volumes expected to be generated by the proposed project were forecast based on trip rates per thousand square feet of development area to be provided for the additional USC HSC academic and medical-related (e.g., medical research, medical clinic, etc.) facilities.

As previously discussed, USC is proposing to develop between approximately 585,000 and 765,000 gross square feet of additional academic and medical-related (e.g., medical research, medical clinic, etc.) facilities within its existing HSC. A maximum of 765,000 square feet of development may occur, consisting of a maximum of 720,000 gross square feet of academic and medical research facilities, with the remaining 45,000 square feet dedicated to medical clinic facilities. Should additional medical clinic facilities be developed in lieu of academic and medical research facilities, a maximum of 120,000 gross square feet of medical clinic area would be developed. Should this occur, the amount of academic and medical research facilities would be reduced to 465,000 gross square feet, for an overall total of 585,000 gross square feet of development. Through application of a trip generation equivalency program, the environmental analysis conducted for the project addresses the development of the full range of floor area (i.e., 585,000 to 765,000 gross square feet) and uses (i.e., academic, medical research and medical clinic) as the above scenarios are equivalent from a peak hour trip generation perspective. A comprehensive discussion of the trip generation equivalency topic is contained in Subsection 10.2 below. Additional details of the trip generation forecast are summarized in the following paragraphs.

Research and Development Land Use Component

Traffic volumes expected to be generated by the research and development land use component of the proposed project were forecast based upon rates per thousand gross square feet of building floor area provided. Specifically, trip generation rates provided in the *Trip Generation* manual under Land Use Code 760 (Research and Development Center) were used to forecast traffic volumes for the research and development land use component. Trip generation equation rates were used to forecast the daily traffic volumes for the research and development land use component. In addition, the AM and PM peak hour of generator trip rates were utilized for the peak hour trip generation forecasts.

Due to the synergy between the Health Sciences Campus and land uses in the proposed project, an internal capture adjustment was applied to the project trip generation forecast. Internal capture trips are those trips made internal to the site between buildings within the campus. When combined within a campus development, land uses tend to interact, and thus attract a portion of each other's trip generation. The internal capture adjustment was applied only to the research and development land use component in order to provide a conservative forecast. Based on consultation with LADOT staff, a 15 percent (15.0%) internal capture trip reduction has been applied to the research and development land use component AM and PM peak hour traffic volume forecasts, as well as to the daily traffic volume forecast.

Medical Office Land Use Component

Traffic volumes expected to be generated by the medical office land use component were forecast based upon rates per thousand gross square feet of building floor area provided. Specifically, trip generation rates provided in the *Trip Generation* manual under Land Use Code 720 (Medical-Dental Office Building) were used to forecast traffic volumes for the medical office land use component. Trip generation equation rates were used to forecast the daily and PM peak hour traffic volumes for the medical office land use component. In addition, trip generation average rates were used to forecast the AM peak hour traffic volumes as no equation rate is provided for the AM peak hour.

10.1 Project Trip Generation Summary

The proposed USC Health Sciences Campus project trip generation forecast is summarized in Table 3. The project trip generation forecast was submitted for review and approval by City staff. As presented in Table 3, the proposed project is expected to generate 753 vehicle trips (613 inbound trips and 140 outbound trips) during the AM peak hour. During the PM peak hour, the proposed project is expected to generate 774 vehicle trips (161 inbound trips and 613 outbound trips). Over a 24-hour period, the proposed project is forecast to generate 7,715 daily trip ends during a typical weekday (approximately 3,858 inbound trips and 3,858 outbound trips).

10.2 Project Alternatives Trip Generation Forecasts

10.2.1 Project Alternative 1 (No Project) Trip Generation Forecast

The Alternative 1 project description represents a no project, no development alternative. The Alternative 1 project involves continued operation of the site (i.e., existing conditions or the status quo). Thus, no new trip generation is forecast.

10.2.2 Project Alternative 2 (Reduced Density) Trip Generation Forecast

As presented in Table 3A, Project Alternative 2 is expected to generate 541 vehicle trips (440 inbound trips and 101 outbound trips) during the AM peak hour. During the PM peak hour, Project Alternative 2 is expected to generate 566 vehicle trips (117 inbound trips and 449 outbound trips). Over a 24-hour period, Project Alternative 2 is forecast to generate 5,476 daily trip ends during a typical weekday (2,738 inbound trips and 2,738 outbound trips).

10.2.3 Project Alternative 3 (Alternative Land Use) Trip Generation Forecast

As presented in Table 3B, Project Alternative 3 is expected to generate 647 vehicle trips (495 inbound trips and 152 outbound trips) during the AM peak hour. During the PM peak hour, Project Alternative 3 is expected to generate 679 vehicle trips (180 inbound trips and 499 outbound trips). Over a 24-hour period, Project Alternative 3 is forecast to generate approximately 6,979 daily trip ends during a typical weekday (approximately 3,490 inbound trips and 3,490 outbound trips).

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Table 3
PROJECT TRIP GENERATION SUMMARY [1]
USC Health Sciences Campus Project

05-May-2005

LAND USE	SIZE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Research & Development [3]	465,000 GSF	3,556	445	91	536	71	401	472
Less 15% Internal Capture Reduction [4]		(533)	(67)	(14)	(81)	(11)	(60)	(71)
Medical Office Building [5]	120,000 GSF	4,692	235	63	298	101	272	373
TOTAL		7,715	613	140	753	161	613	774

[1] Source: ITE "Trip Generation", 7th Edition, 2003.
[2] Trips are one-way traffic movements, entering or leaving.
[3] ITE Land Use Code 760 (Research and Development Center) trip generation equation rates. Please note that the AM and PM peak hour of generator trip rates were utilized in the peak hour forecasts as no trip rates are provided for Peak Hour of Adjacent Street Traffic.
[4] An internal capture reduction of 15 percent (15.0%) was applied only to the Research and Development component of the Project in order to account for the synergy between the uses on the Health Sciences Campus.
[5] ITE Land Use Code 720 (Medical-Dental Office Building) trip generation equation rates were utilized to forecast the daily and PM peak hour traffic volumes. ITE Land Use Code 720 trip generation average rates were used to forecast the AM peak hour traffic volumes as no equation rate is provided for the AM peak hour.

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Table 3A
PROJECT ALTERNATIVE 2 TRIP GENERATION SUMMARY [1]
USC Health Sciences Campus Project

05-May-2005

LAND USE	SIZE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Research & Development [3]	325,500 GSF	2,654	325	67	392	53	298	351
Less 15% Internal Capture Reduction [4]		(398)	(49)	(10)	(59)	(8)	(45)	(53)
Medical Office Building [5]	84,000 GSF	3,220	164	44	208	72	196	268
TOTAL		5,476	440	101	541	117	449	566

[1] Source: ITE "Trip Generation", 7th Edition, 2003.
[2] Trips are one-way traffic movements, entering or leaving.
[3] ITE Land Use Code 760 (Research and Development Center) trip generation equation rates. Please note that the AM and PM peak hour of generator trip rates were utilized in the peak hour forecasts as no trip rates are provided for Peak Hour of Adjacent Street Traffic.
[4] An internal capture reduction of 15 percent (15.0%) was applied only to the Research and Development component of the Project in order to account for the synergy between the uses on the Health Sciences Campus.
[5] ITE Land Use Code 720 (Medical-Dental Office Building) trip generation equation rates were utilized to forecast the daily and PM peak hour traffic volumes. ITE Land Use Code 720 trip generation average rates were used to forecast the AM peak hour traffic volumes as no equation rate is provided for the AM peak hour.

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Table 3B
PROJECT ALTERNATIVE 3 TRIP GENERATION SUMMARY [1]
USC Health Sciences Campus Project

05-May-2005

LAND USE	SIZE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2] IN	OUT	TOTAL	PM PEAK HOUR VOLUMES [2] IN	OUT	TOTAL
Research & Development [3]	305,000 GSF	2,517	307	63	370	50	283	333
Less 15% Internal Capture Reduction [4]		(378)	(46)	(9)	(55)	(8)	(42)	(50)
Medical Office Building [5]	80,000 GSF	3,056	156	42	198	69	187	256
Hotel [6]	200 Rms	1,784	78	56	134	69	71	140
TOTAL		6,979	495	152	647	180	499	679

[1] Source: ITE "Trip Generation", 7th Edition, 2003.

[2] Trips are one-way traffic movements, entering or leaving.

[3] ITE Land Use Code 760 (Research and Development Center) trip generation equation rates. Please note that the AM and PM peak hour of generator trip rates were utilized in the peak hour forecasts as no trip rates are provided for Peak Hour of Adjacent Street Traffic.

[4] An internal capture reduction of 15 percent (15.0%) was applied only to the Research and Development component of the Project in order to account for the synergy between the uses on the Health Sciences Campus.

[5] ITE Land Use Code 720 (Medical-Dental Office Building) trip generation equation rates were utilized to forecast the daily and PM peak hour traffic volumes. ITE Land Use Code 720 trip generation average rates were used to forecast the AM peak hour traffic volumes as no equation rate is provided for the AM peak hour.

[6] ITE Land Use Code 310 (Hotel) trip generation average rates for number of occupied rooms.

10.2.4 Project Alternative 4 (Alternative Site) Trip Generation Forecast

Project Alternative 4 will generate the same number of trips forecast for the proposed USC HSC project as summarized in Table 3. As described above, Project Alternative 4 is expected to generate 753 vehicle trips (613 inbound trips and 140 outbound trips) during the AM peak hour. During the PM peak hour, Project Alternative 4 is expected to generate 774 vehicle trips (161 inbound trips and 613 outbound trips). Over a 24-hour period, Project Alternative 4 is forecast to generate 7,715 daily trip ends during a typical weekday (approximately 3,858 inbound trips and 3,858 outbound trips).

10.3 Trip Equivalency Program

The following subsections provide a discussion of the equivalency program and presents the recommended research and development land use and medical office land use equivalency factors.

10.3.1 Trip Generation Equivalency Program

An equivalency program helps define a specific framework within which certain land uses can be exchanged for other land uses without increasing transportation impacts. As part of the environmental impact report for the project, research and development, medical and educational land uses were analyzed. The USC Health Sciences Campus project ultimately may be developed with a revised range of building sizes (i.e., there may be increases in the square footage of one land use in exchange for corresponding decreases in the square footage of the other land use). The equivalency program is designed to ensure that although the final land uses and sizes may be different from the assumptions upon which the analysis is based, the maximum transportation impacts that are addressed and mitigated by this analysis are not exceeded.

In order to establish the equivalency program with regard to the project's traffic impacts, a set of equivalency factors have been developed. The equivalency factor for each land use is derived based on the total PM peak hour trip generation, as it is higher than the AM peak hour. Equivalency factors have been established for both the research and development land use and the medical office land use areas. Equivalency factors have not been developed for the educational/academic use, in that any educational/academic space is not envisioned to be enrollment enhancing. The educational/academic space is considered to be an ancillary use of the buildings and will be used primarily by persons already on campus and enrolled in current programs.

10.3.2 Trip Generation Equivalency Factors

Equivalency factors have been established on a per 1,000 square foot basis and are based on review of the ITE trip rates. For example, 100,000 square feet of research and development use is equivalent to 27,900 square feet of medical office space in terms of trip generation. Therefore, 0.279 square feet of medical office use has the same trip generation as 1.0 square feet of research and development use. Thus, the research and development equivalency factor is 0.279. Additionally, 100,000 square feet of medical office use is equivalent to 358,400 square feet of research and development space in terms of trip generation. Therefore, 3.584 square feet of research and development use has the same trip generation of 1.0 square feet of medical office use. Thus, the medical office equivalency factor is 3.584. Application of the equivalency program will not exceed a development program greater than 765,000 total square feet. The equivalency factors for the proposed land uses are summarized in Table 4.

Table 4
LAND USE EQUIVALENCY MATRIX

FROM: This Land Use	**TO:** Medical Research/Laboratory/ Academic Support	**TO:** Medical Office
Medical Research/ Laboratory/Academic Support	N/A	0.279
Medical Office	3.584	N/A

11.0 PROJECT TRIP DISTRIBUTION

Project traffic was assigned to the local roadway system based on a regional traffic distribution pattern and local distribution patterns developed in consultation with LADOT staff. The traffic distribution pattern reflects the existing and proposed project land uses, the existing site access scheme for the USC HSC controlled parking facilities, existing traffic movements, characteristics of the surrounding roadway system, and nearby residential areas. The regional and project trip distribution patterns were submitted for review and approval by LADOT staff before finalization.

11.1 Site Access

As previously discussed (see Subsections 4.1 and 5.4), two scenarios for the provision of parking for the proposed project are planned. Under Parking Scenario No. 1, project parking may be provided on Development Site C (access via Zonal Avenue). Under Parking Scenario No. 2, project parking may be provided on Development Site E (access via San Pablo Street and Alcazar Street) and Development Site F (access via San Pablo Street).

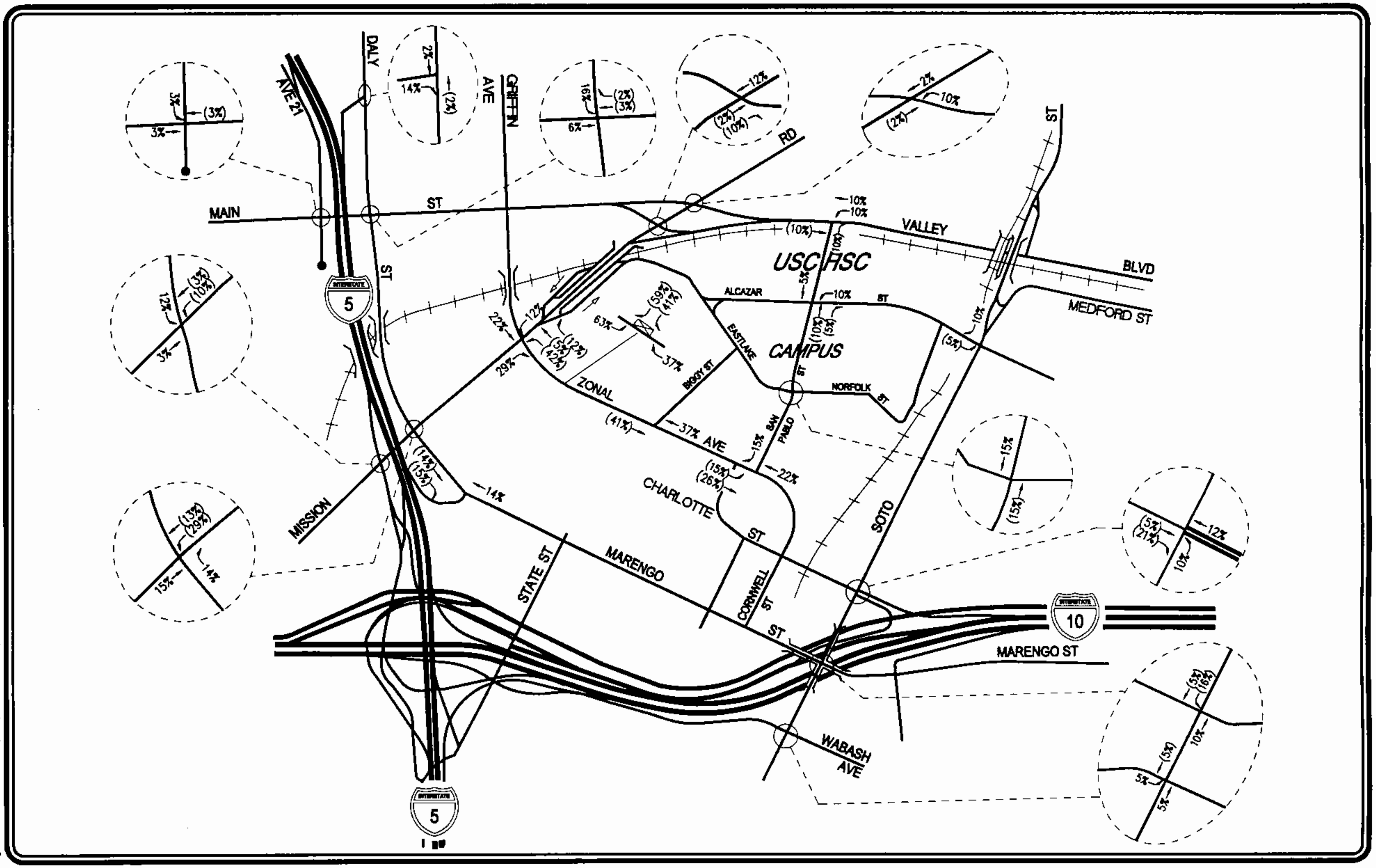
11.2 Traffic Assignment

The principal ingress routes for the USC Health Sciences Campus study area were determined based on the accessibility via the nearby freeway ramp system and appropriate arterial routes. Principal freeway routes in the vicinity of the project site include the I-10 (San Bernardino) Freeway and the I-5 (Golden State) Freeway.

The USC HSC study area is also situated within an area that provides desirable access via arterial streets surrounding the site. As previously mentioned, key arterials providing access to the project study area include: Daly Street, Mission Road, San Pablo Street, Soto Street, Valley Boulevard, Main Street, Alcazar Street, and Marengo Street, as well as others.

The trip generation forecasts for the proposed USC Health Sciences Campus project were assigned to the surrounding freeway and arterial systems based on the previously described distribution pattern. The Parking Scenario No. 1 (i.e., all parking provided at Development Site C) traffic distribution percentages forecast for the 18 study intersections are provided in Figure 7. The forecast Parking Scenario No. 1 project traffic volumes for study intersections during the AM and PM peak commuter hours are displayed in Figures 8 and 9, respectively.

The Parking Scenario No. 2 (i.e., all parking provided at Development Sites E and F) traffic distribution percentages forecast for the 18 study intersections are provided in Figure 10. The forecast Parking Scenario No. 2 project traffic volumes for study intersections during the AM and PM peak commuter hours are displayed in Figures 11 and 12, respectively.



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XX = INBOUND PERCENTAGES
(XX) = OUTBOUND PERCENTAGES
* ALL PARKING PROVIDED AT DEVELOPMENT SITE C

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FIGURE 7
PROJECT TRIP DISTRIBUTION PARKING SCENARIO NO. 1 *

USC HEALTH SCIENCES CAMPUS PROJECT

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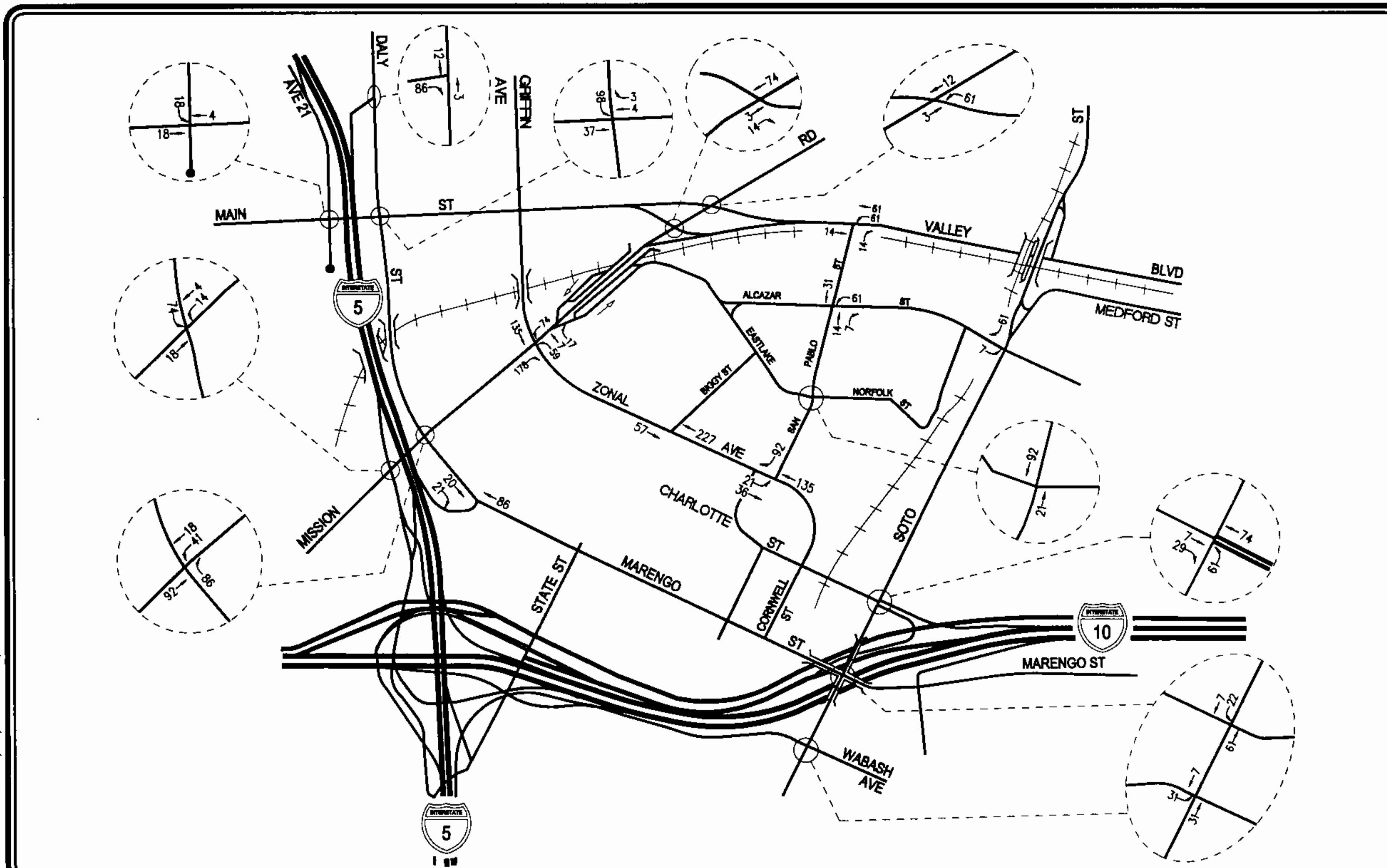

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* ALL PARKING PROVIDED AT DEVELOPMENT SITE C

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FIGURE 8

PROJECT TRAFFIC VOLUMES (PARKING SCENARIO NO. 1)

AM PEAK COMMUTER HOUR

USC HEALTH SCIENCES CAMPUS PROJECT

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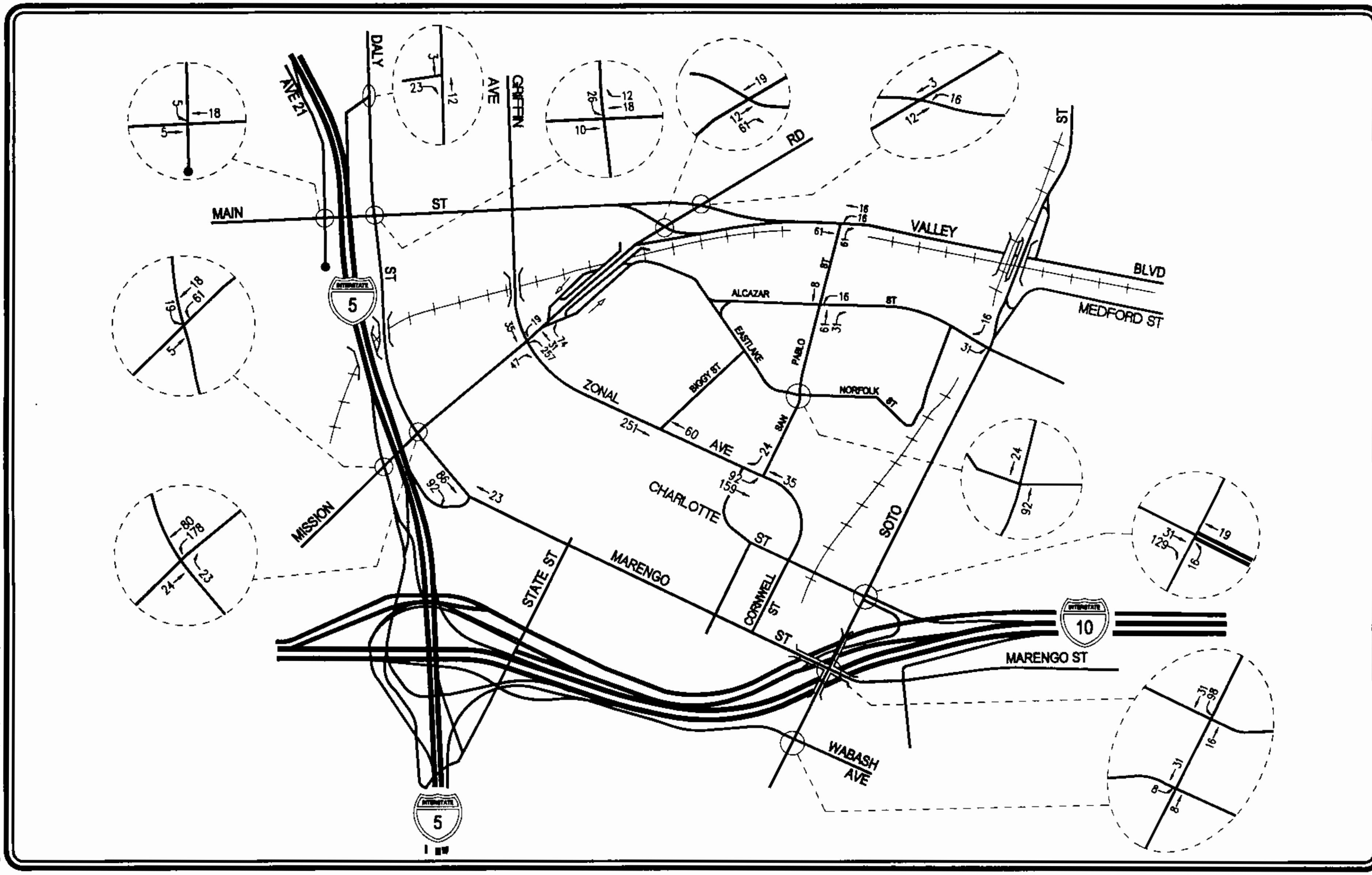

* ALL PARKING PROVIDED AT DEVELOPMENT SITE C

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FIGURE 9

PROJECT TRAFFIC VOLUMES (PARKING SCENARIO NO.1)

PM PEAK COMMUTER HOUR

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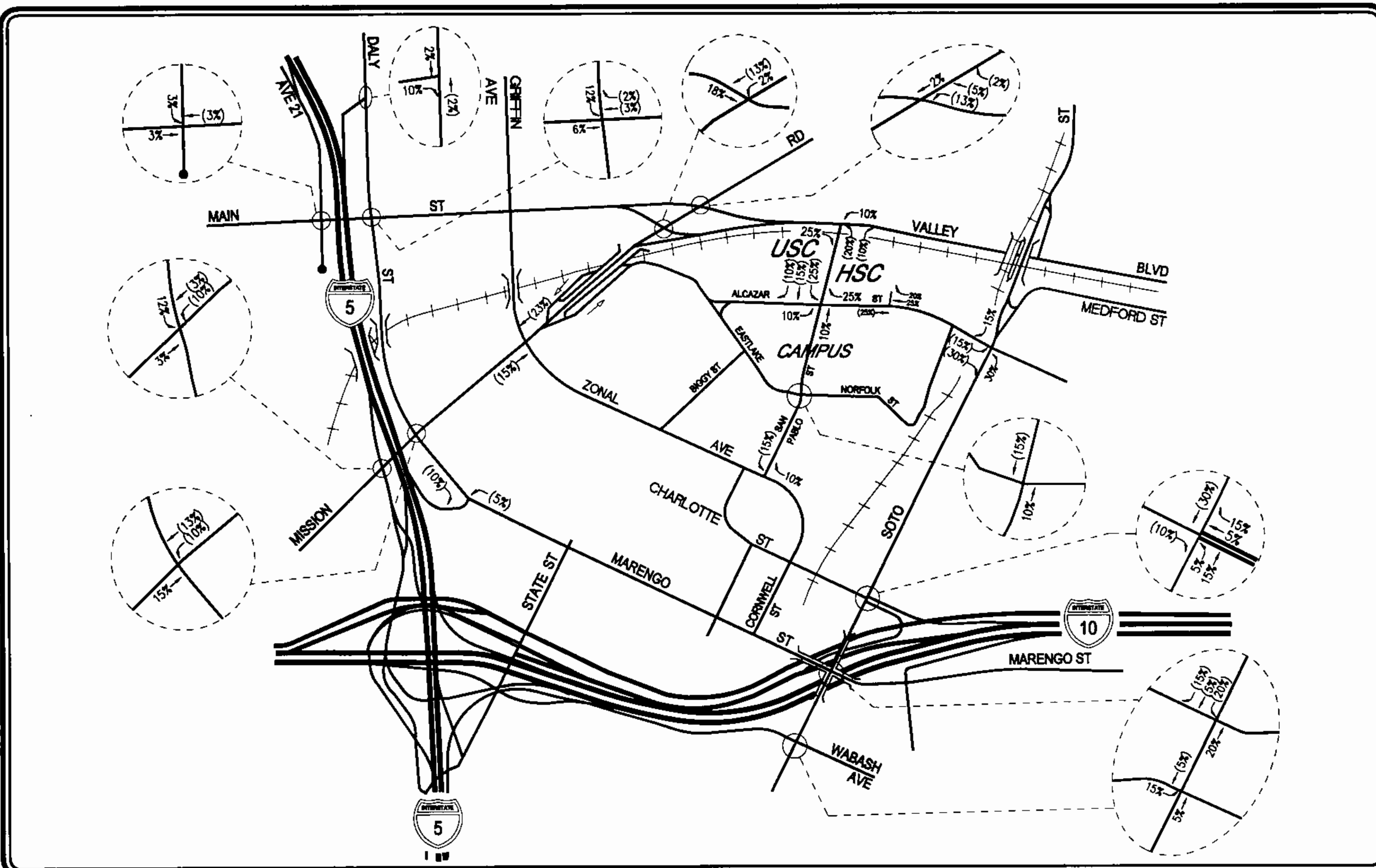

XX = INBOUND PERCENTAGES
(XX) = OUTBOUND PERCENTAGES
* ALL PARKING PROVIDED AT DEVELOPMENT SITE E & F

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FIGURE 10
PROJECT TRIP DISTRIBUTION PARKING SCENARIO NO. 2 *

USC HEALTH SCIENCES CAMPUS PROJECT

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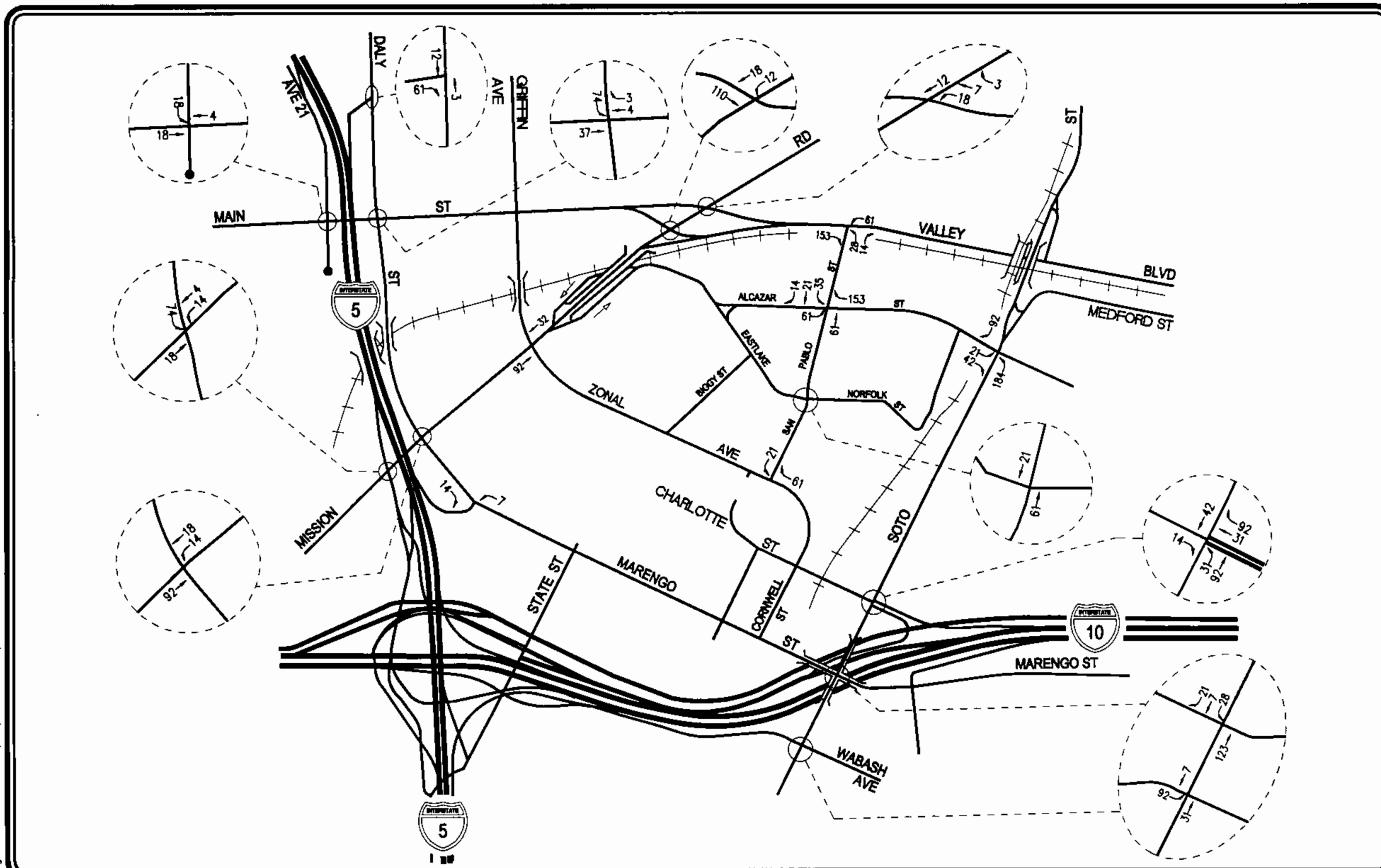

* ALL PARKING PROVIDED AT DEVELOPMENT SITE E & F

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FIGURE 11
PROJECT TRAFFIC VOLUMES (PARKING SCENARIO NO. 2)
AM PEAK COMMUTER HOUR

USC HEALTH SCIENCES CAMPUS PROJECT

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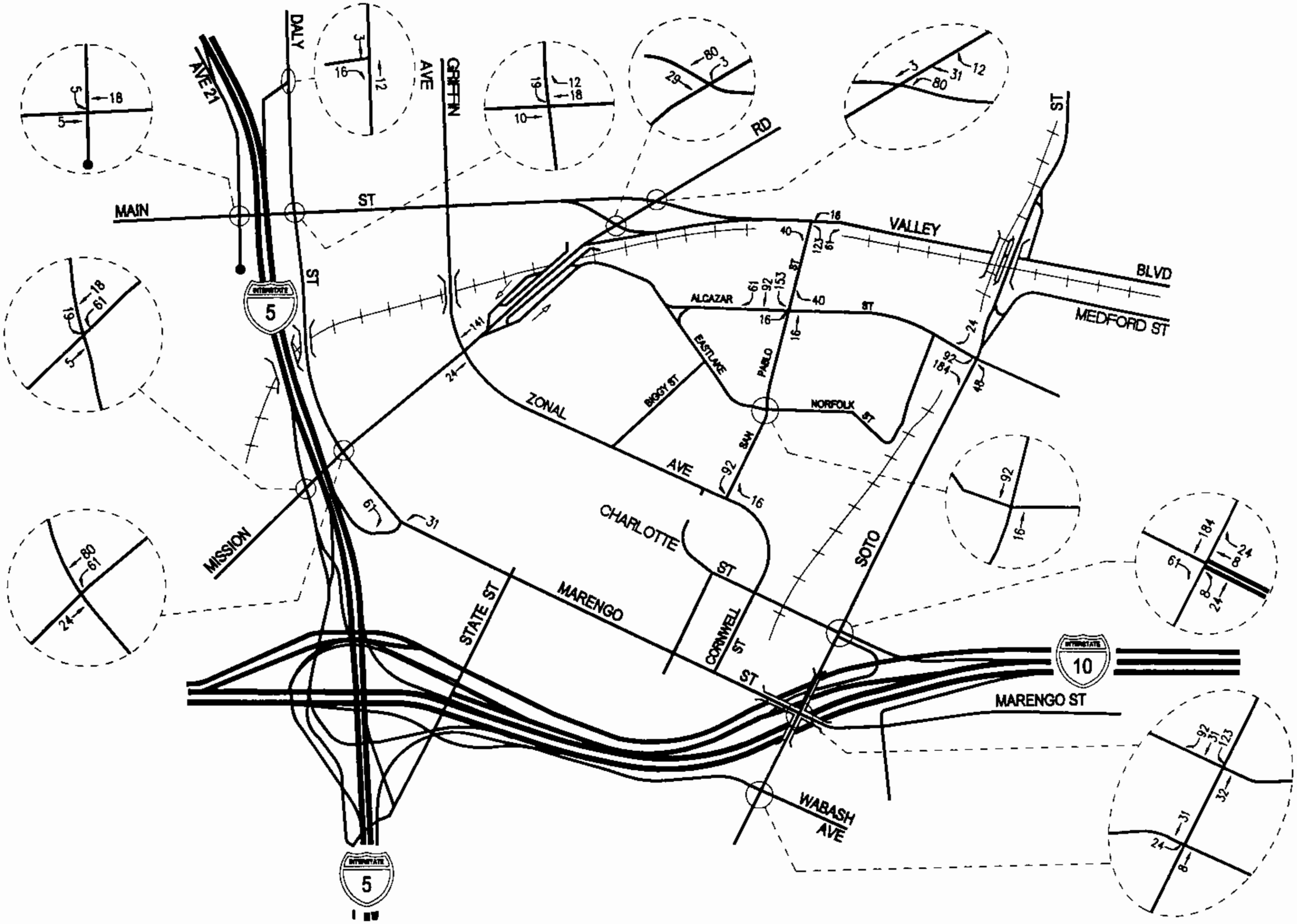

* ALL PARKING PROVIDED AT DEVELOPMENT SITE E & F

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FIGURE 12

PROJECT TRAFFIC VOLUMES (PARKING SCENARIO NO. 2)

PM PEAK COMMUTER HOUR

USC HEALTH SCIENCES CAMPUS PROJECT

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12.0 CUMULATIVE DEVELOPMENT PROJECTS

A forecast of on-street traffic conditions prior to the occupancy of the proposed project was prepared by incorporating the potential trips associated with other known cumulative development projects (related projects) in the area. With this information, the potential impact of the proposed project can be evaluated within the context of the cumulative impact of all ongoing development. The related projects research was based on information on file at the City of Los Angeles Departments of Planning and Transportation. The list of related projects in the area is presented in Table 5. The location of the related projects is displayed in Figure 13. The list of related projects was submitted for review and approval by LADOT staff prior to incorporation into this analysis.

Traffic volumes expected to be generated by the related projects were estimated using accepted generation rates published in the ITE *Trip Generation* manual. The related projects' respective traffic generation for the AM and PM peak hours, as well as on a daily basis for a typical weekday, is presented in Table 6. The anticipated distribution of the related projects' traffic volumes at the 18 study intersections during the AM and PM peak hours is illustrated in Figures 14 and 15, respectively.

12.1 Ambient Traffic Growth Factor

In order to account for unknown related projects not included in this analysis, the existing traffic volumes were increased at an annual rate of one percent (1.0%) per year to the year 2015 (i.e., the anticipated year of project build-out). Application of these annual ambient growth factors allow for a conservative worst case forecast of future traffic volumes in the area. The ambient growth factor was based on general traffic growth factors provided in the Congestion Management Program and determined in consultation with LADOT staff.

Table 5
LIST OF RELATED PROJECTS [1]
USC Health Sciences Campus Project

05-May-2005

MAP NO.	PROJECT	LOCATION	LAND USE	SIZE [2]	STATUS
1	99-0603	1700 Marengo Street	Los Angeles County Medical Center	Phase I: Hospital Replacement	Under Construction
2	00-1280	2419 Workman Street	Drugstore	15,549 SF	Proposed
3	00-1860 Freight Yard Mixed-Use Development Project	970 3rd Street; 3rd Street at Santa Fe Avenue	Mixed-Use: Architect. School General Office Retail Multi-Family Res.	691,040 SF Total 88,096 SF 39,895 SF 188,325 SF 408 DU	Proposed
4	00-2380	2600 Main Street	Convenience Store	3,000 SF	Proposed
5	Capitol Mills Project	Alameda Street at College Street	General Office Retail Loft Apartments	20,000 SF 5,000 SF 30 DU	Proposed
6	Alameda District Plan	Alameda Street Corridor	General Office Hotel Apartment Retail Museum	8,200,000 SF 750 Rooms 300 DU 250,000 SF 70,000 SF	Proposed
7	00-5091 Blossom Plaza	900 Broadway (at College Street)	Condominium Sit-Down Restaurant Museum Retail Quick Service Restaurant	223 DU 9,000 SF 7,000 SF 25,000 SF 6,000 SF	Proposed
8	01-3151	2005 4th Street	Gas Station Fast-Food Rest. w/ Drive-Through	8 Pumps 754 SF	Proposed
9	02-9991	1720 Cesar Chavez Avenue (White Memorial Hospital Replacement Project; sizes shown are net new)	Hospital Medical Office	9 Beds 114,000 SF	Proposed

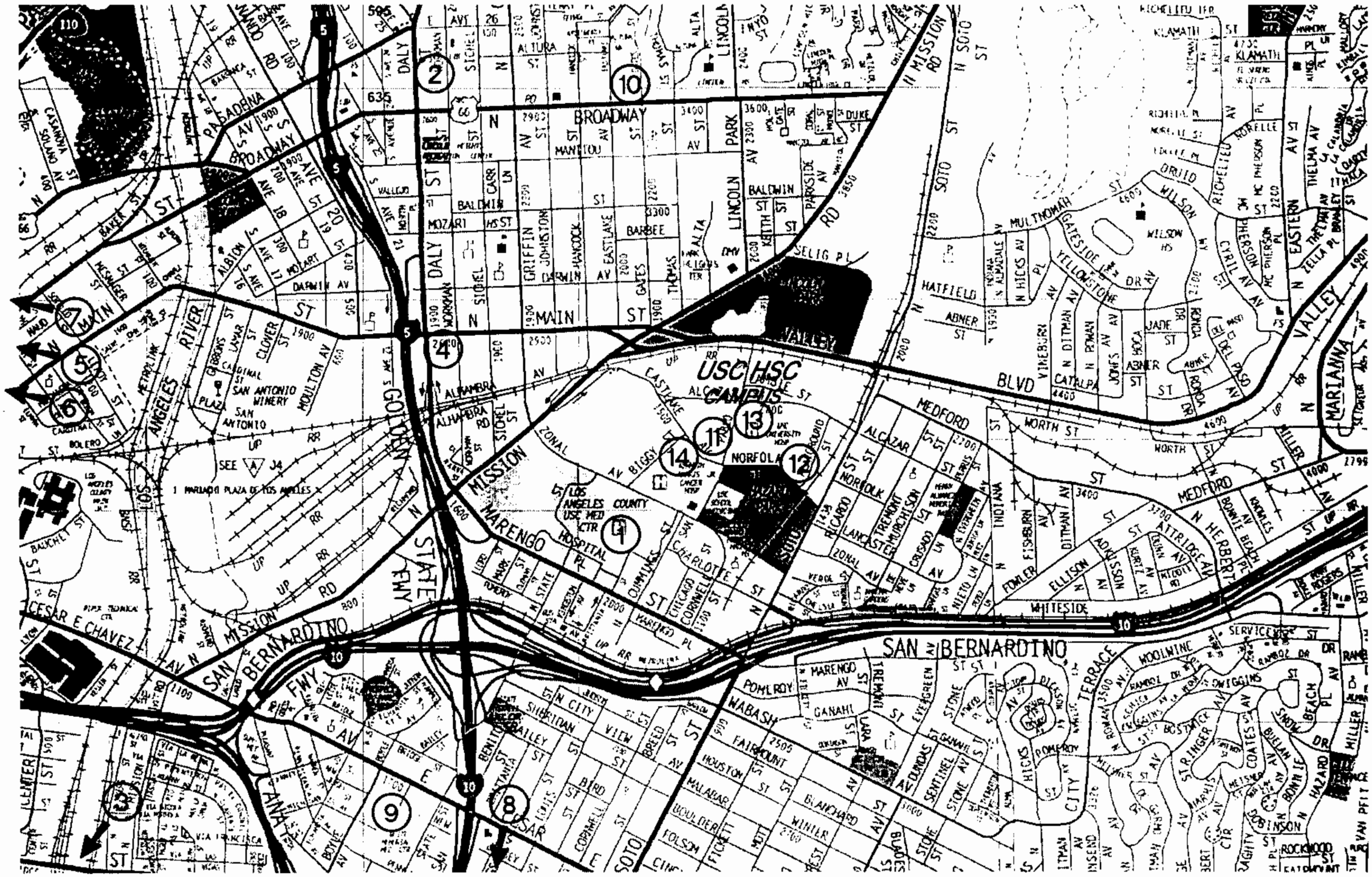
[1] Source: City of Los Angeles Department of Transportation.
[2] Source: "LAC+USC Medical Center Replacement Project Environmental Impact Report," dated March 1994 prepared by Environmental Science Associates, Inc. (and the traffic study prepared by Kaku Associates that was incorporated into the EIR). A total of 950 beds are planned to replace the existing 1,450 bed facility.

Table 5 (Continued)
LIST OF RELATED PROJECTS [1]
USC Health Sciences Campus Project

05-May-2005

MAP NO.	PROJECT	LOCATION	LAND USE	SIZE	STATUS
10	03-2045	3319 Broadway at Gates Street	Restaurant	3,319 SF	Proposed
11	Zilkha Neurogenetics Research Institute	West side of San Pablo Street; between Alcazar Street and Norfolk Street	Research Center	125,000 SF	Built & Occupied
12	Tenet New Acute Care Tower	North side of Norfolk Street, between San Pablo Street and Playground Street	Hospital	160 Beds	Under Construction
13	USC HCC II Building	East side of San Pablo Street, mid-block between Alcazar Street and Norfolk Street	Medical Office	150,000 GSF	Completed
14	USC HNRT	Southeast corner of Eastlake Avenue and Biggy Street	Research Center	175,000 GSF	Under Construction

[1] Source: City of Los Angeles Department of Transportation.



MAP SOURCE: THOMAS BROS. GUIDE

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FIGURE 13
LOCATION OF RELATED PROJECTS

USC HEALTH SCIENCES CAMPUS PROJECT

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Table 6
RELATED PROJECTS TRIP GENERATION [1]
USC Health Sciences Campus Project

05-May-2005

	LAND USE	SIZE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2] IN	OUT	TOTAL	PM PEAK HOUR VOLUMES [2] IN	OUT	TOTAL
1	Hospital Replacement [3]	----	----	----	----	----	----	----	----
2	Drugstore [4]	15,549 GLSF	1,400	29	20	49	58	61	119
3	Architecture School [5]	88,096 GSF	1,617	114	29	143	89	67	156
	General Office [6]	39,895 GSF	439	55	7	62	10	49	59
	Retail [7]	188,325 GLSF	8,083	118	76	194	338	366	704
	Apartment [8]	408 DU	2,705	33	175	208	169	83	252
	Subtotal No. 3		12,845	320	287	607	606	565	1,171
4	Convenience Store [9]	3,000 GSF	2,214	98	98	196	81	81	162
5	General Office [6]	20,000 GSF	220	27	4	31	5	25	30
	Retail [7]	5,000 GLSF	215	3	2	5	9	10	19
	Apartment [8]	30 DU	199	2	13	15	12	6	18
	Subtotal No. 5		634	32	19	51	26	41	67
6	General Office [10]	8,200,000 GSF	39,149	5,501	750	6,251	1,576	7,695	9,271
	Hotel [11]	350 Rms	3,122	136	98	234	122	127	249
	Apartment [8]	300 DU	1,989	24	129	153	125	61	186
	Retail [7]	250,000 GLSF	10,730	157	100	257	449	486	935
	Museum [6]	70,000 GSF	771	96	13	109	18	87	105
	Subtotal No. 6		55,761	5,914	1,090	7,004	2,290	8,456	10,746
7	Condominium [12]	223 DU	1,307	17	81	98	81	40	121
	Restaurant [13]	9,000 GSF	1,173	43	40	83	59	39	98
	Museum [6]	7,000 GSF	77	10	1	11	2	9	11
	Retail [7]	25,000 GLSF	1,073	16	10	26	45	49	94
	Quick Service Restaurant [14]	6,000 GSF	4,296	158	105	263	80	77	157
	Subtotal No. 7		7,926	244	237	481	267	214	481
8	Gasoline Station [15]	8 Pumps	1,348	50	48	98	59	57	116
	Fast Food Rest w/Drive-Thru [16]	754 GSF	374	19	18	37	13	12	25
	Subtotal No. 8		1,722	69	66	135	72	69	141
9	Hospital [17]	9 Bed	107	7	3	10	4	7	11
	Medical Office [18]	114,000 GSF	4,119	222	55	277	93	250	343
	Subtotal No. 9		4,226	229	58	287	97	257	354
Subtotal			**86,727**	**6,935**	**1,875**	**8,810**	**3,497**	**9,744**	**13,241**

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Table 6 (Continued)
RELATED PROJECTS TRIP GENERATION [1]
USC Health Sciences Campus Project

05-May-2005

LAND USE	SIZE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			IN	OUT	TOTAL	IN	OUT	TOTAL
10 Restaurant [13]	3,319 GSF	433	16	15	31	22	14	36
11 Zilkha Neurogenetics Research Institute [19]	105,168 GSF	1,065	118	24	142	21	118	139
12 Hospital [17]	160 Bed	1,884	123	48	171	66	129	195
13 Medical Office [18]	150,000 GSF	5,420	292	73	365	119	322	441
14 H. Norris Research Tower [19]	175,000 GSF	1,660	188	39	227	33	184	217
Subtotal		10,462	737	199	936	261	767	1,028
TOTAL		97,189	7,672	2,074	9,746	3,758	10,511	14,269

[1] Source: ITE "Trip Generation", 6th Edition, 1997.
[2] Trips are one-way traffic movements, entering or leaving.
[3] Source: "LAC+USC Medical Center Replacement Project Environmental Impact Report," dated March 1994 and prepared by Environmental Science Associates, Inc. (and the traffic study prepared by Kaku Associates that was incorporated into the EIR). As stated on page 36 of the traffic study and as shown in Table 8, Phase I & II - Net New Traffic Generation, no net increase in traffic is expected due to the project. However, the current medical center traffic would be redistributed onto the roadway system due to the realigning and vacating of streets, and relocation of parking. Accordingly, the redistribution of traffic for the medical center that was indicated in the traffic volume exhibits was accounted for in this analysis. See Figure 8, Cumulative Base Year 2002 Peak Hour Trafic Volumes, and Figure 10, Cumulative Plus Phase I Peak Hour Traffic Volumes, in the medical center EIR. Also, please note that the proposed facility includes 950 beds as replacement for the existing 1,450 bed facility.
[4] ITE Land Use Code 880 (Pharmacy/Drugstore without Drive-Through Window) trip generation average rates.
[5] ITE Land Use Code 540 (Junior/Community College) trip generation average rates.
[6] ITE Land Use Code 710 (General Office Building) trip generation average rates.
[7] ITE Land Use Code 820 (Shopping Center) trip generation average rates.
[8] ITE Land Use Code 220 (Apartment) trip generation average rates.
[9] ITE Land Use Code 851 (Convenience Market [Open 24 Hours]) trip generation average rates.
[10] ITE Land Use Code 710 (General Office Building) trip generation equation rates.
[11] ITE Land Use Code 310 (Hotel) trip generation average rates.
[12] ITE Land Use Code 230 (Residential Condominium/Townhouse) trip generation average rates.
[13] ITE Land Use Code 832 (High-Turnover Sit-Down Restaurant) trip generation average rates.
[14] ITE Land Use Code 833 (Fast-Food Restaurant Without Drive-Through) trip generation average rates.
[15] ITE Land Use Code 844 (Gasoline/Service Station) trip generation average rates.
[16] ITE Land Use Code 834 (Fast-Food Restaurant with Drive-Through) trip generation average rates.
[17] ITE Land Use Code 610 (Hospital) trip generation average rates.
[18] ITE Land Use Code 720 (Medical-Dental Office Building) trip generation average rates were used to forecast traffic volumes for the AM peak hour (as no equation rates are provided). ITE Land Use Code 720 trip generation equation rates were utilized to forecast traffic volumes for the daily and PM peak hour periods.
[19] ITE Land Use Code 760 (Research and Development Center) trip generation equation rates. For related project no. 11, the total square footage excludes the basement (125,000 total square feet - 19,832 square foot basement = 105,168 square feet).

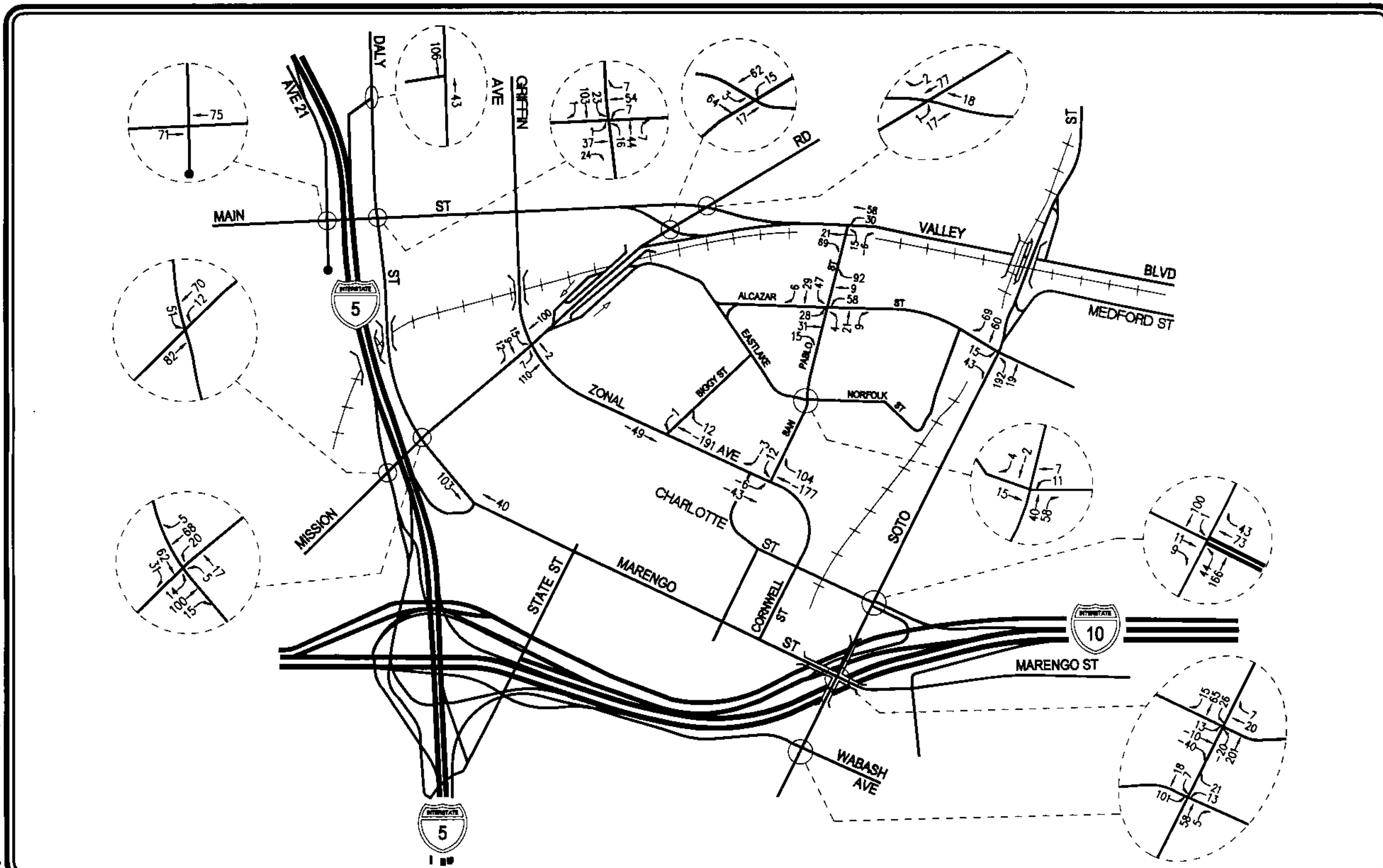

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FIGURE 14
RELATED PROJECTS TRAFFIC VOLUMES
AM PEAK COMMUTER HOUR
USC HEALTH SCIENCES CAMPUS PROJECT

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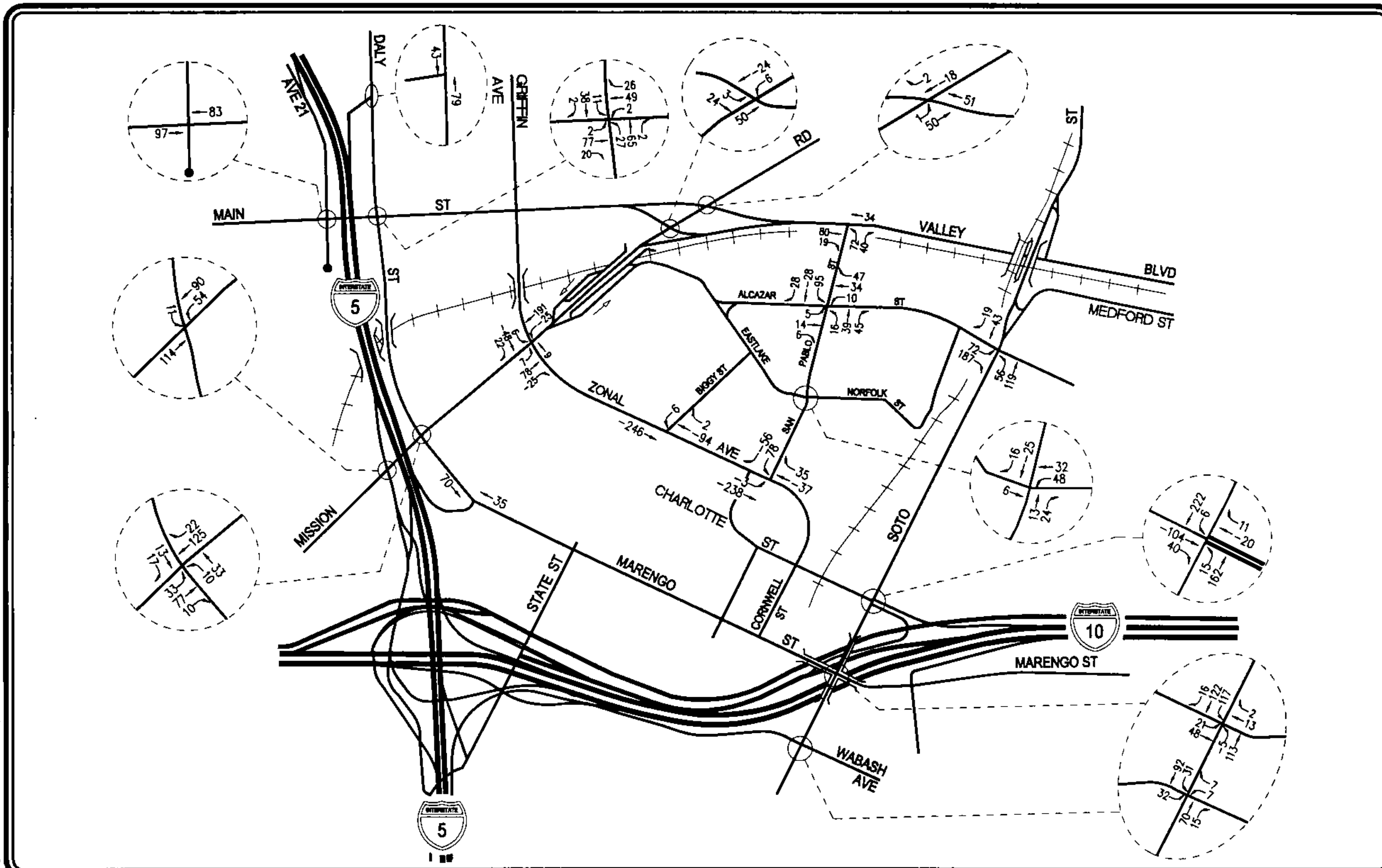

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FIGURE 15

RELATED PROJECTS TRAFFIC VOLUMES

PM PEAK COMMUTER HOUR

USC HEALTH SCIENCES CAMPUS PROJECT

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13.0 TRAFFIC IMPACT ANALYSIS AND METHODOLOGY

The 18 study intersections were evaluated using the Critical Movement Analysis (CMA) method of analysis which determines Volume-to Capacity (*v/c*) ratios on a critical lane basis. The overall intersection *v/c* ratio is subsequently assigned a Level of Service (LOS) value to describe intersection operations. The Levels of Service vary from LOS A (free flow) to LOS F (jammed condition). A description of the CMA method and corresponding Levels of Service is provided in both Appendix C and Appendix D.

13.1 Impact Criteria and Thresholds

The relative impact of the added project traffic volumes expected to be generated by the proposed USC HSC project during the AM and the PM peak hours were evaluated based on analysis of future operating conditions at the 18 study intersections, without and then with the proposed project for both Parking Scenario No. 1 and Parking Scenario No. 2. The previously discussed capacity analysis procedures were utilized to evaluate the future volume-to-capacity relationships and service level characteristics at each study intersection.

The significance of the potential impacts of project generated traffic at each study intersection was identified using the traffic impact criteria set forth in LADOT's *Traffic Study Policies and Procedures*, March, 2002. According to the City's published traffic study guidelines, a significant transportation impact is determined based on the sliding scale criteria presented in Table 7.

Table 7
LADOT INTERSECTION IMPACT THRESHOLD CRITERIA

Final *v/c*	Level of Service	Project Related Increase in *v/c*
>0.700-0.800	C	equal to or greater than 0.04
>0.800-0.900	D	equal to or greater than 0.02
> 0.900	E-F	equal to or greater than 0.01

As previously mentioned, an annual one percent (1.0%) ambient growth rate was assumed so as to account for unknown related projects in the vicinity of the proposed project. Additionally, it was assumed that the build-out of the proposed project will be complete and the building fully occupied by the end of the year 2015.

Two recently approved roadway improvements for the Soto Street/Alcazar Street intersection (study intersection No. 15) have been incorporated into the pre-project conditions analyses. The roadway improvement to include the installation of a southbound right-turn only lane was a condition of approval for both the USC Healthcare Consultation Center II and New Acute Care Tower projects. The conversion of this southbound right-turn only lane to a combination through/right-turn lane was a condition of approval for the HNRT project. As these measures do not provide "over-mitigation" for these projects, the improvements are assumed to be completed prior to the USC HSC project and were included in the future pre-project conditions analyses, pursuant to the direction of LADOT.

In addition to the above improvements, based on direction from LADOT staff, it was assumed in this analysis that one through lane and one functional right-turn only lane is accommodated at the northbound approach on San Pablo Street at Alcazar Street (study intersection No. 12) and at the westbound approach on Zonal Avenue at San Pablo Street (study intersection No. 14). The basis for this assumption is that sufficient roadway width exists to accommodate these "functional" lanes and although these right-turn lanes are not formally striped, motorists use the added approach width as such. Further, for the Soto Street/I-10 Freeway WB Ramps-Charlotte Street intersection (study intersection No. 16), the improvement to include an additional lane on the off-ramp was also a condition of approval for the HNRT project, which is currently under construction. This ramp measure improve does provide "over-mitigation" available for the proposed project.

13.2 Traffic Impact Analysis Scenarios

Pursuant to LADOT's traffic study guidelines, Level of Service calculations have been prepared for the following scenarios:

- [a] Existing traffic conditions.
- [b] Condition [a] plus one percent (1.0%) ambient traffic growth up through year 2015.
- [c] Condition [b] with completion and occupancy of the related projects.
- [d] Condition [c] with completion and occupancy of the proposed Parking Scenario No. 1 project (year 2015).
- [e] Condition [c] with completion and occupancy of the proposed Parking Scenario No. 2 project (year 2015).
- [f] Conditions [d and e] with implementation of project mitigation measures, where necessary.

The traffic volumes for each new condition were added to the volumes in the prior condition to determine the change in capacity utilization at the study intersections.

Summaries of the *v/c* ratios and LOS values for the study intersections during the AM and PM peak hours are shown in Table 8 for the Parking Scenario No. 1 project. The proposed Parking Scenario No. 1 project CMA data worksheets for the analyzed intersections during the AM and PM peak hours are contained in Appendix C.

Summaries of the *v/c* ratios and LOS values for the study intersections during the AM and PM peak hours are shown in Table 9 for the Parking Scenario No. 2 project. The proposed Parking Scenario No. 2 project CMA data worksheets for the analyzed intersections during the AM and PM peak hours are contained in Appendix D.

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Table 8
PARKING SCENARIO NO. 1: ALL PARKING AT DEVELOPMENT SITE C
SUMMARY OF VOLUME TO CAPACITY RATIOS AND LEVELS OF SERVICE
AM AND PM PEAK HOURS
USC Health Sciences Campus Project

05-May-2005

NO.	INTERSECTION	PEAK HOUR	[1] YEAR 2004 EXISTING V/C	LOS	[2] YEAR 2015 W/ AMBIENT GROWTH V/C	LOS	[3] YEAR 2015 W/ RELATED PROJECTS V/C	LOS	[4] YEAR 2015 W/ SCENARIO NO. 1 PROJECT V/C	LOS	CHANGE V/C [(4)-(3)]	SIGNIF. IMPACT	[5] YEAR 2015 W/ PROJECT MITIGATION V/C	LOS	CHANGE V/C [(5)-(3)]	MITI-GATED
1	I-5 Freeway SB Off-Ramp/	AM	0.764	C	0.848	D	0.879	D	0.893	D	0.014	NO	0.893	D	0.014	---
	Avenue 21-Main Street	PM	0.542	A	0.602	B	0.642	B	0.648	B	0.006	NO	0.648	B	0.006	---
2	I-5 Freeway SB Ramps/	AM	0.980	E	1.099	F	1.160	F	1.213	F	0.053	YES	0.905	E	-0.255	YES
	Mission Road	PM	0.689	B	0.776	C	0.831	D	0.869	D	0.038	YES	0.735	C	-0.096	YES
3	I-5 Freeway NB Off-Ramp/	AM	0.585	A	0.655	B	0.699	B	0.776	C	0.077	YES	0.621	B	-0.078	YES
	Daly Street-Main Street	PM	0.465	A	0.520	A	0.553	A	0.577	A	0.024	NO	0.462	A	-0.091	---
4	Daly Street/	AM	0.705	C	0.794	C	0.863	D	0.865	D	0.002	NO	0.865	D	0.002	---
	Main Street	PM	0.593	A	0.669	B	0.733	C	0.754	C	0.021	NO	0.754	C	0.021	---
5	Mission Road/	AM	0.754	C	0.840	D	0.904	E	0.911	E	0.007	NO	0.911	E	0.007	---
	Daly Street-Marengo Street	PM	0.849	D	0.944	E	0.986	E	1.124	F	0.138	YES	1.124	F	0.138	NO
6	I-5 Freeway NB On-Ramp/	AM	0.624	B	0.692	B	0.735	C	0.752	C	0.017	NO	0.668	B	-0.067	---
	Marengo Street	PM	0.730	C	0.811	D	0.840	D	0.914	E	0.074	YES	0.753	C	-0.087	YES
7	Mission Road/	AM	0.601	B	0.678	B	0.723	C	0.807	D	0.084	YES	0.807	D	0.084	NO
	Griffin Avenue-Zonal Avenue	PM	0.507	A	0.573	A	0.583	A	0.778	C	0.195	YES	0.778	C	0.195	NO
8	Mission Road/	AM	0.588	A	0.664	B	0.706	C	0.731	C	0.025	NO	0.731	C	0.025	---
	Valley Boulevard	PM	0.639	B	0.720	C	0.749	C	0.753	C	0.004	NO	0.753	C	0.004	---
9	Mission Road/	AM	0.692	B	0.779	C	0.812	D	0.822	D	0.010	NO	0.822	D	0.010	---
	Main Street	PM	0.543	A	0.614	B	0.647	B	0.653	B	0.006	NO	0.653	B	0.006	---

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Table 8 (Continued)
PARKING SCENARIO NO. 1: ALL PARKING AT DEVELOPMENT SITE C
SUMMARY OF VOLUME TO CAPACITY RATIOS AND LEVELS OF SERVICE
AM AND PM PEAK HOURS
USC Health Sciences Campus Project

05-May-2005

NO.	INTERSECTION	PEAK HOUR	[1] YEAR 2004 EXISTING V/C	LOS	[2] YEAR 2015 W/ AMBIENT GROWTH V/C	LOS	[3] YEAR 2015 W/ RELATED PROJECTS V/C	LOS	[4] YEAR 2015 W/ SCENARIO NO. 1 PROJECT V/C	LOS	CHANGE V/C [(4)-(3)]	SIGNIF. IMPACT	[5] YEAR 2015 W/ PROJECT MITIGATION V/C	LOS	CHANGE V/C [(5)-(3)]	MITI-GATED
10	Biggy Street/ Zonal Avenue	AM PM	0.717 0.698	C B	0.796 0.775	C C	0.724 0.703	C C	0.836 0.753	D C	0.112 0.050	YES YES	0.735 0.678	C B	0.011 -0.025	YES YES
11	San Pablo Street/ Valley Boulevard	AM PM	0.241 0.198	A A	0.278 0.231	A A	0.301 0.301	A A	0.315 0.325	A A	0.014 0.024	NO NO	0.315 0.325	A A	0.014 0.024	--- ---
12	San Pablo Street/ Alcazar Street	AM PM	0.478 0.511	A A	0.531 0.567	A A	0.650 0.705	B C	0.727 0.737	C C	0.077 0.032	YES NO	0.581 0.590	A A	-0.069 -0.115	YES ---
13	San Pablo Street/ Eastlake Avenue-Norfolk Street	AM PM	0.470 0.379	A A	0.508 0.410	A A	0.524 0.503	A A	0.601 0.580	B A	0.077 0.077	NO NO	0.601 0.580	B A	0.077 0.077	--- ---
14	San Pablo Street/ Zonal Avenue	AM PM	0.782 0.643	C B	0.868 0.713	D C	0.508 0.648	A B	0.692 0.754	B C	0.184 0.106	NO YES	0.554 0.603	A B	0.046 -0.045	--- YES
15	Soto Street/ Alcazar Street	AM PM	0.788 0.576	C A	0.886 0.651	D B	0.860 0.738	D C	0.878 0.759	D C	0.018 0.021	NO NO	0.878 0.759	D C	0.018 0.021	--- ---
16	Soto Street/ I-10 Freeway WB Ramps-Charlotte Street	AM PM	0.971 0.855	E D	1.089 0.960	F E	1.206 1.051	F F	1.262 1.149	F F	0.056 0.098	YES YES	1.069 1.091	F F	-0.137 0.040	YES NO
17	Soto Street/ Marengo Street	AM PM	0.727 0.751	C C	0.818 0.844	D D	0.837 0.948	D E	0.860 1.000	D E	0.023 0.052	YES YES	0.860 1.000	D E	0.023 0.052	NO NO
18	Soto Street/ I-10 Freeway EB Off-Ramp-Wabash Avenue	AM PM	0.624 0.588	B A	0.703 0.664	C B	0.780 0.716	C C	0.803 0.722	D C	0.023 0.006	YES NO	0.716 0.619	C B	-0.064 -0.097	YES ---

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Table 9
PARKING SCENARIO NO. 2: ALL PARKING AT DEVELOPMENT SITES E & F
SUMMARY OF VOLUME TO CAPACITY RATIOS AND LEVELS OF SERVICE
AM AND PM PEAK HOURS
USC Health Sciences Campus Project

05-May-2005

			[1]		[2]		[3]		[4]				[5]			
			YEAR 2004 EXISTING		YEAR 2015 W/ AMBIENT GROWTH		YEAR 2015 W/ RELATED PROJECTS		YEAR 2015 W/ SCENARIO NO. 2 PROJECT		CHANGE V/C	SIGNIF. IMPACT	YEAR 2015 W/ PROJECT MITIGATION		CHANGE V/C	MITI-GATED
NO.	INTERSECTION	PEAK HOUR	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	[(4)-(3)]		V/C	LOS	[(5)-(3)]	
1	I-5 Freeway SB Off-Ramp/	AM	0.764	C	0.848	D	0.879	D	0.893	D	0.014	NO	0.893	D	0.014	---
	Avenue 21-Main Street	PM	0.542	A	0.602	B	0.642	B	0.648	B	0.006	NO	0.648	B	0.006	---
2	I-5 Freeway SB Ramps/	AM	0.980	E	1.099	F	1.160	F	1.213	F	0.053	YES	0.905	E	-0.255	YES
	Mission Road	PM	0.689	B	0.776	C	0.831	D	0.869	D	0.038	YES	0.735	C	-0.096	YES
3	I-5 Freeway NB Off-Ramp/	AM	0.585	A	0.655	B	0.699	B	0.755	C	0.056	YES	0.604	B	-0.095	YES
	Daly Street-Main Street	PM	0.465	A	0.520	A	0.553	A	0.572	A	0.019	NO	0.457	A	-0.096	---
4	Daly Street/	AM	0.705	C	0.794	C	0.863	D	0.865	D	0.002	NO	0.865	D	0.002	---
	Main Street	PM	0.593	A	0.669	B	0.733	C	0.749	C	0.016	NO	0.749	C	0.016	---
5	Mission Road/	AM	0.754	C	0.840	D	0.904	E	0.911	E	0.007	NO	0.911	E	0.007	---
	Daly Street-Marengo Street	PM	0.849	D	0.944	E	0.986	E	1.039	F	0.053	YES	1.039	F	0.053	NO
6	I-5 Freeway NB On-Ramp/	AM	0.624	B	0.692	B	0.735	C	0.747	C	0.012	NO	0.666	B	-0.069	---
	Marengo Street	PM	0.730	C	0.811	D	0.840	D	0.891	D	0.051	YES	0.753	C	-0.087	YES
7	Mission Road/	AM	0.601	B	0.678	B	0.723	C	0.734	C	0.011	NO	0.734	C	0.011	---
	Griffin Avenue-Zonal Avenue	PM	0.507	A	0.573	A	0.583	A	0.605	B	0.022	NO	0.605	B	0.022	---
8	Mission Road/	AM	0.588	A	0.664	B	0.706	C	0.749	C	0.043	YES	0.749	C	0.043	NO
	Valley Boulevard	PM	0.639	B	0.720	C	0.749	C	0.760	C	0.011	NO	0.760	C	0.011	---
9	Mission Road/	AM	0.692	B	0.779	C	0.812	D	0.820	D	0.008	NO	0.820	D	0.008	---
	Main Street	PM	0.543	A	0.614	B	0.647	B	0.666	B	0.019	NO	0.666	B	0.019	---

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Table 9 (Continued)
PARKING SCENARIO NO. 2: ALL PARKING AT DEVELOPMENT SITES E & F
SUMMARY OF VOLUME TO CAPACITY RATIOS AND LEVELS OF SERVICE
AM AND PM PEAK HOURS
USC Health Sciences Campus Project

05-May-2005

			[1]		[2]		[3]		[4]				[5]			
			YEAR 2004 EXISTING		YEAR 2015 W/ AMBIENT GROWTH		YEAR 2015 W/ RELATED PROJECTS		YEAR 2015 W/ SCENARIO NO. 2 PROJECT		CHANGE V/C	SIGNIF. IMPACT	YEAR 2015 W/ PROJECT MITIGATION		CHANGE V/C	MITI-GATED
NO.	INTERSECTION	PEAK HOUR	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	[(4)-(3)]		V/C	LOS	[(5)-(3)]	
10	Biggy Street/ Zonal Avenue	AM	0.717	C	0.796	C	0.724	C	0.724	C	0.000	NO	0.724	C	0.000	---
		PM	0.698	B	0.775	C	0.703	C	0.703	C	0.000	NO	0.703	C	0.000	---
11	San Pablo Street/ Valley Boulevard	AM	0.241	A	0.278	A	0.301	A	0.355	A	0.054	NO	0.355	A	0.054	---
		PM	0.198	A	0.231	A	0.301	A	0.403	A	0.102	NO	0.403	A	0.102	---
12	San Pablo Street/ Alcazar Street	AM	0.478	A	0.531	A	0.650	B	0.804	D	0.154	YES	0.643	B	-0.007	YES
		PM	0.511	A	0.567	A	0.705	C	0.832	D	0.127	YES	0.666	B	-0.039	YES
13	San Pablo Street/ Eastlake Avenue-Norfolk Street	AM	0.470	A	0.508	A	0.524	A	0.542	A	0.018	NO	0.542	A	0.018	---
		PM	0.379	A	0.410	A	0.503	A	0.545	A	0.042	NO	0.545	A	0.042	---
14	San Pablo Street/ Zonal Avenue	AM	0.782	C	0.868	D	0.508	A	0.553	A	0.045	NO	0.443	A	-0.065	---
		PM	0.643	B	0.713	C	0.648	B	0.724	C	0.076	YES	0.580	A	-0.068	YES
15	Soto Street/ Alcazar Street	AM	0.788	C	0.886	D	0.860	D	1.017	F	0.157	YES	0.856	D	-0.004	YES
		PM	0.576	A	0.651	B	0.738	C	0.800	C	0.062	YES	0.732	C	-0.006	YES
16	Soto Street/ I-10 Freeway WB Ramps-Charlotte Street	AM	0.971	E	1.089	F	1.206	F	1.299	F	0.093	YES	1.106	F	-0.100	YES
		PM	0.855	D	0.960	E	1.051	F	1.111	F	0.060	YES	1.053	F	0.002	YES
17	Soto Street/ Marengo Street	AM	0.727	C	0.818	D	0.837	D	0.877	D	0.040	YES	0.877	D	0.040	NO
		PM	0.751	C	0.844	D	0.948	E	1.016	F	0.068	YES	1.016	F	0.068	NO
18	Soto Street/ I-10 Freeway EB Off-Ramp-Wabash Avenue	AM	0.624	B	0.703	C	0.780	C	0.826	D	0.046	YES	0.739	C	-0.041	YES
		PM	0.588	A	0.664	B	0.716	C	0.728	C	0.012	NO	0.625	B	-0.091	---

14.0 TRAFFIC ANALYSIS

14.1 Existing Conditions

As indicated in Column [1] of Table 8, 16 of the 18 study intersections are presently operating at LOS D or better during the AM and PM peak commuter hours under existing conditions. The following two study intersections are currently operating at LOS E or F during the peak hours shown below:

- Int. No. 2, I-5 Fwy. SB Ramps/Mission Road — AM Peak Hour: *v/c*=0.980, LOS E
- Int. No. 16, Soto Street/I-10 Fwy. WB Ramps-Charlotte St. — AM Peak Hour: *v/c*=0.971, LOS E

As previously mentioned, the existing traffic volumes for the AM and PM peak commuter hours are displayed in Figures 5 and 6, respectively.

14.2 Existing With Ambient Growth Conditions

Growth in traffic due to the combined effects of continuing development, intensification of existing development, and other factors, were assumed to be one percent (1.0%) per year through year 2015. This ambient growth incrementally increases the Volume-to-Capacity ratios at all of the study intersections. As shown in Column [2] of Table 8, 15 of the 18 study intersections are expected to continue operating at LOS D or better during the AM and PM peak commuter hours with the addition of ambient growth traffic. The following three study intersections are expected to operate at LOS E or F during the peak hours shown below with the addition of ambient growth traffic:

- Int. No. 2, I-5 Fwy. SB Ramps/Mission Road — AM Peak Hour: *v/c*=1.099, LOS F
- Int. No. 5, Mission Road/Daly Street-Marengo Street — PM Peak Hour: *v/c*=0.944, LOS E
- Int. No. 16, Soto Street/I-10 Fwy. WB Ramps-Charlotte St. — AM Peak Hour: *v/c*=1.089, LOS F
  PM Peak Hour: *v/c*=0.960, LOS E

The existing with ambient growth traffic volumes at the study intersections for the AM and PM peak commuter hours are displayed in Figures 16 and 17, respectively.

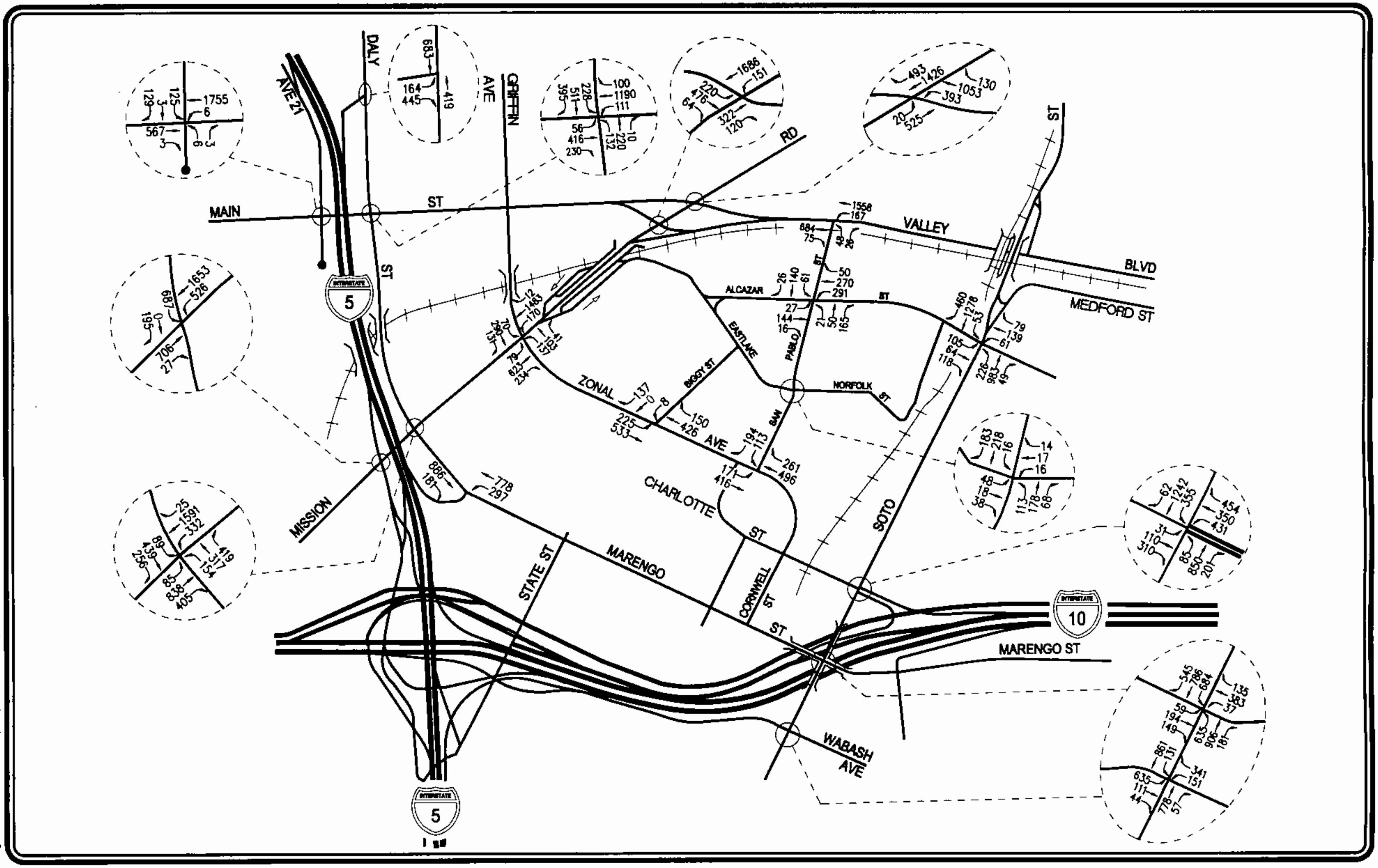

FIGURE 16
EXISTING WITH AMBIENT GROWTH TRAFFIC VOLUMES
AM PEAK COMMUTER HOUR

USC HEALTH SCIENCES CAMPUS PROJECT

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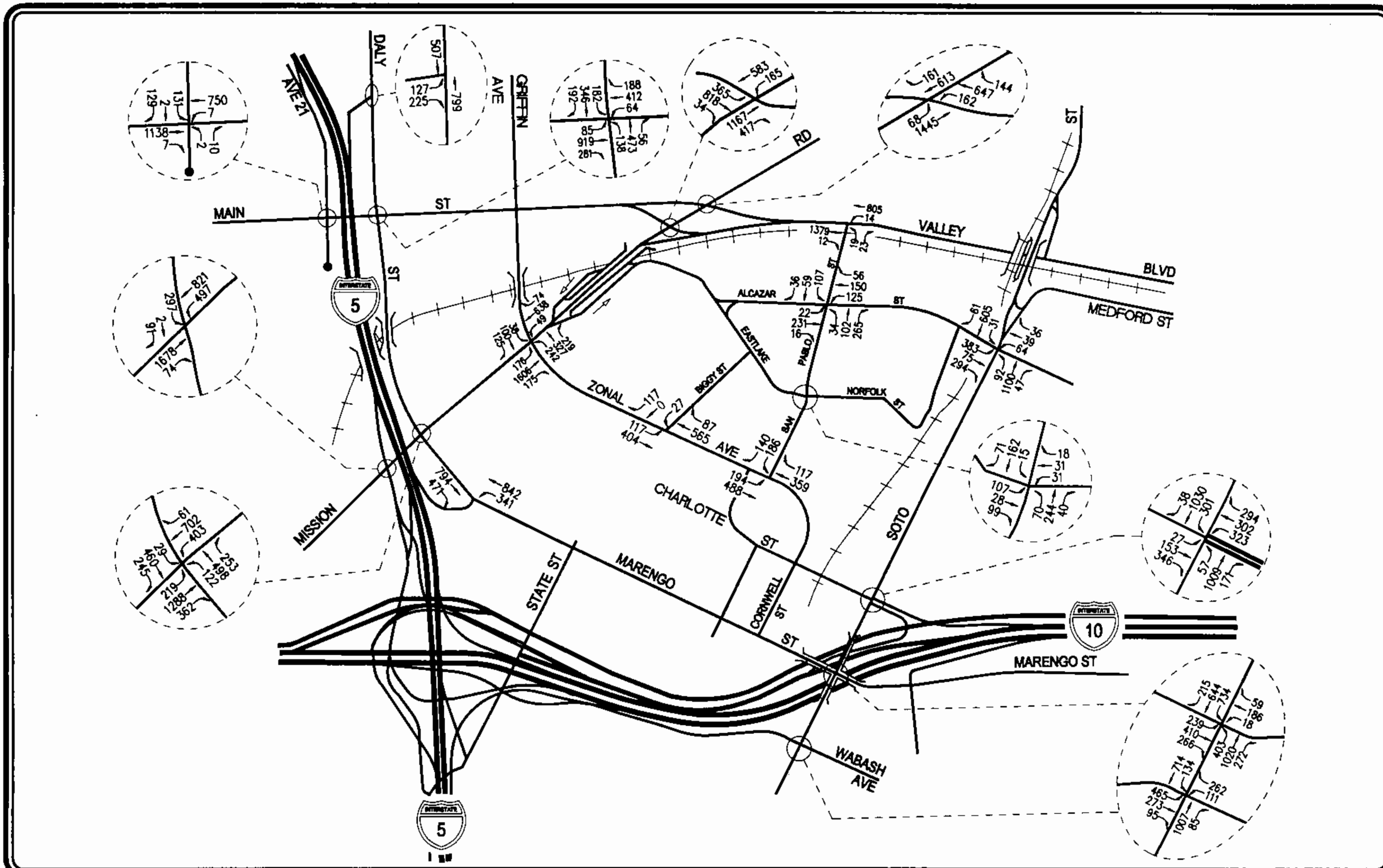

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FIGURE 17

EXISTING WITH AMBIENT GROWTH TRAFFIC VOLUMES

PM PEAK COMMUTER HOUR

USC HEALTH SCIENCES CAMPUS PROJECT

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14.3 Future Pre-Project Conditions

The Levels of Service at all 18 study intersections are incrementally increased by the addition of traffic generated by the related projects listed in Table 5. As presented in Column [3] of Table 8, 14 of the 18 study intersections are expected to operate at LOS D or better during the AM and PM peak commuter hours with the addition of growth in ambient traffic and the traffic due to the related projects. The following four study intersections are expected to operate at LOS E or F during the peak hours shown below with the addition of growth in ambient traffic and the traffic due to the related projects:

• Int. No. 2, I-5 Fwy. SB Ramps/Mission Road	AM Peak Hour: *v/c*=1.160, LOS F
• Int. No. 5, Mission Road/Daly Street-Marengo Street	AM Peak Hour: *v/c*=0.904, LOS E
	PM Peak Hour: *v/c*=0.986, LOS E
• Int. No. 16, Soto Street/I-10 Fwy. WB Ramps-Charlotte St.	AM Peak Hour: *v/c*=1.206, LOS F
	PM Peak Hour: *v/c*=1.051, LOS F
• Int. No. 17, Soto Street/Marengo Street	PM Peak Hour: *v/c*=0.948, LOS E

The future pre-project (existing, ambient growth and related projects) traffic volumes for the AM and PM peak commuter hours are shown in Figures 18 and 19, respectively.

14.4 Future With Parking Scenario No. 1 Project Conditions

As shown in Column [4] of Table 8, application of the City's threshold criteria to the "With Parking Scenario No. 1 Project" scenario indicates that the proposed project is expected to create significant impacts at 11 of the 18 study intersections during the AM and/or PM peak commuter hours. The proposed project is expected to create significant impacts according to the City's impact criteria during the peak hours shown below with the addition of ambient growth, related projects traffic, and Parking Scenario No. 1 project-related traffic:

- Int. No. 2: I-5 Freeway SB Ramps/Mission Road
  AM peak hour *v/c* ratio increase of 0.053 [1.160 to 1.213 (LOS F)]
  PM peak hour *v/c* ratio increase of 0.038 [0.831 to 0.869 (LOS D)]

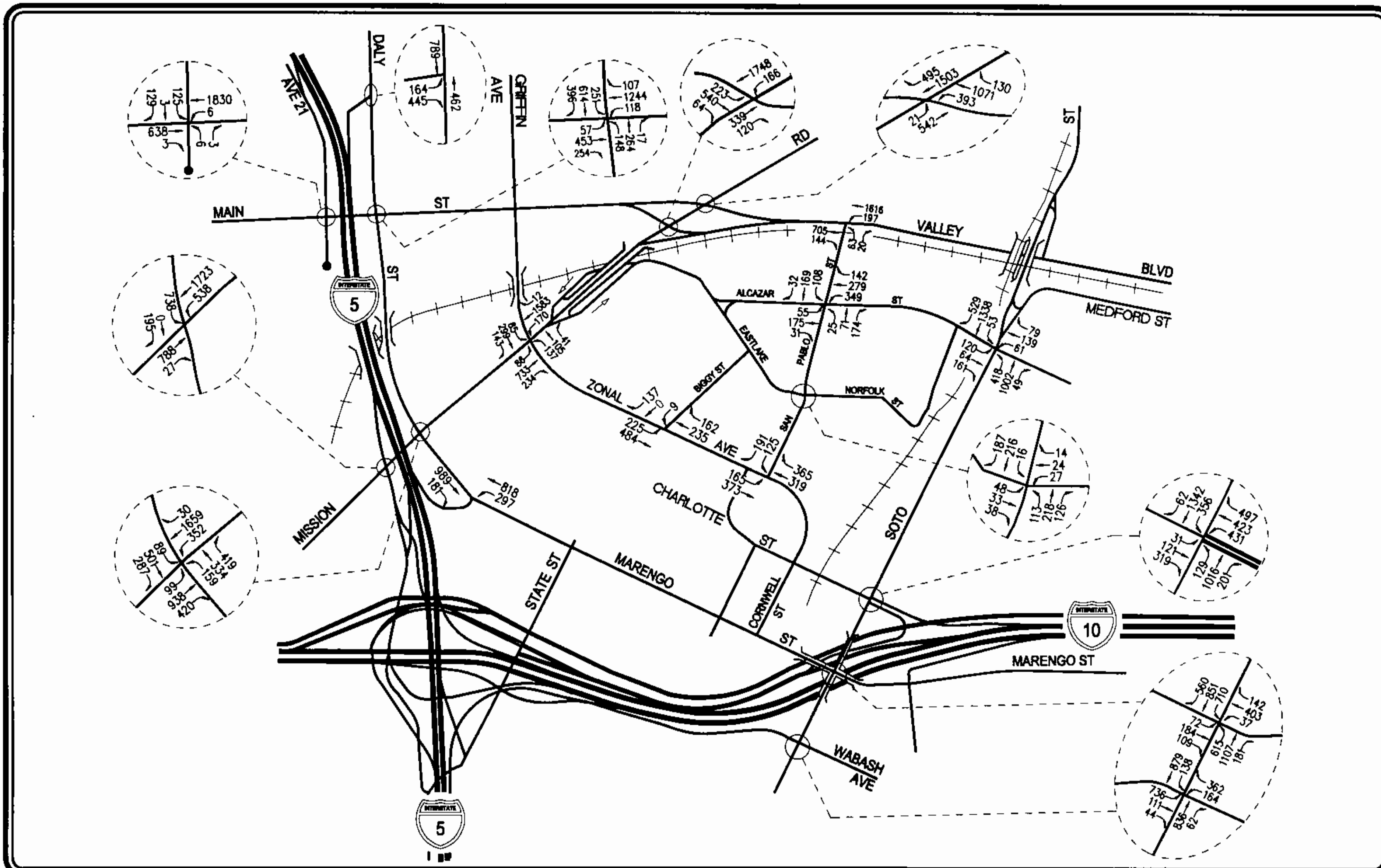

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FIGURE 18
FUTURE PRE-PROJECT TRAFFIC VOLUMES
AM PEAK COMMUTER HOUR

USC HEALTH SCIENCES CAMPUS PROJECT

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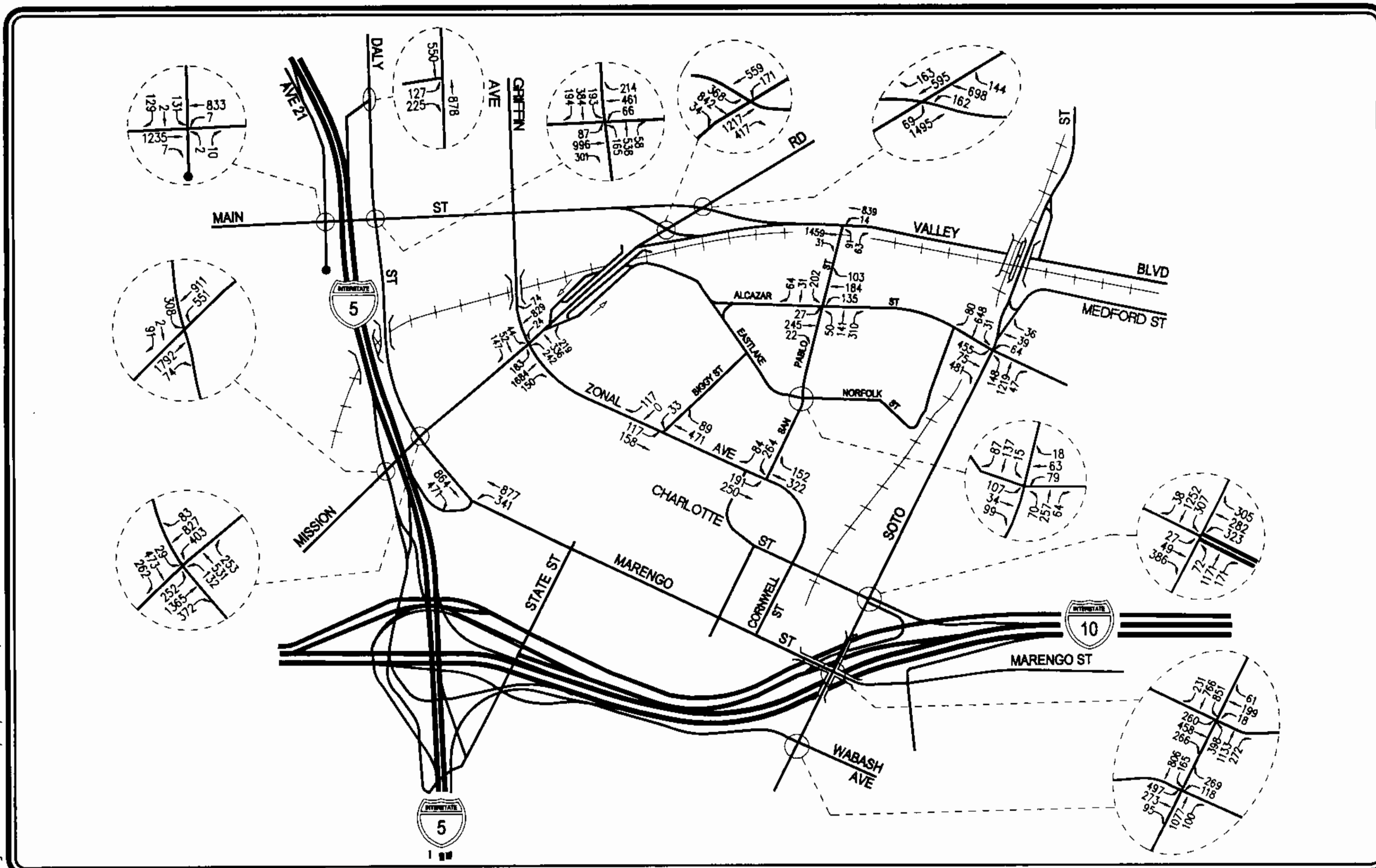

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FIGURE 19
FUTURE PRE-PROJECT TRAFFIC VOLUMES
PM PEAK COMMUTER HOUR
USC HEALTH SCIENCES CAMPUS PROJECT

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- Int. No. 3: I-5 Freeway NB Off-Ramp/Daly Street-Main Street
  AM peak commuter hour *v/c* ratio increase of 0.077 [0.699 to 0.776 (LOS C)]

- Int. No. 5: Mission Road/Daly Street-Marengo Street
  PM peak hour *v/c* ratio increase of 0.138 [0.986 to 1.124 (LOS F)]

- Int. No. 6: I-5 Freeway NB On-Ramp/Marengo Street
  PM peak commuter hour *v/c* ratio increase of 0.074 [0.840 to 0.914 (LOS E)]

- Int. No. 7: Mission Road/Griffin Avenue-Zonal Avenue
  AM peak hour *v/c* ratio increase of 0.084 [0.723 to 0.807 (LOS D)]
  PM peak hour *v/c* ratio increase of 0.195 [0.583 to 0.778 (LOS C)]

- Int. No. 10: Biggy Street/Zonal Avenue
  AM peak hour *v/c* ratio increase of 0.112 [0.724 to 0.836 (LOS D)]
  PM peak hour *v/c* ratio increase of 0.050 [0.703 to 0.753 (LOS C)]

- Int. No. 12: San Pablo Street/Alcazar Street
  AM peak hour *v/c* ratio increase of 0.077 [0.650 to 0.727 (LOS C)]

- Int. No. 14: San Pablo Street/Zonal Avenue
  PM peak hour *v/c* ratio increase of 0.106 [0.648 to 0.754 (LOS C)]

- Int. No. 16: Soto Street/I-10 Freeway WB Ramps-Charlotte Street
  AM peak hour *v/c* ratio increase of 0.056 [1.206 to 1.262 (LOS F)]
  PM peak hour *v/c* ratio increase of 0.098 [1.051 to 1.149 (LOS F)]

- Int. No. 17: Soto Street/Marengo Street
  AM peak hour *v/c* ratio increase of 0.023 [0.837 to 0.860 (LOS D)]

- Int. No. 18: Soto Street/I-10 Freeway EB Off-Ramp-Wabash Avenue
  AM peak hour *v/c* ratio increase of 0.023 [0.780 to 0.803 (LOS D)]

As indicated in Table 8, incremental but not significant impacts are noted at the remaining seven study intersections due to development of the proposed USC Health Sciences Campus project under Parking Scenario No. 1. The future with proposed Parking Scenario No. 1 project (existing, ambient growth, related projects and Parking Scenario No. 1 project) traffic volumes at the study intersections for the AM and PM peak commuter hours are shown in Figures 20 and 21, respectively. The project mitigation, as summarized in the Transportation Mitigation Measures section of this report, will reduce significant impacts at all but four of the study intersections.

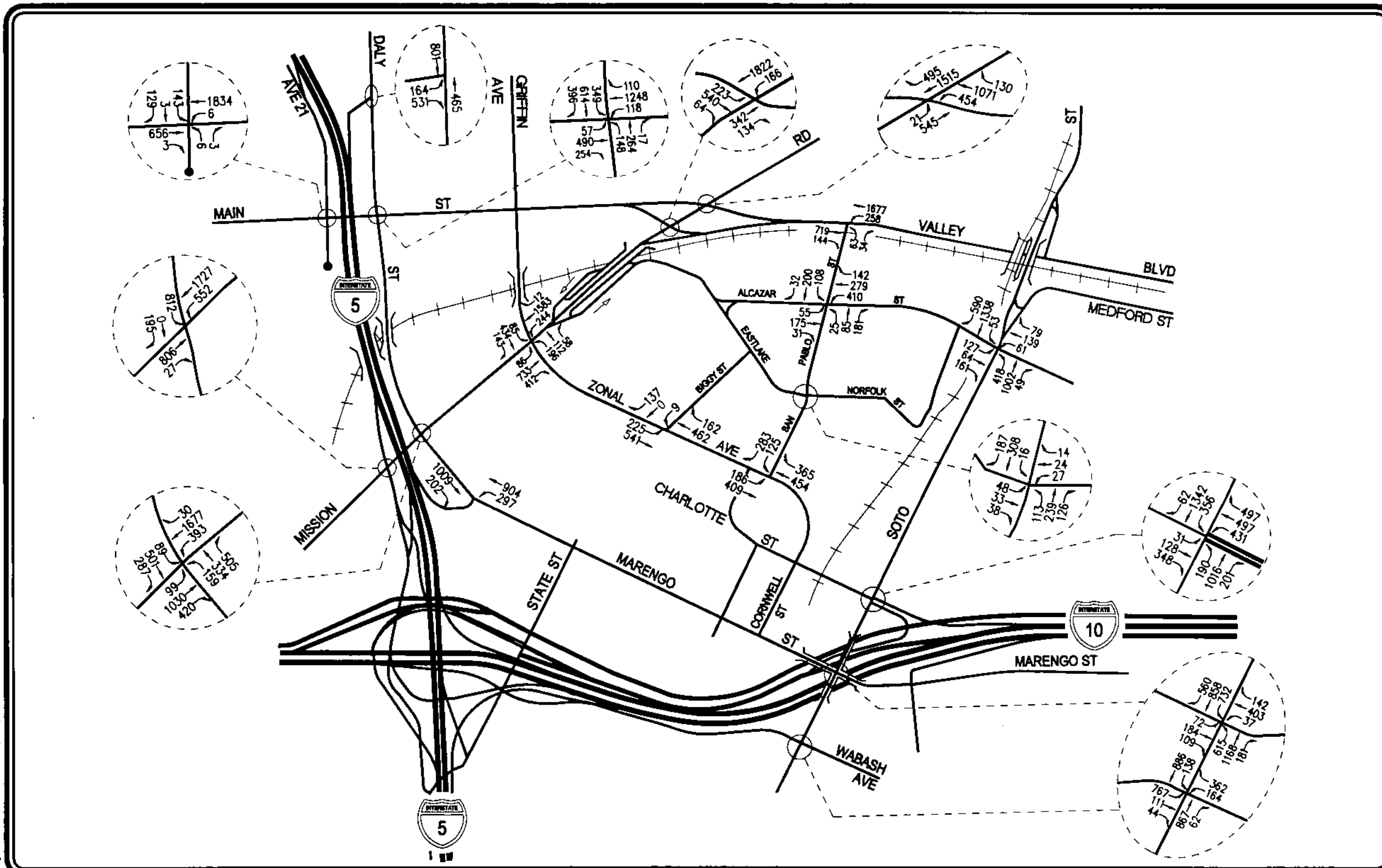
14.4.1 Future With Parking Scenario No. 1 Project Access

According to the City of Los Angeles *Draft LA Thresholds Guide*, May 14, 1998, the significance threshold for project access is as follows:

- "A project would normally have a significant project access impact if the intersection(s) nearest the primary site access is/are projected to operate at LOS E or F during the a.m. or p.m. peak hour, under cumulative plus project conditions."

The following four key intersections provide primary project site access to the USC Health Sciences Campus:

Int. No. 7:	Mission Road/Griffin Avenue-Zonal Avenue.
Int. No. 11:	San Pablo Street/Valley Boulevard.
Int. No.14:	San Pablo Street/Zonal Avenue.
Int. No.15:	Soto Street/Alcazar Street.



* ALL PARKING PROVIDED AT DEVELOPMENT SITE C

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FIGURE 20

FUTURE WITH PARKING SCENARIO NO. 1 PROJECT TRAFFIC VOLUMES

AM PEAK COMMUTER HOUR

USC HEALTH SCIENCES CAMPUS PROJECT

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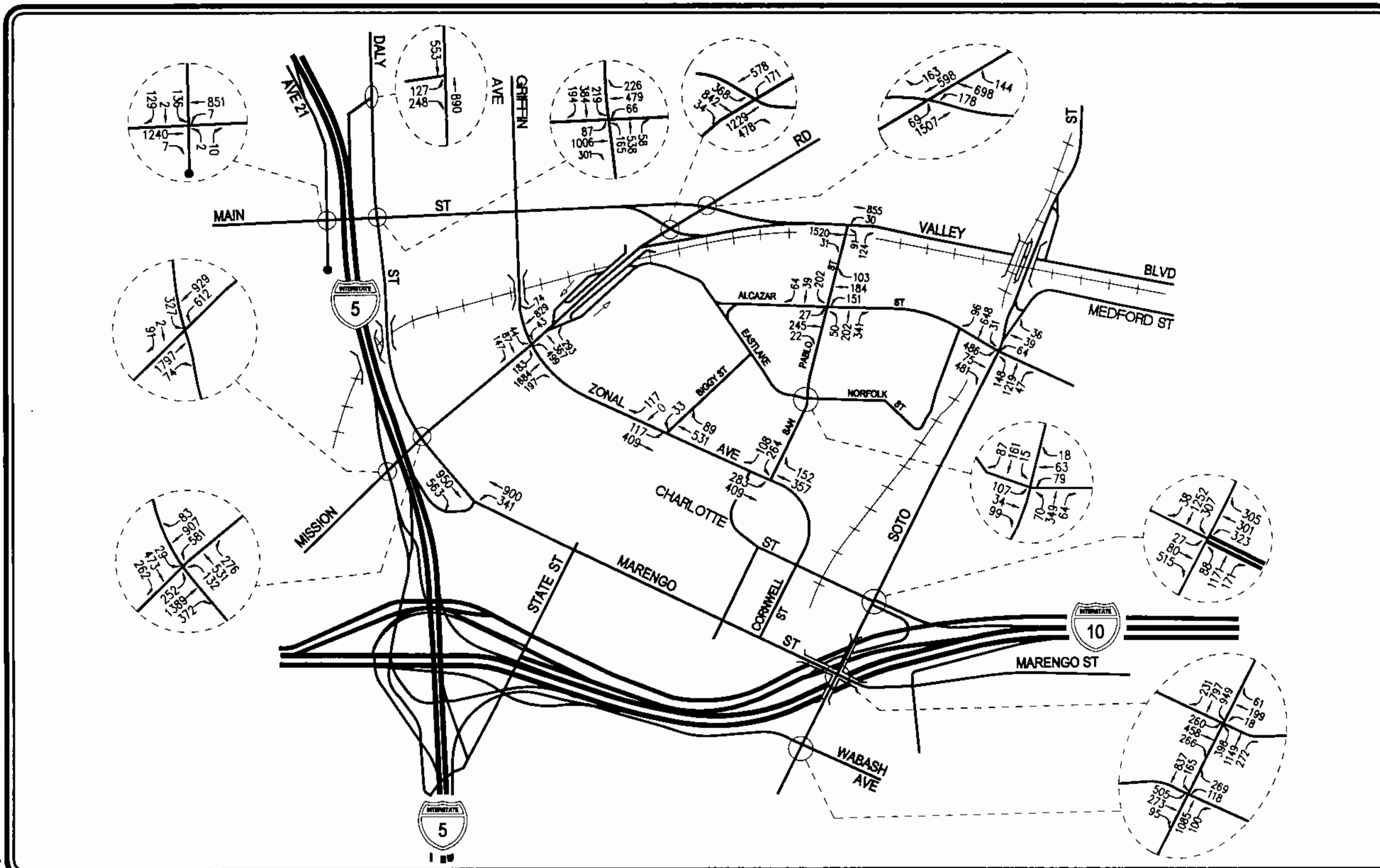

* ALL PARKING PROVIDED AT DEVELOPMENT SITE C

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FIGURE 21

FUTURE WITH PARKING SCENARIO NO. 1 PROJECT TRAFFIC VOLUMES

PM PEAK COMMUTER HOUR

USC HEALTH SCIENCES CAMPUS PROJECT

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As indicated in Table 8 for Parking Scenario No. 1, all of the above referenced intersections that provide primary project site access are projected to operate at LOS D or better under the future cumulative analysis conditions (i.e., future with project and project mitigation conditions). Thus, application of the City's CEQA threshold criteria to the "With Parking Scenario No. 1 Project" scenario indicates that the proposed project is not expected to create significant project access impacts.

14.5 Future With Parking Scenario No. 2 Project Conditions

As shown in Column [4] of Table 9, application of the City's threshold criteria to the "With Parking Scenario No. 2 Project" scenario indicates that the proposed project is expected to create significant impacts at 11 of the 18 study intersections during the AM and/or PM peak commuter hours. The proposed project is expected to create significant impacts according to the City's impact criteria during the peak hours shown below with the addition of ambient growth, related projects traffic, and Parking Scenario No. 2 project-related traffic:

- Int. No. 2: I-5 Freeway SB Ramps/Mission Road
  AM peak hour *v/c* ratio increase of 0.053 [1.160 to 1.213 (LOS F)]
  PM peak hour *v/c* ratio increase of 0.038 [0.831 to 0.869 (LOS D)]

- Int. No. 3: I-5 Freeway NB Off-Ramp/Daly Street-Main Street
  AM peak commuter hour *v/c* ratio increase of 0.056 [0.699 to 0.755 (LOS C)]

- Int. No. 5: Mission Road/Daly Street-Marengo Street
  PM peak hour *v/c* ratio increase of 0.053 [0.986 to 1.039 (LOS F)]

- Int. No. 6: I-5 Freeway NB On-Ramp/Marengo Street
  PM peak commuter hour *v/c* ratio increase of 0.051 [0.840 to 0.891 (LOS D)]

- Int. No. 8: Mission Road/Valley Boulevard
  AM peak hour *v/c* ratio increase of 0.043 [0.706 to 0.749 (LOS C)]

- Int. No. 12: San Pablo Street/Alcazar Street
  AM peak hour *v/c* ratio increase of 0.154 [0.650 to 0.804 (LOS D)]
  PM peak hour *v/c* ratio increase of 0.127 [0.705 to 0.832 (LOS D)]

- Int. No. 14: San Pablo Street/Zonal Avenue
  PM peak hour *v/c* ratio increase of 0.076 [0.648 to 0.724 (LOS C)]

- Int. No. 15: Soto Street/Alcazar Street
  AM peak hour *v/c* ratio increase of 0.157 [0.860 to 1.017 (LOS F)]
  PM peak hour *v/c* ratio increase of 0.062 [0.738 to 0.800 (LOS C)]

- Int. No. 16: Soto Street/I-10 Freeway WB Ramps-Charlotte Street
  AM peak hour *v/c* ratio increase of 0.093 [1.206 to 1.299 (LOS F)]
  PM peak hour *v/c* ratio increase of 0.060 [1.051 to 1.111 (LOS F)]

- Int. No. 17: Soto Street/Marengo Street
  AM peak hour *v/c* ratio increase of 0.040 [0.837 to 0.877 (LOS D)]
  PM peak hour *v/c* ratio increase of 0.068 [0.948 to 1.016 (LOS F)]

- Int. No. 18: Soto Street/I-10 Freeway EB Off-Ramp Wabash Avenue
  AM peak hour *v/c* ratio increase of 0.046 [0.780 to 0.826 (LOS D)]

As indicated in Table 9, incremental but not significant impacts are noted at the remaining seven study intersections due to development of the proposed USC Health Sciences Campus project under Parking Scenario No. 2. The future with proposed Parking Scenario No. 2 project (existing, ambient growth, related projects and Parking Scenario No. 2 project) traffic volumes at the study intersections for the AM and PM peak commuter hours are shown in Figures 22 and 23, respectively. The project mitigation, as summarized in the Transportation Mitigation Measures section of this report, will reduce significant impacts at all but three of the study intersections.

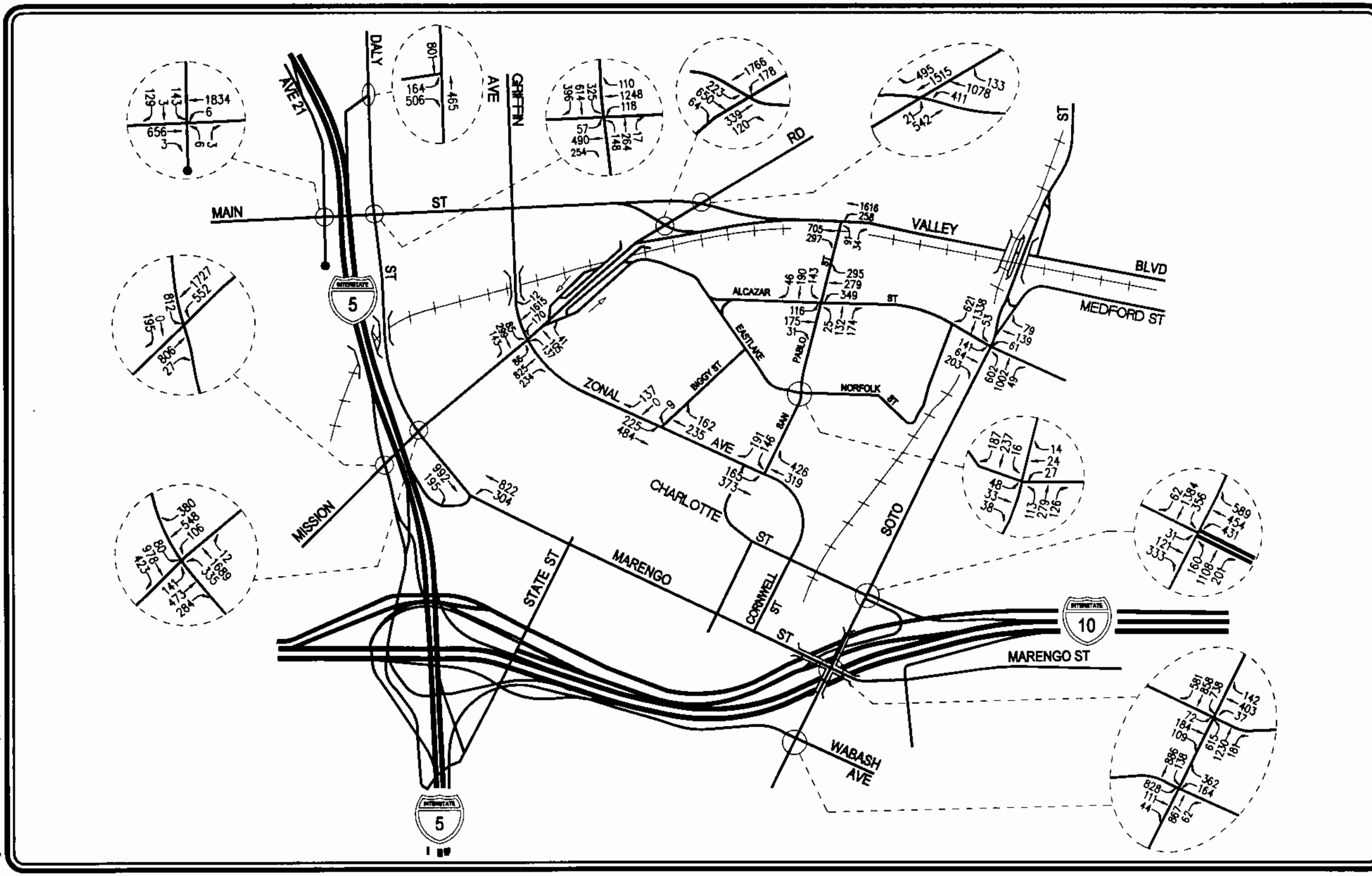

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FIGURE 22

FUTURE WITH PARKING SCENARIO NO. 2 PROJECT TRAFFIC VOLUMES

AM PEAK COMMUTER HOUR

USC HEALTH SCIENCES CAMPUS PROJECT

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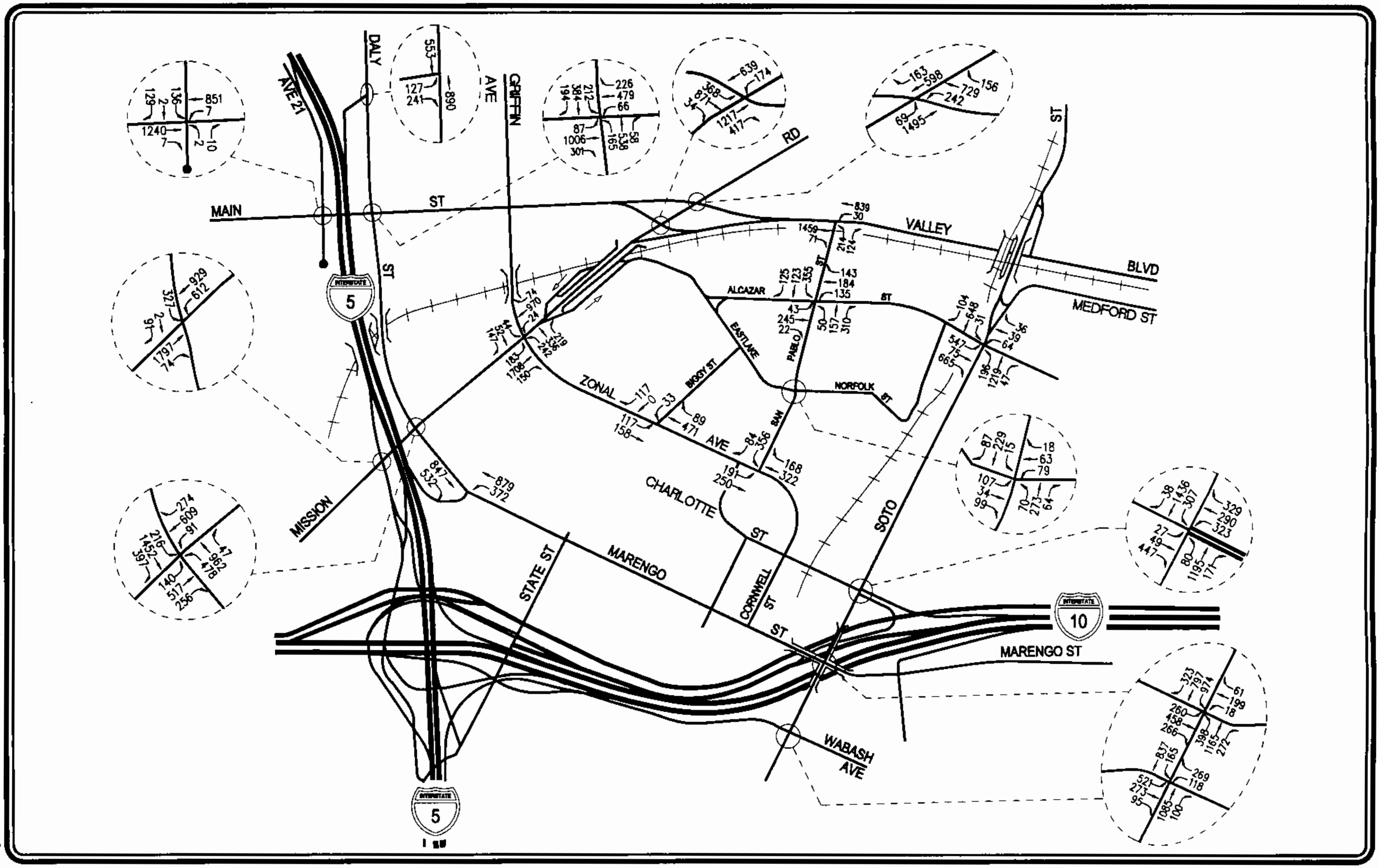

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FIGURE 23

FUTURE WITH PARKING SCENARIO NO. 2 PROJECT TRAFFIC VOLUMES

PM PEAK COMMUTER HOUR

USC HEALTH SCIENCES CAMPUS PROJECT

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14.5.1 Future With Parking Scenario No. 2 Project Access

According to the City of Los Angeles *Draft LA Thresholds Guide*, May 14, 1998, the significance threshold for project access is as follows:

- "A project would normally have a significant project access impact if the intersection(s) nearest the primary site access is/are projected to operate at LOS E or F during the a.m. or p.m. peak hour, under cumulative plus project conditions."

The following four key intersections provide primary project site access to the USC Health Sciences Campus:

Int. No. 7:	Mission Road/Griffin Avenue-Zonal Avenue.
Int. No. 11:	San Pablo Street/Valley Boulevard.
Int. No.14:	San Pablo Street/Zonal Avenue.
Int. No.15:	Soto Street/Alcazar Street.

As indicated in Table 9 for Parking Scenario No. 2, all of the above referenced intersections that provide primary project site access are projected to operate at LOS D or better under the future cumulative analysis conditions (i.e., future with project and project mitigation conditions). Thus, application of the City's CEQA threshold criteria to the "With Parking Scenario No. 2 Project" scenario indicates that the proposed project is not expected to create significant project access impacts.

14.6 San Pablo Street UPRR Crossing Implications

As described in Subsection 7.2, there is an existing Union Pacific Railroad (UPRR) crossing on San Pablo Street, immediately south of Valley Boulevard. This is an existing at-grade rail crossing with advance warning signals and control gates situated north and south of the tracks. Also, this is an active rail line that extends from Downtown Los Angeles easterly to the Inland Empire and points east. Trains currently slow or temporarily stop at this crossing, causing vehicle queuing and occasionally rerouting of local traffic. Based on field observations conducted between 6:00 AM and 6:00 PM over several days, gates were lowered for actual train crossings or maintenance/track service purposes an average of 10 -12 times a day. Over the three day observation period, approximately one-half of the gate lowerings block traffic on San Pablo Street for only a few minutes (e.g., between one and three minutes) and one-fifth of the gate lowerings (20%) are less than one minute in duration. Only three of the train crossings were observed to be between 15 and 18 minutes in duration (less than 10% of the total observations over the three day period). Upon review of the trip distribution and assignment of project-related trips for both Parking Scenario No.1 and Parking Scenario No. 2, it is anticipated that additional vehicle queuing and rerouting of project traffic may occur due to UPRR trains periodically blocking north-south traffic at this location.

The redistribution of traffic under existing conditions as well as future without project conditions is anticipated to result temporarily in increased traffic volumes at other intersections during those infrequent times that trains block San Pablo Street. The proposed USC HSC project is anticipated to contribute additional incremental traffic volumes at other intersections during these temporary periods. As such, it is conservatively concluded that a project-related potentially significant impact could be anticipated during the periods of time when traffic is diverted due to trains blocking San Pablo Street. It is important to note that this potential impact is very temporary in nature (i.e., typically lasting only a few minutes in duration) and would be alleviated once San Pablo Street is available as a through traffic route.

An existing Public Utilities Commission (PUC) ordinance limits the duration that trains can block at-grade crossings. PUC General Order No. 135[1] states the following:

> "1. TRAIN MOVEMENTS - Except as provided in Paragraph 5, a public grade crossing which is blocked by a stopped train, other than a passenger train, must be opened within 10 minutes, unless no vehicle or pedestrian is waiting at the crossing. Such a cleared crossing must be left open until it is known that the train is ready to depart. When recoupling such a train at the crossing, movement must be made promptly, consistent with safety."

It is recommended that enforcement of the ordinance be actively pursued and that efforts be made to relocate the location of train stoppages to a point east or west of San Pablo Street. It is important to note that the UPRR crossings immediately west of San Pablo Street are grade separated, however, crossings to the east (i.e., east of Soto Street) are at-grade. Additionally, it is acknowledged that enforcement of this ordinance is outside the authority of decision-makers associated with the proposed USC HSC project. Thus, absent either enforcement of the PUC ordinance or a relocation of the train stoppage point, the project potentially will contribute to an existing significant impact.

In addition to the above issues associated with the UPRR crossing on San Pablo Street, it should be noted that the subject crossing is included in the Alameda Corridor East (ACE) project[2]. The ACE project is located in the San Gabriel Valley between East Los Angeles and the City of Pomona. The ACE project is intended to improve mobility, enhance safety and mitigate the effects of increased freight rail traffic from the Ports of Long Beach and Los Angeles. The ACE project is being implemented in two phases and consists of improvements at 55 crossings. The first phase includes

[1] Public Utilities Commission of the State of California, Regulations Governing the Occupancy of Public Grade Crossings by Railroads, Adopted September 11, 1974. Effective November 1, 1974. Decision No. 83446 in Case No. 8949.

[2] Source: www.theaceproject.org.

safety upgrades, traffic signal control measures, roadway widening at the railroad crossings and ten grade separation projects to physically separate rail and vehicular traffic. The San Pablo Street crossing was identified for potential safety and/or traffic signal control measure improvements. Also, the second phase of the ACE project includes ten additional grade separation projects. Both phases of the ACE project are planned to be completed in year 2008. Therefore, impacts at the UPRR crossing on San Pablo Street may be mitigated with implementation of the ACE project.

14.7 Summary of Project Alternatives

The following subsections summarize qualitatively the anticipated operations associated with each of the project alternatives.

14.7.1 Future With Project Alternative 1 (No Project) Conditions

The Project Alternative 1 description represents a no project, no development alternative. The Alternative 1 project involves continued operation of the site (i.e., existing conditions or the status quo). Thus, the future operating conditions at the study intersections which reflect the no project, no development alternative scenario, are the same as those reported for the Future Without Project analysis conditions in Tables 8 and 9.

14.7.2 Future With Project Alternative 2 (Reduced Density) Conditions

The Reduced Project Alternative could be anticipated to result in less significant impacts when compared to the proposed project based on the reduction in project density. The trip generation forecast for Project Alternative 2 is summarized in Subsection 10.3.2 of this report. Based on a review of the impact analyses results (see Tables 8 and 9, Level of Service summaries), it can be generally concluded that a 30 percent reduction in overall peak hour vehicle trips could be expected to result in approximately ten significantly impacted intersections under both parking scenarios as compared to 11 with the proposed project. In addition, four locations are anticipated to remain significantly impacted under Parking Scenario No. 1 and two locations are anticipated to remain significantly impacted under Parking Scenario No. 2 with consideration of Project Alternative 2 (refer to Section 15.0, Transportation Mitigation Measures, of this report for the discussion of recommended mitigation measures).

14.7.3 Future With Project Alternative 3 (Alternative Land Use) Conditions

The Alternative Land Use alternative consists of the following land use mix: 305,000 square feet of academic-related research square footage, 80,000 square feet of medical-related (e.g., medical research, medical clinic, etc.) facilities within the existing HSC, and a 200-room hotel. The hotel will be designed to house people with family members undergoing treatment at HSC facilities. The trip generation forecast for Project Alternative 3 is summarized in Subsection 10.2.3 of this report.

Based on a review of the forecast trip generation, this alternative is anticipated to result in less significant impacts when compared to the proposed project, based on the slightly lower peak hour trip generation forecast. Based on a review of the impact analyses results and overall comparisons in peak hour trip generation, it can be generally concluded that this alternative could be expected to result in approximately ten significantly impacted intersections under both parking scenarios as compared to 11 with the proposed project. In addition, four locations are anticipated to remain significantly impacted under Parking Scenario No. 1 and two locations are anticipated to remain significantly impacted under Parking Scenario No. 2 with consideration of Project Alternative 3 (refer to Section 15.0, Transportation Mitigation Measures, of this report for the discussion of recommended mitigation measures).

14.7.4 Future With Project Alternative 4 (Alternative Site) Conditions

The Project Alternative 4 could be anticipated to result in approximately the same number of significant impacts when compared to the proposed project (based on the same vehicle trip generation estimates). It should be noted, however, that while the relative number of significant impacts is estimated to be the same as the proposed project, the locations could vary in that this project alternative site is situated southwest of the USC HSC. It is expected that the recommended project mitigation is anticipated to result in the same number of unmitigated locations as the project under Parking Scenario No. 1 (i.e., up to two locations) with consideration of Project Alternative 4. This parking scenario is closest to replicating conditions expected with the Alternative Site scenario.

15.0 TRANSPORTATION MITIGATION MEASURES

15.1 Summary of Project Mitigation

As summarized in the future with project condition sections (see Subsections 14.4 and 14.5) of this study, application of the City's threshold criteria to the "With Project" scenarios indicates that 11 of the 18 study intersections are anticipated to be significantly impacted by the proposed project under both Parking Scenario No. 1 and Parking Scenario No. 2. Physical mitigation measures typically consist of improvements such as roadway and/or intersection restriping and roadway widening to accommodate additional travel lanes, and/or traffic signal modifications. The following subsections summarize the off-site transportation impacts associated with both project development scenarios (which are equivalent from a traffic generation perspective) as well as the recommended transportation mitigation measures. Copies of the conceptual roadway mitigation plans are contained in Appendix E.

15.1.1 Parking Scenario No. 1 Project Mitigation

The following paragraphs provide an overview of potential mitigation measures that can be anticipated to reduce the project's significant transportation impacts under the Parking Scenario No. 1 for all but four locations to less than significant levels.

Intersection No. 2: I-5 Freeway SB Ramps/Mission Road

The intersection is anticipated to be significantly impacted by the Parking Scenario No. 1 project during the AM and PM peak commuter hours. Mitigation for this intersection consists of widening the southbound off-ramp to provide an additional lane. The off-ramp would provide one left-turn only lane, one combination left-turn/through lane and one right-turn only lane. A traffic signal modification would also be required.

As shown in Table 8, these measures are anticipated to reduce the potentially significant Parking Scenario No. 1 project-related impact to less than significant levels. The improvement is expected to improve operations to 0.905 (LOS E) from 1.213 (LOS F) during the AM peak commuter hour, and to 0.735 (LOS C) from 0.869 (LOS D) during the PM peak commuter hour.

Intersection No. 3: I-5 Freeway NB Off-Ramp/Daly Street-Main Street
The intersection is anticipated to be significantly impacted by the Parking Scenario No. 1 project during the AM peak commuter hour. Mitigation for this intersection consists of the installation of a traffic signal at this location.

As shown in Table 8, this measure is anticipated to reduce the potentially significant Parking Scenario No. 1 project-related impact to less than significant levels. The improvement is expected to improve operations to 0.621 (LOS B) from 0.776 (LOS C) during the AM peak commuter hour.

Intersection No. 5: Mission Road/Daly Street-Marengo Street
The intersection is anticipated to be significantly impacted by the Parking Scenario No. 1 project during the PM peak commuter hour. This impact would be mitigated to a less than significant level by converting the westbound (Marengo Street) number one through lane to an exclusive left-turn lane, converting the right-turn only lane to a combination through/right-turn lane and modifying the traffic signal at the intersection to better align the traffic signal heads. However, this measure was not accepted by LADOT as it would eliminate the existing westbound right-turn only lane as well as the overlap phase, which LADOT determined to be beneficial to overall intersection operations. Alternate measures were reviewed for the PM peak hour impact (e.g., installation of dual southbound left-turn lanes), however, adequate right-of-way does not exist to provide an additional travel lane and the improvement would degrade forecast operations during the AM peak hour. As such, this location would remain significantly impacted as the impact would not be reduced to less than significant levels.

Intersection No. 6: I-5 Freeway NB On-Ramp/Marengo Street

The intersection is anticipated to be significantly impacted by the Parking Scenario No. 1 project during the PM peak commuter hour. Mitigation for this intersection consists of the installation of an eastbound right-turn only lane. This measure will involve a lengthening of the red curb along the south side of Marengo Street west of the on-ramp.

As shown in Table 8, these measures are anticipated to reduce the potentially significant Parking Scenario No. 1 project-related impact to less than significant levels. The improvement is expected to improve operations to 0.753 (LOS C) from 0.914 (LOS E) during the PM peak commuter hour.

Intersection No. 7: Mission Road/Griffin Avenue-Zonal Avenue

The intersection is anticipated to be significantly impacted by the Parking Scenario No. 1 project during both the AM and PM peak commuter hours. This impact would be partially mitigated by installing an eastbound right-turn only lane, converting the number one westbound through lane to an optional left-turn/through lane, and modifying the existing traffic signal to provide split east-west phasing. However, this measure was not accepted by LADOT as the split-phasing operation was not approved based on operational and pedestrian crossing concerns. Given the existing right-of-way constraints and intersection alignment issues no additional measures have been identified at this time. As such, this location would remain significantly impacted as the impact would not be reduced to less than significant levels.

Intersection No. 10: Biggy Street/Zonal Avenue

The intersection is anticipated to be significantly impacted by the Parking Scenario No. 1 project during both the AM and PM peak commuter hours. Mitigation for this intersection consists of restriping the southbound approach to provide one left-through lane and one right-turn only lane and restriping the eastbound approach to provide one left-turn lane and one combination through/right-turn lane.

As shown in Table 8, these measures are anticipated to reduce the potentially significant Parking Scenario No. 1 project-related impact to less than significant levels. The improvement is expected to improve operations to 0.735 (LOS C) from 0.836 (LOS D) during the AM peak commuter hour, and to 0.678 (LOS B) from 0.753 (LOS C) during the PM peak commuter hour.

Intersection No. 12: San Pablo Street/Alcazar Street

The intersection is anticipated to be significantly impacted by the Parking Scenario No. 1 project during the AM peak commuter hour. Mitigation for this intersection consists of the installation of a traffic signal at the location.

As shown in Table 8, this measure is anticipated to reduce the potentially significant Parking Scenario No. 1 project-related impact to less than significant levels. The improvement is expected to improve operations to 0.581 (LOS A) from 0.727 (LOS C) during the AM peak commuter hour.

Intersection No. 14: San Pablo Street/Zonal Avenue

The intersection is anticipated to be significantly impacted by the Parking Scenario No. 1 project during the PM peak commuter hour. Mitigation for this intersection consists of installation of a traffic signal at this location. Upon review of this measure by LADOT, a traffic signal warrant analysis for this location will be provided.

As shown in Table 8, this measure is anticipated to reduce the potentially significant Parking Scenario No. 1 project-related impact to less than significant levels. The improvement is expected to improve operations to 0.603 (LOS B) from 0.754 (LOS C) during the PM peak commuter hour.

Intersection No. 16: Soto Street/I-10 Freeway WB Ramps-Charlotte Street

The intersection is anticipated to be significantly impacted by the Parking Scenario No. 1 project during both the AM and PM peak commuter hours. Partial mitigation for this intersection consists of the previously City reviewed and approved mitigation measure associated with the USC HNRT project. The USC HNRT project mitigation measure over-mitigated that project's significant impact. LADOT policy allows for sharing of mitigation measures. The previously reviewed and approved mitigation measure involves the widening of the I-10 Freeway Westbound Off-ramp to provide an additional right-turn only lane. The Preliminary Engineering Evaluation Report document is currently in preparation by USC and will be submitted to the California Department of Transportation for review. This measure is anticipated to reduce the significant AM peak hour impact to less than significant levels, however, the PM peak hour is not fully mitigated. USC has committed to fund the improvement measure, however, should Caltrans not approve the final design plans, this location would remain significantly impacted during both peak hours. Due to existing right-of-way constraints, no other feasible mitigation measures are available at this time.

The improvement is expected to improve operations to 1.069 (LOS F) from 1.262 (LOS F) during the AM peak commuter hour, and to 1.091 (LOS F) from 1.149 (LOS F) during the PM peak commuter hour.

Intersection No. 17: Soto Street/Marengo Street

The intersection is anticipated to be significantly impacted by the Parking Scenario No. 1 project during both the AM and PM commuter peak hours. It is important to note that this intersection is elevated above the I-10 Freeway and is entirely on a bridge structure. Mitigation for this intersection consists of the removal of the raised median islands on Soto Street, north and south of Marengo Street, restriping the northbound and southbound approaches to provide dual left-turn lanes, two through lanes and one combination through/right-turn lane, as well as a traffic signal modification. The traffic signal installation may require special foundations, given that the intersection is located entirely on a bridge structure. LADOT has conceptually approved this measure, pending review of detailed design (traffic and civil) plans. Construction of the measure would only occur during non-peak hours (between 9:00 AM and 3:00 PM) during weekdays. It is anticipated that removal of the raised median islands on Soto Street would require the temporary closure of the nearest southbound and northbound travel lanes and that the traffic signal modification would likely occur during the same time frame. As these mid-day lane closures would not occur during either the AM or PM peak commuter travel periods and would be short-term in nature (i.e., one to two weeks), potential impacts are concluded to be less than significant.

If it is determined through the design process that a special foundation for the traffic signal poles can not be installed without structural modification to the bridge, the construction of the measure would involve median removal, roadway restriping, a traffic signal modification and potentially the closure of some I-10 Freeway mainline travel lanes during off-peak periods. It is anticipated that removal of the raised median islands on Soto Street would require the temporary closure of the nearest southbound and northbound travel lanes and that the traffic signal modification would likely require the same time frame. The closures along Soto Street due to the raised median removal would be short-term in nature (i.e., one to two weeks) and could be considered less than significant, however, the bridge reconstruction would likely extend for several months, require potential closure of some mainline freeway travel lanes during late evening hours, and thus is anticipated to result in a significant secondary impact.

These measures, if feasible, are anticipated to reduce the potentially significant Parking Scenario No. 1 project-related impact to less than significant levels. The improvement is expected to improve operations to 0.747 (LOS C) from 0.860 (LOS D) during the AM peak commuter hour, and to 0.872 (LOS D) from 1.000 (LOS E) during the PM peak commuter hour. Should the City of Los Angeles and Caltrans determine that the mitigation measures are not feasible, a significant and unavoidable impact will occur at this intersection. Therefore, Table 8 shows that the impact has not been reduced to a less than significant level since the mitigation measures have not been formally approved by the City of Los Angeles and Caltrans.

Intersection No. 18: Soto Street/I-10 Freeway EB Off-Ramp-Wabash Avenue

The intersection is anticipated to be significantly impacted by the Parking Scenario No. 1 project during the AM peak commuter hour. Mitigation for this intersection consists of restriping Soto Street to provide an additional northbound through lane.

As shown in Table 8, these measures are anticipated to reduce the potentially significant Parking Scenario No. 1 project-related impact to less than significant levels. The improvement is expected to improve operations to 0.716 (LOS C) from 0.803 (LOS D) during the AM peak commuter hour.

An intersection mitigation sensitivity analysis for Parking Scenario No. 1, based on application of the equivalency program presented in Subsection 10.2, is provided in Appendix F (see Appendix Table F1). The intersection mitigation sequencing is based on the amount of research and development square footage and illustrates the square footage whereby each off-site mitigation is triggered. At such time as individual building plans are submitted to the City of Los Angeles, LADOT will be consulted to determine the appropriate mitigation measures to be implemented based on the building research and development equivalent square footage and the proposed parking scheme.

15.1.2 Parking Scenario No. 2 Project Mitigation

The following paragraphs provide an overview of potential mitigation measures that can be anticipated to reduce the project's significant transportation impacts under Parking Scenario No. 2 for all but three locations to less than significant levels.

Intersection No. 2: I-5 Freeway SB Ramps/Mission Road

The intersection is anticipated to be significantly impacted by the Parking Scenario No. 2 project during the AM and PM peak commuter hours. The aforementioned traffic mitigation measure recommended for the Parking Scenario No. 1 project for the I-5 Freeway SB Ramps/Mission Road intersection also would be applicable to the Parking Scenario No. 2 project.

As shown in Table 9, this measure is anticipated to reduce the potentially significant Parking Scenario No. 2 project-related impact to less than significant levels. The improvement is expected to improve operations to 0.905 (LOS E) from 1.213 (LOS F) during the AM peak commuter hour, and to 0.735 (LOS C) from 0.869 (LOS D) during the PM peak commuter hour.

Intersection No. 3: I-5 Freeway NB Off-Ramp/Daly Street-Main Street

The intersection is anticipated to be significantly impacted by the Parking Scenario No. 2 project during the AM peak commuter hour. The aforementioned traffic mitigation measure recommended for the Parking Scenario No. 1 project for the I-5 Freeway NB Ramps/Daly Street-Main Street intersection also would be applicable to the Parking Scenario No. 2 project.

As shown in Table 9, these measures are anticipated to reduce the potentially significant Parking Scenario No. 2 project-related impact to less than significant levels. The improvement is expected to improve operations to 0.604 (LOS B) from 0.755 (LOS C) during the AM peak commuter hour.

Intersection No. 5: Mission Road/Daly Street-Marengo Street

The intersection is anticipated to be significantly impacted by the Parking Scenario No. 2 project during the PM peak commuter hour. This impact would be mitigated to a less than significant level by converting the westbound (Marengo Street) number one through lane to an exclusive left-turn lane, converting the right-turn only lane to a combination through/right-turn lane and modifying the traffic signal at the intersection to better align the traffic signal heads. However, this measure was not accepted by LADOT as it would eliminate the existing westbound right-turn only lane as well as the overlap phase, which LADOT determined to be beneficial to overall intersection operations. Alternate measures were reviewed for the PM peak hour impact (e.g., installation of dual southbound left-turn lanes), however, adequate right-of-way does not exist to provide an additional travel lane and the improvement would degrade forecast operations during the AM peak hour. As such, this location would remain significantly impacted as the impact would not be reduced to less than significant levels.

Intersection No. 6: I-5 Freeway NB On-Ramp/Marengo Street

The intersection is anticipated to be significantly impacted by the Parking Scenario No. 2 project during the PM peak commuter hour. The aforementioned traffic mitigation measure recommended for the Parking Scenario No. 1 project for the I-5 Freeway NB Ramp On-Ramp/Marengo Street intersection also would be applicable to the Parking Scenario No. 2 project.

As shown in Table 9, these measures are anticipated to reduce the potentially significant Parking Scenario No. 2 project-related impact to less than significant levels. The improvement is expected to improve operations to 0.753 (LOS C) from 0.891 (LOS D) during the PM peak commuter hour.

Intersection No. 8: Mission Road/Valley Boulevard

The intersection is anticipated to be significantly impacted by the Parking Scenario No. 2 project during the AM peak commuter hour. Due to limited right-of-way and the sensitivity of any on-street parking removals, no mitigation measures are feasible or recommended at this time. Therefore, the project-related significant impact is not anticipated to be reduced to less than significant levels.

Intersection No. 12: San Pablo Street/Alcazar Street

The intersection is anticipated to be significantly impacted by the Parking Scenario No. 2 project during the AM and PM peak commuter hours. The aforementioned traffic mitigation measure recommended for the Parking Scenario No. 1 project for the San Pablo Street/Alcazar Street intersection also would be applicable to the Parking Scenario No. 2 project.

As shown in Table 9, these measures are anticipated to reduce the potentially significant Parking Scenario No. 2 project-related impact to less than significant levels. The improvement is expected to improve operations to 0.643 (LOS B) from 0.804 (LOS D) during the AM peak commuter hour, and to 0.666 (LOS B) from 0.832 (LOS D) during the PM peak commuter hour.

Intersection No. 14: San Pablo Street/Zonal Avenue

The intersection is anticipated to be significantly impacted by the Parking Scenario No. 2 project during the PM peak commuter hour. The aforementioned traffic mitigation measure recommended for the Parking Scenario No. 1 project for the San Pablo Street/Zonal Avenue intersection also would be applicable to the Parking Scenario No. 2 project.

As shown in Table 9, these measures are anticipated to reduce the potentially significant Parking Scenario No. 2 project-related impact to less than significant levels. The improvement is expected to improve operations to 0.580 (LOS A) from 0.724 (LOS C) during the PM peak commuter hour.

Intersection No. 15: Soto Street/Alcazar Street

The intersection is anticipated to be significantly impacted by the Parking Scenario No. 2 project during the AM and PM peak commuter hours. Mitigation for this intersection includes the installation of a second northbound left-turn lane and widening along the south side of Alcazar Street, west of Soto Street, to provide a fourth eastbound approach lane (i.e., the eastbound approach would provide one left-turn lane, one combination left-through lane and two right-turn only lanes). A traffic signal modification at this location would also be required.

As shown in Table 9, these measures are anticipated to reduce the potentially significant Parking Scenario No. 2 project-related impact to less than significant levels. The improvement is expected to improve operations to 0.856 (LOS D) from 1.017 (LOS F) during the AM peak commuter hour, and to 0.732 (LOS C) from 0.800 (LOS C) during the PM peak commuter hour.

Intersection No. 16: Soto Street/I-10 Freeway WB Ramps-Charlotte Street

The intersection is anticipated to be significantly impacted by the Parking Scenario No.2 project during both the AM and PM peak commuter hours. The aforementioned traffic mitigation measure recommended for the Parking Scenario No. 1 project for the Soto Street/I-10 Freeway WB Ramps-Charlotte Street intersection also would be applicable to the Parking Scenario No. 2 project. As previously mentioned, USC has committed to fund the improvement measure, however, should Caltrans not approve the final design plans, this location would remain significantly impacted during both peak hours. Due to existing right-of-way constraints, no other feasible mitigation measures are available at this time.

As shown in Table 9, these measures are anticipated to reduce the potentially significant Parking Scenario No. 2 project-related impact to less than significant levels. The improvement is expected to improve operations to 1.106 (LOS F) from 1.299 (LOS F) during the AM peak commuter hour, and to 1.053 (LOS F) from 1.111 (LOS F) during the PM peak commuter hour.

Intersection No. 17: Soto Street/Marengo Street

The intersection is anticipated to be significantly impacted by the Parking Scenario No. 2 project during both the AM and PM commuter peak hours. The aforementioned traffic mitigation measure recommended for the Parking Scenario No. 1 project for the Soto Street/Marengo Street intersection also would be applicable to the Parking Scenario No. 2 project.

These measures, if feasible, are anticipated to reduce the potentially significant Parking Scenario No. 2 project-related impact to less than significant levels. The improvement is expected to improve operations to 0.762 (LOS C) from 0.877 (LOS D) during the AM peak commuter hour, and to 0.886 (LOS D) from 1.016 (LOS F) during the PM peak commuter hour. Should the City of Los Angeles and Caltrans determine that the mitigation measures are not feasible, a significant and unavoidable impact will occur at this intersection. Therefore, Table 9 shows that the impact has not been reduced to a less than significant level since the mitigation measures have not been formally approved by the City of Los Angeles and Caltrans.

Intersection No. 18: Soto Street/I-10 Freeway EB Off-Ramp-Wabash Avenue

The intersection is anticipated to be significantly impacted by the Parking Scenario No. 2 project during the AM peak commuter hour. The aforementioned traffic mitigation measure recommended for the Parking Scenario No. 1 project for the Soto Street/I-10 Freeway EB Off-Ramp-Wabash Avenue intersection also would be applicable to the Parking Scenario No. 2 project.

As shown in Table 9, these measures are anticipated to reduce the potentially significant Parking Scenario No. 2 project-related impact to less than significant levels. The improvement is expected to improve operations to 0.739 (LOS C) from 0.826 (LOS D) during the AM peak commuter hour.

An intersection mitigation sensitivity analysis for Parking Scenario No. 2, based on application of the equivalency program presented in Subsection 10.2, is provided in Appendix F (see Appendix Table F2). The intersection mitigation sequencing is based on the amount of research and development square footage and illustrates the square footage whereby each off-site mitigation is triggered. At such time as individual building plans are submitted to the City of Los Angeles, LADOT will be consulted to determine the appropriate mitigation measures to be implemented based on the building research and development equivalent square footage and the proposed parking scheme.

16.0 CONGESTION MANAGEMENT PLAN TRAFFIC IMPACT ASSESSMENT

The Congestion Management Program (CMP) is a state-mandated program that was enacted by the State Legislature with the passage of Proposition 111 in 1990. The program is intended to address the impact of local growth on the regional transportation system. In Los Angeles County, the CMP is administered by the Los Angeles County Metropolitan Transportation Authority.

As required by the 2004 Congestion Management Program for Los Angeles County, a Transportation Impact Assessment (TIA) has been prepared to determine the potential impacts on designated monitoring locations on the CMP highway system. The analysis has been prepared in accordance with procedures outlined in the *2004 Congestion Management Program for Los Angeles County*, County of Los Angeles Metropolitan Transportation Authority, July, 2004.

16.1 Intersections

The CMP TIA guidelines require that intersection monitoring locations must be examined if the proposed project will add 50 or more trips during either the AM or PM weekday peak periods. The proposed project will not add 50 or more trips during the AM or PM peak hours at any CMP intersection monitoring locations which is the threshold for preparing a traffic impact assessment, as stated in the CMP manual. Therefore, no further review of potential impacts to intersection monitoring locations which are part of the CMP highway system is required.

16.2 Freeways

The following CMP freeway monitoring location in the project vicinity has been identified:

- Monitoring Station 1014 - I-10 Freeway at East Los Angeles City Limit

The CMP TIA guidelines require that freeway monitoring locations must be examined if the proposed project will add 150 or more trips (in either direction) during either the AM or PM weekday peak hours. As the proposed project will add 150 or more trips (in either direction) during the AM and PM weekday peak hours (i.e., 151 trips and 155 trips, respectively) to the CMP freeway monitoring location which is the threshold for preparing a traffic impact assessment, a review of potential impacts to freeway monitoring location is required.

16.2.1 Freeway Segment Analysis

The impact of the USC Health Sciences Campus project on the regional mainline freeway system has been determined based in part on the existing peak hour traffic volumes data published in the *2003 Traffic Volumes on California State Highways*, State of California Department of Transportation (Caltrans), June, 2004. The year 2003 traffic volumes were increased by Caltrans' annual average growth rate of 2.3 percent (2.3%) per year to reflect year 2004 existing conditions. This conservative growth rate is higher than the general traffic growth factors provided in the CMP and those approved by LADOT for the intersection analyses. The selected freeway segment lane configurations used in the analysis are based on information contained in Appendix A of the CMP. The freeway impact analysis is based on the number of mainline freeway lanes only, including High Occupancy Vehicle lanes. Along some freeway segments, auxiliary lanes are provided to facilitate entering and exiting freeway traffic to and from the freeway mainline. Although some of the freeway auxiliary lanes accommodate through traffic, these have not been considered so as to provide a conservative analysis of freeway impacts due to the proposed project.

The freeway lane capacity has been assumed at 2,000 vehicles per lane per hour, although it is stated in the *Highway Capacity Manual,* published by the Transportation Research Board, 2000, that recent research indicates a capacity of 2,200 vehicles per hour for four lane freeways and 2,300 vehicles per lane per hour for six or more lane freeways. The analysis can therefore be considered conservative in that the lower capacity has been assumed.

In review of the following analysis, the following important factors must be considered:

- Freeway conditions will be largely controlled by the operation of the off-ramp intersections and the adjacent arterial street system. Based on a review of the capacity calculations during the AM and PM peak hours, arterial roadway capacity exists at several locations. Operationally, the street system surrounding the USC Health Sciences Campus is already equipped with the City's Automated Traffic Surveillance and Control (ATSAC) system. The ATSAC system optimizes traffic operations on a system-wide basis at the area's signalized intersections.

- Mainline freeway improvements (e.g., physical improvements to add additional mainline freeway travel lanes) are difficult in that limited freeway right-of-way is currently available and in many cases has been maximized. Tremendous costs would be incurred to acquire additional right-of-way, which in most locations is not be feasible.

The Caltrans traffic volume data referenced above is presented in several ways. First, the total daily and peak hour traffic volumes for various freeway segments statewide are noted (i.e., non-directional). In addition, factors are included in the Caltrans document which indicate the direction and magnitude of the peak-hour traffic volumes. These factors are then utilized to convert the Annual Average Daily Traffic (AADT) volumes to directional peak hour traffic volumes for each freeway segment in the vicinity of the Project Site.

16.2.2 Freeway Segment Levels of Service

Freeway segment Levels of Service are in accordance with the definitions included in the *2004 Congestion Management Program for Los Angeles County,* Los Angeles County Metropolitan Transportation Authority, July, 2004. The demand-to-capacity (D/C) ratios and Level of Service relationships are defined in the CMP document and presented in Table 10 (Reference Exhibit B-6, General Procedure for Freeway Segment [Mainline] Analysis, in Appendix B of the CMP).

Table 10
CALTRANS FREEWAY SEGMENT
LEVEL OF SERVICE DESIGNATIONS

D/C	LOS	D/C	LOS
0.00 - 0.35	A	> 1.00 - 1.25	F(0)
> 0.35 - 0.54	B	>1.25 - 1.35	F(1)
>0.54 - 0.77	C	>1.35 - 1.45	F(2)
>0.77 - 0.93	D	> 1.45	F(3)
>0.93 - 1.00	E	-	-

16.2.3 Freeway Segment Significance Criteria

Freeway segments have been evaluated in accordance with the standards included in the *2004 Congestion Management Program for Los Angeles County*, Los Angeles County Metropolitan Transportation Authority, July, 2004. A significant impact on the freeway system is defined as follows (CMP reference B.9.1: Criteria for Determining a Significant Impact):

- "For purposes of the CMP, a significant impact occurs when the proposed project increases traffic demand on a CMP facility 2% of capacity (V/C greater than or equal to 0.02), causing LOS F (V/C>1.00); if the facility is already LOS F, a significant impact occurs when the proposed project increases traffic demand on a CMP facility by 2% of capacity (V/C greater than or equal to 0.02)."

The CMP document also states the following:

- "Calculation of LOS based on D/C ratios is a surrogate for the speed-based LOS used by Caltrans for traffic operational analysis. LOS F(1) through F(3) designations are assigned where severely congested (less than 25 mph) conditions prevail for more than one hour, converted to an estimate of peak hour demand in the table above. Note that calculated LOS F traffic demands may therefore be greater than observed traffic volumes."

16.2.4 Freeway Analysis Summary

Based on the above information, the results of the freeway impact analysis associated with the AM and PM peak hours associated with the USC HSC project are summarized in Table 11. As presented in Table 11, these increases in overall mainline freeway traffic volumes correspond to a D/C ratio increase ranging from 0.002 to 0.010, or equal to or less than one percent of the total capacity of the segments included in the analysis. This conclusion applies to both the 765,000 square foot and 585,000 square foot development scenarios, as well as any development that falls within this range of development. Thus, based on the CMP threshold criteria, no significant project-related mainline freeway impacts are anticipated along the I-10 Freeway.

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Table 11
CMP FREEWAY IMPACT ANALYSIS
AM AND PM PEAK HOURS
USC Health Sciences Campus Project

05-May-2005

NO.	FREEWAY SEGMENT	PEAK HOUR	DIR.	PEAK HOUR CAPACITY	YEAR 2004 EXISTING CONDITIONS [1] DEMAND	[2] D/C	[3] LOS	YEAR 2015 FUTURE PRE-PROJECT CONDITIONS [4] DEMAND	[2] D/C	[3] LOS	[5] PROJECT TRIP ENDS	YEAR 2015 FUTURE W/ PROPOSED PROJECT CONDITIONS [6] DEMAND	[2] D/C	[3] LOS	[7] D/C INCREASE WITH PROJECT	[8] SIGNIFICANT PROJECT IMPACT
1	I-10 Freeway at East Los Angeles City Limit (R19.67)	AM Peak	EB	12,000	6,440	0.54	B	7,150	0.60	C	28	7,178	0.60	C	0.002	NO
			WB	12,000 [9]	10,430	0.87	D	11,580	0.97	E	123	11,703	0.98	E	0.010	NO
		PM Peak	EB	12,000	10,420	0.87	D	11,570	0.96	E	123	11,693	0.97	E	0.010	NO
			WB	12,000 [9]	7,850	0.65	C	8,710	0.73	C	32	8,742	0.73	C	0.003	NO

[1] Source: "2003 Traffic Volumes on California State Highways", Caltrans, June 2004. The year 2003 volumes were increased by Caltrans' annual average growth rate of 2.3% per year to reflect year 2004 existing conditions.
[2] Demand-to-Capacity ratio (D/C) calculated based on a capacity of 2,000 vehicles per lane per hour applied to the through freeway lanes, including HOV lanes. Auxiliary lanes are excluded.
[3] Freeway mainline Levels of Service were based on the following D/C scale:

D/C Ratio	LOS	D/C Ratio	LOS
0.000-0.350	A	1.001-1.250	F(0)
0.351-0.540	B	1.251-1.350	F(1)
0.541-0.770	C	1.351-1.450	F(2)
0.771-0.930	D	>1.450	F(3)
0.931-1.000	E		

[4] An ambient growth rate of one percent (1%) per year was utilized to calculate the year 2015 future pre-project traffic volumes based on general traffic growth factors provided in the CMP.
[5] Based on the project trip generation and trip distribution for the proposed USC Health Sciences Campus project.
[6] The year 2015 Future With Project traffic volumes were derived by adding the Future Pre-Project traffic volumes with the Proposed Project volumes.
[7] Derived by subtracting the D/C ratio of the Future Pre-Project conditions from the Future With Project conditions.
[8] Per the "2004 Congestion Management Program for Los Angeles County," July, 2004, a significant impact occurs when the proposed project increases traffic demand on the freeway system by 2% of capacity (D/C > 0.02).
[9] Source: Appendix A of the "2004 Congestion Management Program for Los Angeles County," July, 2004.

16.3 Transit

As required by the *2004 Congestion Management Program for Los Angeles County*, a review has been made of the CMP transit service. As previously discussed, existing transit service is provided in the vicinity of the proposed USC Health Sciences Campus project.

The project trip generation, as shown in Table 3, was adjusted by values set forth in the CMP (i.e., person trips equal 1.4 times vehicle trips, and transit trips equal 3.5 percent of the total person trips) to estimate transit trip generation. Pursuant to the CMP guidelines, the proposed project is forecast to generate a demand for 37 transit trips (30 inbound trips and 7 outbound trips) during the weekday AM peak hour. Similarly, during the weekday PM peak hour, the proposed project is anticipated to generate a demand for 38 transit trips (8 inbound trips and 30 outbound trip). Over a 24-hour period the proposed project is forecast to generate a demand for 378 daily transit trips. The calculations are as follows:

- AM Peak Hour Trips = 753 × 1.4 × 0.035 = 37 Transit Trips
- PM Peak Hour Trips = 774 × 1.4 × 0.035 = 38 Transit Trips
- Daily Trips = 7,715 × 1.4 × 0.035 = 378 Transit Trips

It is anticipated that the existing transit service in the project area will adequately accommodate the project generated transit trips. Thus, given the relatively few number of generated transit trips, no project impacts on existing or future transit services in the project area are expected to occur as a result of the proposed project.

17.0 CALTRANS FREEWAY SEGMENT ANALYSIS

A freeway analysis was prepared based on the Highway Capacity Manual (HCM) 2000 operational analysis methodologies pursuant to the California Department of Transportation's (Caltrans) *Guide for the Preparation of Traffic Impact Studies*, December, 2002. Based on the analysis results presented in Table 12, the USC Health Sciences Campus project is not expected to create a significant transportation impact in either direction on the I-5 Freeway and I-10 Freeway. Copies of the HCM freeway analysis data worksheets are provided in Appendix G.

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Table 12
CALTRANS FREEWAY IMPACT ANALYSIS [1]
AM AND PM PEAK HOURS
USC Health Sciences Campus Project

05-May-2005

NO.	FREEWAY SEGMENT	PEAK HOUR	DIR.	[2] PEAK HOUR CAPACITY	YEAR 2004 EXISTING CONDITIONS [3] DENSITY PC/MI/LN	YEAR 2004 EXISTING CONDITIONS [4] LOS	YEAR 2015 FUTURE PRE-PROJECT CONDITIONS [3] DENSITY PC/MI/LN	YEAR 2015 FUTURE PRE-PROJECT CONDITIONS [4] LOS	YEAR 2015 FUTURE W/ PROPOSED PROJECT CONDITIONS [3] DENSITY PC/MI/LN	YEAR 2015 FUTURE W/ PROPOSED PROJECT CONDITIONS [4] LOS	[5] SIGNIFICANT PROJECT IMPACT
1	I-5 Freeway at North Broadway	AM Peak	NB	10,000	25.7	C	29.9	D	30.0	D	NO
			SB	10,000	32.5	D	39.2	E	40.0	E	NO
		PM Peak	NB	10,000	30.6	D	36.1	E	36.8	E	NO
			SB	10,000	27.9	D	32.1	D	32.2	D	NO
2	I-5 Freeway at Indiana Street	AM Peak	NB	10,000	33.9	D	41.6	E	41.9	E	NO
			SB	10,000	25.3	C	28.5	D	28.9	D	NO
		PM Peak	NB	10,000	27.4	D	31.4	D	31.9	D	NO
			SB	10,000	31.2	D	37.1	E	37.2	E	NO
3	I-10 Freeway at Sante Fe Avenue	AM Peak	EB	12,000	28.4	D	32.9	D	33.0	D	NO
			WB	12,000	21.3	C	23.7	C	24.1	C	NO
		PM Peak	EB	12,000	23.0	C	25.7	C	26.0	D	NO
			WB	12,000	31.0	D	36.8	E	37.0	E	NO
3	I-10 Freeway at East LA City Limit	AM Peak	EB	12,000	18.5	C	20.6	C	20.7	C	NO
			WB	12,000	31.3	D	37.3	E	38.1	E	NO
		PM Peak	EB	12,000	31.3	D	37.3	E	38.1	E	NO
			WB	12,000	22.6	C	25.2	C	25.3	C	NO

[1] Freeway analysis based on HCM 2000 operational analysis methodologies pursuant to the Caltrans "Guide for the Preparation of Traffic Impact Studies", December 2002.
[2] Source: Appendix A of the "2004 Congestion Management Program for Los Angeles County," July, 2004.
[3] PC/MI/LN: Passenger cars per mile per lane.
[4] Level of Service (LOS) is based on the density as measured by the Highway Capacity Software analysis.
[5] As described on page 1 of the above Caltrans publication, "Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" (see Appendix "C-3") on State highway facilities, however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If the existing State highway facility is operating at less than the appropriate target LOS, the existing MOE should be maintained." The transition between LOS "C" and LOS "D" criteria in Appendix "C-3" indicates a maximum density range of 26 pc/mi/ln for LOS "C" to 35 pc/mi/ln for LOS "D".

18.0 NEIGHBORHOOD STREET SEGMENT REVIEW

As part of the traffic impact study scoping process with LADOT, a review was made of neighborhood street segments in the vicinity of the USC HSC. The review was conducted in terms of connectivity to the surrounding roadway network and the HSC, existing traffic volumes, and the project trip distribution and assignment developed for the proposed project. As project traffic is anticipated to utilize the major and secondary highways adjacent to the USC HSC as well as internal streets within the campus, a formal street segment analysis was not deemed necessary by LADOT.

19.0 CONSTRUCTION IMPACT ANALYSIS

Project construction would generate traffic from construction worker travel, as well as the arrival and departure of trucks delivering construction materials to the site and the removal of debris generated by on-site demolition activities. Both the number of construction workers and trucks would vary throughout the construction process in order to maintain a reasonable schedule of completion.

In general, it is anticipated that construction workers would arrive and depart the site during off-peak hours and that construction-related traffic would be largely freeway oriented. Construction workers would arrive and depart via nearby on- and off-ramps serving I-5 Freeway and I-10 Freeway. The most commonly used freeway ramps would be nearest the project site, including the northbound and southbound on/off-ramps at Mission Road and Avenue 21, and the eastbound and westbound on/off ramps at Soto Street. The construction work force would likely be from all parts of the Los Angeles region and are, thereby, assumed to arrive from all directions. The majority of construction workers are expected to arrive and depart the project site during off-peak hours (i.e., arrive prior to 7:00 AM and depart before or after the 4:00 to 6:00 PM time frame), thereby avoiding generating trips during the 7:00 to 9:00 AM and 4:00 to 6:00 PM peak periods. Consequently, their impact on peak hour traffic in the vicinity of the site would be negligible. Given the off-peak nature of construction worker traffic, a less than significant impact is anticipated with regard to the local roadway network as well as the freeway mainline and on/off-ramps.

Temporary lane closures are anticipated during project construction only on streets located within the Health Sciences Campus. It can be expected that temporary lane closures may occur on San Pablo Street, Alcazar Street, Eastlake Avenue and Zonal Avenue. Construction for this type of street work is normally limited to between 9:00 AM and 3:00 PM. Detours around the construction site as a result of lane closures would not be required. Flag men, however, would be used to control traffic movement during the ingress or egress of trucks and heavy equipment from the construction site.

Depending upon the specific nature of the construction activity (e.g., demolition, excavation, or concrete pouring), it is assumed the majority of truck traffic would be distributed evenly across the work day. Approvals required by the City of Los Angeles for implementation of the proposed project include a Truck Haul Route program approved by LADOT. Based on preliminary review, haul trucks and delivery trucks would generally travel along I-5 Freeway, I-10 Freeway, Mission Road, Soto Street, Valley Boulevard, and Marengo Street to access and depart the project site.

The estimated number of trucks needed for hauling and delivery are generalized according to three construction phases: demolition, site grading, and building construction. The numbers of off-site trucks (i.e., haul trucks, concrete trucks and delivery trucks) are assumed for a peak day of construction of the USC Health Sciences Campus project. It is estimated that the maximum number of construction trips would be 448 trips per day. With regard to other construction traffic-related issues, construction equipment would be stored within the perimeter fence of the construction site/sites, and construction workers would be directed to park within the HSC.

With the required haul route approval and other construction management practices described above, construction activity is considered to be less than significant. Impacts would be further reduced with the implementation of the following design features:

- Maintain existing access for land uses in proximity of the project site;
- Limit any potential lane closures to off-peak travel periods;
- Schedule receipt of construction materials to non-peak travel periods, to the extent possible;
- Coordinate deliveries to reduce the potential of trucks waiting to unload for protracted periods of time; and
- Prohibit parking by construction workers on adjacent streets and direct construction workers to available parking within the Health Sciences Campus.

20.0 CONCLUSIONS

USC is proposing to develop additional educational, medical research and office facilities within its existing HSC in northeast Los Angeles. The new facilities would be utilized by USC for educational purposes, research laboratories and offices, as well as medical office space by tenants associated with the HSC. The USC HSC project also includes the development of parking facilities to support the proposed educational and medical-related uses.

In order to provide a conservative analysis of off-site transportation impacts, two project scenarios have been assumed for provision of parking for the proposed project. Under Parking Scenario No. 1, project parking may be provided on the western portion of the campus at Development Site C (access via Zonal Avenue). Under the Parking Scenario No. 2, project parking may be provided on the northern/eastern portion of the campus at Development Site E (access via San Pablo Street and Alcazar Street) and Development Site F (access via San Pablo Street). It is important to note that should parking be proposed for any other combination of sites, off-site impacts will be within the range identified under Parking Scenario No. 1 and Parking Scenario No. 2.

This traffic analysis evaluates potential Project-related impacts at 18 study intersections in the vicinity of the USC campus during the weekday AM and PM commuter peak hours. Application of the City's threshold criteria to the "With Project" scenarios indicates that 11 of the 18 study intersections are anticipated to be significantly impacted by the proposed project under both Parking Scenario No. 1 and Parking Scenario No. 2. Conceptually approved mitigation measures are available which are anticipated to reduce the project's significant transportation impacts under Parking Scenario No. 1 to less than significant levels for all but four study locations. Additionally, mitigation measures are available which are anticipated to reduce the project's significant transportation impacts under Parking Scenario No. 2 to less than significant levels for all but three study locations.

Intersection mitigation sensitivity analyses for both parking scenarios were prepared based on application of the equivalency program presented in Subsection 10.2. The intersection mitigation sequencing is based on the amount of research and development square footage and illustrates the

C-1 LADOT Assessment Letter

FORM GEN. 160A (Rev. 1/82)

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

USC Health Sciences Campus
DOT Case No. CEN 04-1066

Date: May 20, 2005

To: Jimmy Liao, City Planner
Department of City Planning

From: Mike Bagheri, Transportation Engineer
Department of Transportation

Subject: **TRAFFIC IMPACT STUDY FOR THE PROPOSED UNIVERSITY OF SOUTHERN CALIFORNIA HEALTH SCIENCES CAMPUS PROJECT LOCATED IN EAST LOS ANGELES**

The City of Los Angeles Department of Transportation (LADOT) has reviewed and the revised traffic study, prepared by Linscott, Law & Greenspan, Engineers, dated May 5, 2005, for the proposed University of Southern California (USC) Health Sciences Campus (HSC) project located in East Los Angeles. The study analyzed 18 intersections and determined that 11 intersections would be significantly impacted by project-related traffic when Parking Scenario No. 1 or Parking Scenario No. 2 is used. With the traffic mitigations described herein, project traffic impacts are expected to be reduced to a level of insignificance at seven intersections under Parking Scenario No. 1, and eight intersections under Parking Scenario No. 2. Significant and unavoidable adverse impacts are expected to remain at four intersections under Parking Scenario No. 1, and three intersections under Parking Scenario No. 2. Except as noted, the study adequately evaluated the project-related traffic impacts on the surrounding community.

DISCUSSION AND FINDINGS

Project Description

The project consists of the construction of between approximately 585,000 gross square feet (GSF) (e.g., a maximum of 465,000 GSF of medical research facilities and a maximum of 120,000 GSF of medical clinic facilities) and 765,000 GSF of academic and medical-related research and office facilities (e.g., a maximum of 720,000 GSF of academic and medical research facilities and a maximum of 45,000 GSF of medical clinic facilities). Parking facilities will also be constructed for the future development within the existing USC HSC. The project sites currently contain surface parking lots, which would be removed, or are underdeveloped sites. Development would occur on up to seven sites designated as Sites A, B, C, D, E, F, and G (map attached).

Site	Location	Current	Proposed Maximum Development
A	Northside of Eastlake Avenue between San Pablo Street and roughly Biggy Street	Surface Parking Lot	Range from 120,000 GSF medical clinic facilities to 465,000 GSF academic and/or medical research facilities.
B	Southeast corner of San Pablo Street and Alcazar Street	Surface Parking Lot	Range from 120,000 GSF medical facilities to 295,000 GSF of academic and/or medical research facilities.
C	Northside of Zonal Avenue between State Street and Mission Street	Surface Parking Lot	Multi-story parking structure up to 2,800 parking spaces.
D	Northwest corner of Biggy Street and Zonal Avenue	Surface Parking Lot	Range from 59,000 GSF medical clinic facilities to 200,000 GSF academic and/or medical research facilities or up to 600 parking spaces.
E	Eastside of San Pablo Street between Valley Boulevard and Alcazar Street	Surface Parking Lot	Range from 118,000 GSF medical clinic facilities to 400,000 GSF academic and/or medical research facilities.
F	Westside of San Pablo Street between Valley Boulevard and Alcazar Street	Vacant	Range from 118,000 GSF medical clinic facilities to 400,000 GSF academic and/or medical research facilities.
G	South of Alcazar Street west of San Pablo Street	Underdeveloped	Range from 29,500 GSF medical clinic facilities to 100,000 GSF of academic and/or medical research facilities.

The study fully analyzed two scenarios for the provision of parking. Parking Scenario No. 1 analyzed transportation impacts if all project parking is located on the western side of the HSC at Site C (access to which would be provided via Zonal Avenue). Parking Scenario No. 2 analyzed transportation impacts if all projected parking is located on the northern side of the campus at Site E (access to which would be provided via San Pablo Street and Alcazar Street) and Site F (access to which would be provided via San Pablo Street). If parking is proposed in any other combination, off-site impacts would be within the range identified under these two parking scenarios. The project is expected to be completed by year 2015.

Trip Generation

The project will generate approximately 7,715 daily trips with 753 trips in the AM peak hour and 774 trips in the PM peak hour.

Trip Generation Equivalency Program

An equivalency program defines a specific framework within which certain land uses can be exchanged for other land uses without increasing transportation impacts. The program ensures that although the final land uses and sizes may be different from the assumptions upon which the traffic study was based, the maximum transportation impacts are not exceeded. The equivalency factors are derived based on the PM peak hour trip generation (as it is higher). The following factors have been developed (based on per 1,000 square feet):

- From Medical Research/Laboratory/Academic Support to Medical Office (x 0.279)
- From Medical Office to Medical Research/Laboratory/Academic Support (x 3.584)

For example, 100,000 square feet of research and development use is equivalent to 27,900 square feet of medical office space in terms of trip generation. Therefore, 0.279 square feet of medical office use has the same trip generation as 1.0 square foot of research and development use. Thus, the research and development equivalency factor is 0.279. Equivalency factors have not been developed for the educational/academic use, in that those spaces are not envisioned to be enrollment enhancing.

Significant Traffic Impact Locations

The project, under either parking scenario, is expected to result in significant traffic impacts at eleven intersections.

The following nine intersections are expected to be significantly impacted under either parking scenario:

1. I-5 Freeway Southbound (SB) Ramps / Mission Road
2. I-5 Freeway Northbound (NB) Off-Ramp / Daly Street - Main Street
3. Mission Road / Daly Street - Marengo Street
4. I-5 Freeway NB On-Ramp / Marengo Street
5. San Pablo Street / Alcazar Street
6. San Pablo Street / Zonal Avenue
7. Soto Street / I-10 Freeway Westbound (WB) Ramps - Charlotte Street
8. Soto Street / Marengo Street
9. Soto Street / I-10 Freeway EB Off-Ramp - Wabash Avenue

The following additional intersections are expected to be significantly impacted only when considering Parking Scenario No. 1:

1. Mission Road / Griffin Avenue - Zonal Avenue
2. Biggy Street / Zonal Avenue

The following additional intersections are expected to be significantly impacted only when considering Parking Scenario No. 2:

1. Mission Road / Valley Boulevard
2. Soto Street / Alcazar Street

Conceptual plans for the proposed mitigation measures were submitted to LADOT for review. Approval of the mitigation measures are preliminary and would require review and approval by LADOT's Design Division.

Mitigation Phasing Program

The mitigation phasing is based on the amount of research and development equivalent square footage and illustrates the square footage whereby each off-site mitigation measure is triggered. For example, if a total of 140,000 square feet of research and development space is proposed and parking would be provided at Development Site C (Lot 71), mitigation measures A, G, and H (corresponding to references contained in the Project Requirements section of this letter) would be triggered. At such time as individual building plans are submitted to the City of Los Angeles, LADOT will be consulted to determine the appropriate mitigation measure/measures to be implemented based on the amount of equivalent research and development square footage proposed and the proposed parking scheme. Appendix Tables F1 and F2 (attached) summarize these mitigation triggers (in terms of research and development equivalent square feet).

PROJECT REQUIREMENTS

The specific timing and need of the following mitigation measures will be determined by LADOT through the use of the Mitigation Phasing Program and a review of the parking scenarios.

A. I-5 Freeway Southbound (SB) Ramps / Mission Road

The project proposes to widen the southbound off-ramp to provide an additional lane, as well as traffic signal modification. The off-ramp would provide one left-turn only lane, one shared left-turn / through lane and one right-turn only lane. This is acceptable to LADOT and would mitigate the impact to a level of insignificance. However, the freeway ramp is under the jurisdiction of the California Department of Transportation (Caltrans). The developer should contact Caltrans to coordinate the proposed improvements at the freeway ramp.

B. I-5 Freeway Northbound (NB) Off-Ramp / Daly Street - Main Street

The project proposes to install a traffic signal at this location.

C. Mission Road / Daly Street - Marengo Street

The project proposes to convert the westbound number one lane on Marengo Street to an exclusive left-turn lane and to convert the right-turn only lane to a shared through / right-turn only lane, as well as traffic signal modification. Marengo Street would have dual left-turn lanes, one through lane, and one shared through/right-turn lane. Providing dual left turns and eliminating the existing right-turn only lane as well as the overlap phase would result in a negative impact to signal timing. This is not acceptable to LADOT.

LADOT recommends widening Mission Street from Zonal Avenue to Marengo Street and installing a traffic signal at Mission Street and Sichel Street (County lot driveway) to improve traffic circulation in the vicinity of the proposed development.

D. I-5 Freeway NB On-Ramp / Marengo Street

The project proposes to install an eastbound right-turn only lane. This measure would include the lengthening of the red curb along the southside of Marengo Street west of the off-ramp. This is acceptable to LADOT. The proposed measure will mitigate the impact to a level of insignificance.

E. San Pablo Street / Alcazar Street

The project proposes to install a traffic signal at this location.

F. San Pablo Street / Zonal Avenue

The project proposes to install a traffic signal at this location.

Mitigation measures "B", "E" and "F" are acceptable to LADOT if LADOT determines that new signals are warranted at these intersections. The developer shall be responsible for all costs associated with the design and installation of the new traffic signals except as noted above. These signals should be designed and installed as part of the Advanced Traffic Control System (ATCS).

G. Soto Street / I-10 Freeway Westbound (WB) Ramps - Charlotte Street

The project proposes to widen I-10 Freeway WB off-ramp to provide an additional lane and striping for one left-turn lane, one shared left-turn/through lane, and two right-turn only lanes. This measure is also proposed as a mitigation measure with the previously approved USC HNRT Project. This measure is acceptable to LADOT. The improvement has been demonstrated to fully mitigate the AM peak hour impact, however, the PM peak hour impact remains significant under only Parking Scenario No. 1. As the freeway ramp is under the jurisdiction of the Caltrans, the developer should contact Caltrans to coordinate the proposed improvements at the freeway ramp.

H. Soto Street / Marengo Street

The project proposes to remove the raised median islands on Soto Street, north and south of Marengo Street, restripe the northbound and southbound approaches to provide dual left turn lanes, two through lanes and one shared through / right-turn lane, as well as traffic signal modification. This is acceptable to LADOT and would mitigate the impact to a level of insignificance. However, the intersection is entirely on a bridge structure over the I-10 Freeway. The structural feasibility of this mitigation must be investigated and coordinated with both Caltrans and the City as soon as possible. If the mitigation is found to be infeasible, the impact would remain significant at this location.

I. Soto Street / I-10 Freeway EB Off-Ramp - Wabash Avenue

The project proposes to restripe the northbound approach on Soto Street to provide two through lanes and one shared through/right-turn lane. This is acceptable to LADOT. The proposed measure will mitigate the impact to a level of insignificance.

J. Mission Road / Griffin Avenue - Zonal Avenue

LADOT concurs with the traffic study that there are no feasible mitigation measures to relieve the traffic impacts at this location. This location will remain significantly impacted under only Parking Scenario No. 1.

K. Biggy Street / Zonal Avenue

The project proposes to restripe the southbound approach to provide one left-through lane and one right turn only lane and restripe the eastbound approach to provide one left-turn lane and one combination through / right turn only lane. This is not acceptable to LADOT.

LADOT recommends restriping the southbound approach on Biggy Street to provide one left-turn only lane and one through/right-turn lane and provide a 2-way left-turn lane on Zonal Avenue as a substitute mitigation measure. This location is significantly impacted only under Parking Scenario No. 1.

L. Mission Road / Valley Boulevard

LADOT concurs that no mitigation measures are feasible due to limited right-of-way and the sensitivity of any on-street parking removals. This location will remain significantly impacted under only Parking Scenario No. 2.

M. Soto Street and Alcazar Street

The project proposes to install a second northbound left-turn lane through widening along the east side of Soto Street, south of Alcazar Street, and widening along the southside of Alcazar Street, west of Soto Street to provide a fourth eastbound approach lane, as well as traffic signal modification. Providing dual left turns would result in a negative impact to signal timing. This mitigation measure is not acceptable and would remain significantly impacted only under Parking Scenario No. 2.

N. Construction Impacts

DOT recommends that a construction work site traffic control plan be submitted to DOT for review and approval prior to the start of any construction work. The plan should show the location of any roadway or sidewalk closures, traffic detours, haul routes, hours of operation, protective devices, warning signs and access to abutting properties. DOT also recommends that all construction related traffic be restricted to off-peak hours.

O. Highway Dedication and Street Widening Requirements

Zonal Avenue, west of Cornwell Avenue, is classified as a Secondary Highway, which requires 35-foot half width roadway on a 45-foot half width right-of-way.

Zonal Avenue, east of Cornwell Avenue, is classified as a Local Street, which requires 18-foot half width roadway on a 30-foot half width right-of-way.

Biggy Street is classified as a Local Street, which requires 18-foot half width roadway on a 30-foot half width right-of-way.

San Pablo Street is classified as a Secondary Highway, which requires 35-foot half width roadway on a 45-foot half width right-of-way.

Eastlake Avenue, west of San Pablo Street, is classified as a Collector Street, which requires a 22-foot half width roadway on a 32-foot half width right-of-way.

Norfolk Street, east of San Pablo Street, is classified as a Local Street, which requires 18-foot half width roadway on a 30-foot right-of-way.

Alcazar Street, west of Soto Street, is classified as a Collector Street, which requires 22-foot half width roadway on a 32-foot half width right-of-way.

Alcazar Street, east of Soto Street, is classified as a Local Street, which requires 18-foot half width roadway on a 30-foot width right-of-way.

Soto Street is classified as a Class II Major Highway, which requires 40-foot half width roadway on a 52-foot half width right-of-way.

It appears that additional highway dedication and street widening may be required for streets fronting the proposed project. The developer should check with the Bureau of Engineering's (BOE) Land Development group to determine the highway dedication, street widening and sidewalk requirements for the project.

P. Improvements and Mitigation Measures Implementation

Unless otherwise specified, the proposed improvements and mitigation measures shall be implemented through the Bureau of Engineering (BOE) B-Permit process. Construction of the improvements to the satisfaction of LADOT and BOE must be completed before issuance of certificates of occupancy in accordance with the mitigation phasing program. In the event the developer is unable to obtain necessary construction permits from the concerned agencies in a timely fashion, a temporary certificate of occupancy may be granted by the City provided the developer has demonstrated reasonable efforts to complete the necessary designs and improvements to the satisfaction of LADOT. Should any improvement not receive required approval, the City may substitute an alternative measure of an equivalent effectiveness. Prior to setting the bond amount, BOE shall require that the developer's engineer or contractor contact LADOT's B-Permit Coordinator, telephone (213) 978-9663, to arrange a pre-design meeting to finalize the proposed design needed for the project.

Q. Parking Requirements

The proposed project would provide approximately 5,870 parking spaces. The study determined that depending on the specific nature of the building program, between 5,061 and 5,186 parking spaces may be required to meet Code requirements. The developer must check with the Los Angeles Department of Building and Safety on the number of Code required parking spaces needed for each building of the project.

R. Driveway Access

The review of this study does not constitute approval of the driveway access and circulation scheme. Those require separate review and approval and should be coordinated as soon as possible with DOT's Citywide Planning Coordination Section (201 N. Figueroa Street, 4th Floor, Station 3, @ 213-482-7024) to avoid delays in the building permit approval process. In order to minimize and prevent last minute building design changes, it is highly imperative that the applicant, prior to the commencement of building or parking layout design efforts, contact DOT for driveway width and internal circulation requirements so that such traffic flow considerations are designed and incorporated early into the building and parking layout plans to avoid any unnecessary time delays and potential costs associated with late design changes. All driveways should be Case 2 driveways and 30 feet. Any driveways with proposed gates shall have a minimum of 40 feet reservoir space from the property line.

If you have any questions, please contact Eileen Hunt of my staff at (213) 972-8481.

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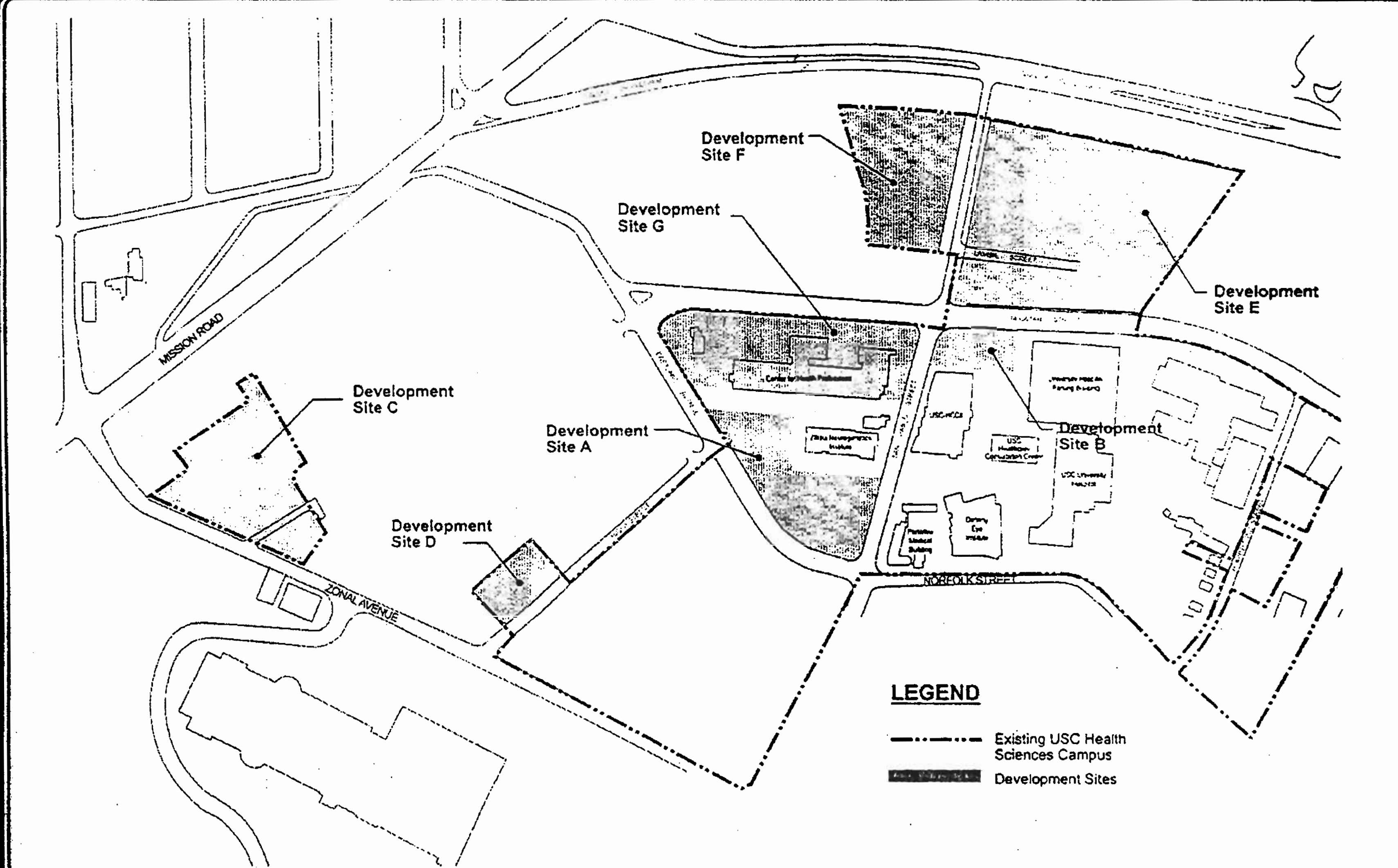
Attachments

c: Guadalupe Duran-Medina, Council District No. 1
Martha Stephenson, Central District, LADOT
Taimour Tanavoli, Citywide Planning Coordination Section, LADOT
Edmond Yew, Land Development Group, BOE
Clare Look-Jaeger, Linscott, Law & Greenspan, Engineers



SOURCE: PCR

LINSCOTT LAW & GREENSPAN ENGINEERS

NOT TO SCALE

FIGURE 2
USC HSC DEVELOPMENT SITES

USC HEALTH SCIENCES CAMPUS PROJECT

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Appendix Table F1
INTERSECTION MITIGATION SENSITIVITY ANALYSIS
ASSUMES PARKING SCENARIO NO 1: ALL PARKING PROVIDED AT DEV. SITE C (LOT 71)
USC Health Sciences Campus Project

19-May-2005

MM LTR [2]	INTERSECTION	MITIGATION MEASURE	RESEARCH & DEV. EQUIVALENT SQUARE FEET
G	Soto Street/ I-10 Freeway WB Ramps-Charlotte Street	Partial mitigation for this intersection consists of the previously City reviewed and approved mitigation measure associated with the USC HNRT project. The previously reviewed and approved mitigation measure involves the widening of the I-10 Freeway WB off-ramp to provide an additional right-turn only lane. The PEER document is currently in preparation and will be submitted to Caltrans for review.	62,000 SF [1]
A	I-5 Freeway SB Ramps/ Mission Road	Mitigation for this intersection consists of widening the SB off-ramp to provide an additional lane. The off-ramp would provide one left-turn only lane, one combination left-turn/through lane and one right-turn only lane. A traffic signal modification would also be required.	118,000 SF
H	Soto Street/ Marengo Street	Mitigation for this intersection consists of the removal of the raised median islands on Soto Street, north and south of Marengo Street, restriping the NB and SB approaches to provide dual left-turn lanes, two through lanes, and one combination through/right-turn lane, as well as a traffic signal modification.	126,000 SF
D	I-5 Freeway NB On-Ramp/ Marengo Street	Mitigation for this intersection consists of the installation of an EB right-turn only lane. This measure will involve a lengthening of the red curb along the south side of Marengo Street west of the on-ramp.	187,000 SF
C	Mission Road/ Daly Street-Marengo Street	Due to limited right-of-way, no mitigation measures are recommended at this time.	250,000 SF
J	Mission Road/ Griffin Avenue-Zonal Avenue	Due to limited right-of-way, no mitigation measures are recommended at this time.	361,000 SF
B	I-5 Freeway NB Off-Ramp/ Daly Street-Main Street	Mitigation for this intersection consists of the installation of a traffic signal.	372,000 SF
F	San Pablo Street/ Zonal Avenue	Mitigation for this intersection consists of the installation of a traffic signal.	445,000 SF
K	Biggy Street/ Zonal Avenue	Mitigation for this intersection consists of restriping the SB approach to provide one combination left-turn/through lane and one right-turn only lane, and restriping the WB approach to provide one combination left-turn/through lane and one right-turn only lane.	465,000 SF
E	San Pablo Street/ Alcazar Street	Mitigation for this intersection consists of the installation of a traffic signal.	488,000 SF
I	Soto Street/ I-10 Freeway EB Off-Ramp-Wabash Avenue	Mitigation consists of restriping Soto Avenue, south of Wabash Avenue to provide an additional through lane.	680,000 SF

[1] Although 62,000 square feet of R&D square footage triggers a significant impact, no additional feasible mitigation measures have been identified.
[2] The intersection references correspond to the LADOT department clearance Project Requirements.

Appendix Table F2
INTERSECTION MITIGATION SENSITIVITY ANALYSIS
ASSUMES PARKING SCENARIO NO 2: ALL PARKING PROVIDED AT DEV. SITES E AND F
USC Health Sciences Campus Project

19-May-2005

MM LTR [2]	INTERSECTION	MITIGATION MEASURE	RESEARCH & DEV. EQUIVALENT SQUARE FEET
G	Soto Street/ I-10 Freeway WB Ramps-Charlotte Street	Partial mitigation for this intersection consists of the previously City reviewed and approved mitigation measure associated with the USC HNRT project. The previously reviewed and approved mitigation measure involves the widening of the I-10 Freeway WB off-ramp to provide an additional right-turn only lane. The PEER document is currently in preparation and will be submitted to Caltrans for review.	61,000 SF [1]
M	Soto Street/ Alcazar Street	Mitigation for this intersection includes the installation of a second NB left-turn lane and widening along the south side of Alcazar Street, west of Soto Street, to provide a fourth EB approach lane (i.e., EB approach would provide one left-turn lane, one combination left-through lane and two right-turn only lanes). A traffic signal modification at this location would also be required.	79,000 SF
H	Soto Street/ Marengo Street	Mitigation for this intersection consists of the removal of the raised median islands on Soto Street, north and south of Marengo Street, restriping the NB and SB approaches to provide dual left-turn lanes, two through lanes, and one combination through/right-turn lane, as well as a traffic signal modification.	90,000 SF
A	I-5 Freeway SB Ramps/ Mission Road	Mitigation for this intersection consists of widening the SB off-ramp to provide an additional lane. The off-ramp would provide one left-turn only lane, one combination left-turn/through lane and one right-turn only lane. A traffic signal modification would also be required.	118,000 SF
E	San Pablo Street/ Alcazar Street	Mitigation for this intersection consists of the installation of a traffic signal.	229,000 SF
C	Mission Road/ Daly Street-Marengo Street	Due to limited right-of-way, no mitigation measures are recommended at this time.	250,000 SF
D	I-5 Freeway NB On-Ramp/ Marengo Street	Mitigation for this intersection consists of the installation of an EB right-turn only lane. This measure will involve a lengthening of the red curb along the south side of Marengo Street west of the on-ramp.	296,000 SF
I	Soto Street/ I-10 Freeway EB Off-Ramp-Wabash Avenue	Mitigation consists of restriping Soto Avenue, south of Wabash Avenue to provide an additional through lane.	310,000 SF
F	San Pablo Street/ Zonal Avenue	Mitigation for this intersection consists of the installation of a traffic signal.	426,000 SF
B	I-5 Freeway NB Off-Ramp/ Daly Street-Main Street	Mitigation for this intersection consists of the installation of a traffic signal.	530,000 SF
L	Mission Road/ Valley Boulevard	Due to limited right-of-way and the sensitivity of any on-street parking removals, no mitigation measures are recommended at this time.	720,000 SF

[1] Although 61,000 square feet of R&D square footage triggers a significant impact, no additional feasible mitigation measures have been identified.
[2] The intersection references correspond to the LADOT department clearance Project Requirements.

C-2 Traffic Study

APPENDIX A

PROJECT PARKING

Appendix Table A1
INVENTORY OF PARKING FACILITIES [1]
EXISTING CONDITIONS
USC Health Sciences Campus Project

27-Dec-04

PARKING FACILITY	PARKING TYPE			
	STANDARD	COMPACT	ACCESSIBLE	TOTAL
Lot No. 71	278	260	10	548
Lot No. 70	54	52	0	106
HSP Structure/Biggy Lot	552	473	12	1,037
Norris Lot [2]	-----	-----	-----	-----
Bishop Lot	7	4	1	12
Eastlake Lot	266	9	12	287
Parkview Lot	7	0	0	7
SSP Lot (CertainTeed Lot)	469	321	36	826
San Pablo Lot	104	-----	-----	104
HCC II Structure	198	-----	-----	198
UH Structure	253	-----	-----	253
Norfolk Lot	97	-----	-----	97
CSC Lot	147	12	5	164
TRC Lot [3]	-----	-----	-----	-----
CSB Lot	100	-----	-----	100
Edmonson Lot	43	15	1	59
Total	**2,575**	**1,146**	**77**	**3,798**

[1] Existing parking supply verified by field counts.
[2] Norris Lot has been removed; site of future HNRT building.
[3] TRC Lot contains 37 spaces but is used to support the stand-alone dialysis center and therefore is not included as part of the USC-HSC Code parking supply. However, USC is obligated to provide two Code required parking for the dialysis center within USC HSC parking facilities.

Appendix Table A2
EXISTING CODE PARKING REQUIREMENT [1]
EXISTING CONDITIONS
USC Health Sciences Campus Project

27-Dec-04

No.	USC-HSC Use	Floor Area [2]	Required No. of Spaces
1	Code Parking Requirement per Building & Safety (3/21/91) [3]	996,939 SF	2,129
2	Credit for Demolish - Physical Plant (1992)	7,531 SF	(15)
3	Credit for Demolish - Physical Plant Annex (1992)	1,560 SF	(3)
4	Credit for Demolish - Environmental Safety (1992)	3,394 SF	(7)
5	Norman Topping Tower Building (1994)	177,166 SF	248
6	Dialysis Center Code Parking Obligation (1996)	---	2
7	Pharmacy Lecture Hall Classroom Project (1999)	---	5
8	Neurogenetic Research Center Building (2001)	125,000 SF	233
9	Healthcare Consultation Center II Building (2004)	150,000 SF	698
10	Harlyne Norris Research Tower Building (2005)	175,000 SF	348
	Existing Code Parking Requirement		**3,638**

[1] This parking analysis summarizes USC Health Sciences Campus parking only (i.e., it excludes affiliated but non-USC facilities).

[2] Floor area is square feet as defined by Los Angeles Municipal Zoning Section 12.21.1 A5.

[3] The baseline USC-HSC parking supply and demand is based on the January 31, 1991, parking summary approved by the City of Los Angeles Department of Building and Safety on March 21, 1991.

Appendix Table A3
PARKING ACCUMULATION SURVEY [1]
SURVEY DATES: WEDNESDAY, 12/03/2003 AND MONDAY, 4/04/2004
University of Southern California Health Sciences Campus

27-Dec-04

PARKING LOCATION	NO. OF SPACES	TIME OF SURVEY 8:00 AM OCCUPIED	8:00 AM PERCENT	9:00 AM OCCUPIED	9:00 AM PERCENT	10:00 AM OCCUPIED	10:00 AM PERCENT	11:00 AM OCCUPIED	11:00 AM PERCENT	12:00 PM OCCUPIED	12:00 PM PERCENT	1:00 PM OCCUPIED	1:00 PM PERCENT	2:00 PM OCCUPIED	2:00 PM PERCENT	3:00 PM OCCUPIED	3:00 PM PERCENT	4:00 PM OCCUPIED	4:00 PM PERCENT	5:00 PM OCCUPIED	5:00 PM PERCENT
Lot 71	548	164	29.9%	296	54.0%	380	69.3%	411	75.0%	375	68.4%	385	70.3%	371	67.7%	281	51.3%	233	42.5%	132	24.1%
Lot 70	106	24	22.6%	36	34.0%	60	56.6%	62	58.5%	61	57.5%	77	72.6%	73	68.9%	72	67.9%	65	61.3%	42	39.6%
HSP Structure/Biggy Lot	1,037	370	35.7%	641	61.8%	841	81.1%	906	87.4%	890	85.8%	894	86.2%	902	87.0%	863	83.2%	801	77.2%	625	60.3%
Norris Lot [2]	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A
Bishop Lot	12	3	25.0%	3	25.0%	13	108.3%	13	108.3%	14	116.7%	8	66.7%	8	66.7%	6	50.0%	7	58.3%	5	41.7%
Eastlake Lot [3]	194	73	37.6%	121	62.4%	192	99.0%	195	100.5%	191	98.5%	183	94.3%	198	102.1%	158	81.4%	124	63.9%	101	52.1%
Parkview Lot	7	5	71.4%	11	157.1%	10	142.9%	9	128.6%	9	128.6%	10	142.9%	7	100.0%	7	100.0%	6	85.7%	3	42.9%
SSP Lot	826	160	19.4%	310	37.5%	416	50.4%	434	52.5%	408	49.4%	380	46.0%	330	40.0%	315	38.1%	267	32.3%	140	16.9%
San Pablo Lot [4]	104	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A
HCC II Structure [5]	198	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A
Norfolk Lot [6]	97	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A
CSC Lot	164	54	32.9%	94	57.3%	115	70.1%	109	66.5%	105	64.0%	105	64.0%	119	72.6%	110	67.1%	105	64.0%	85	51.8%
TRC Lot [7]	37	35	94.6%	40	108.1%	37	100.0%	37	100.0%	39	105.4%	37	100.0%	38	102.7%	40	108.1%	35	94.6%	35	94.6%
CSB Lot	100	28	28.0%	59	59.0%	62	62.0%	61	61.0%	63	63.0%	61	61.0%	45	45.0%	31	31.0%	10	10.0%	5	5.0%
Edmonson Lot	59	9	15.3%	12	20.3%	21	35.6%	17	28.8%	14	23.7%	17	28.8%	21	35.6%	22	37.3%	21	35.6%	10	16.9%
Subtotal USC Off-Street Parking	**3,489**	**925**	**26.5%**	**1623**	**46.5%**	**2147**	**61.5%**	**2254**	**64.6%**	**2169**	**62.2%**	**2157**	**61.8%**	**2112**	**60.5%**	**1905**	**54.6%**	**1674**	**48.0%**	**1183**	**33.9%**
UH Parking Structure [8]	253	253	100.0%	253	100.0%	253	100.0%	253	100.0%	253	100.0%	253	100.0%	253	100.0%	253	100.0%	253	100.0%	253	100.0%
LA County Marengo Lot [9]	200	200	100.0%	200	100.0%	200	100.0%	200	100.0%	200	100.0%	200	100.0%	200	100.0%	200	100.0%	200	100.0%	200	100.0%
Subtotal USC Leased Parking	**453**	**453**	**100.0%**	**453**	**100.0%**	**453**	**100.0%**	**453**	**100.0%**	**453**	**100.0%**	**453**	**100.0%**	**453**	**100.0%**	**453**	**100.0%**	**453**	**100.0%**	**453**	**100.0%**
Total USC Controlled Parking	**3,942**	**1,378**	**35.0%**	**2,076**	**52.7%**	**2,600**	**66.0%**	**2,707**	**68.7%**	**2,622**	**66.5%**	**2,610**	**66.2%**	**2,565**	**65.1%**	**2,358**	**59.8%**	**2,127**	**54.0%**	**1,636**	**41.5%**
Total HSC Area On-Street Parking	**566**	**372**	**65.7%**	**426**	**75.3%**	**550**	**97.2%**	**566**	**100.0%**	**544**	**96.1%**	**519**	**91.7%**	**534**	**94.3%**	**484**	**85.5%**	**378**	**66.8%**	**283**	**50.0%**

[1] The parking survey was conducted by The Traffic Solution.
[2] Norris Lot has been deleted, site of future HNRT.
[3] Eastlake Lot: The number of spaces shown includes only marked spaces, and excludes those spaces blocked off for construction on the survey day.
[4] San Pablo Lot was unavailable on the survey day due to construction of HCCII.
[5] HCC II parking structure was unavailable on the survey day as the building was under construction.
[6] Norfolk Lot was unavailable on the survey day due to construction of the New Acute Care Tower building.
[7] TRC Lot included in survey but does not count towards the USC/HSC Code Parking Supply.
[8] USC has rights to a total of 253 spaces in the 1,422 space University Hospital. For purposes of this analysis, it was assumed that all of the spaces were occupied throughout the day.
[9] At the time of survey, USC was leasing 200 spaces the County's Marengo Parking Structure. For purposes of this analysis, it was assumed that all 200 spaces were occupied throughout the day.
Note: All on-street parking (e.g., San Pablo Street, Alcazar Street) within the Health Science Campus area was inventoried and surveyed.

DEPARTMENT OF BUILDING AND SAFETY — CITY OF LOS ANGELES

APPROVED

This set of plans and specifications MUST be at job site during construction. It is unlawful to alter or change same, or to deviate therefrom, without approval from the Dept. of Building & Safety.

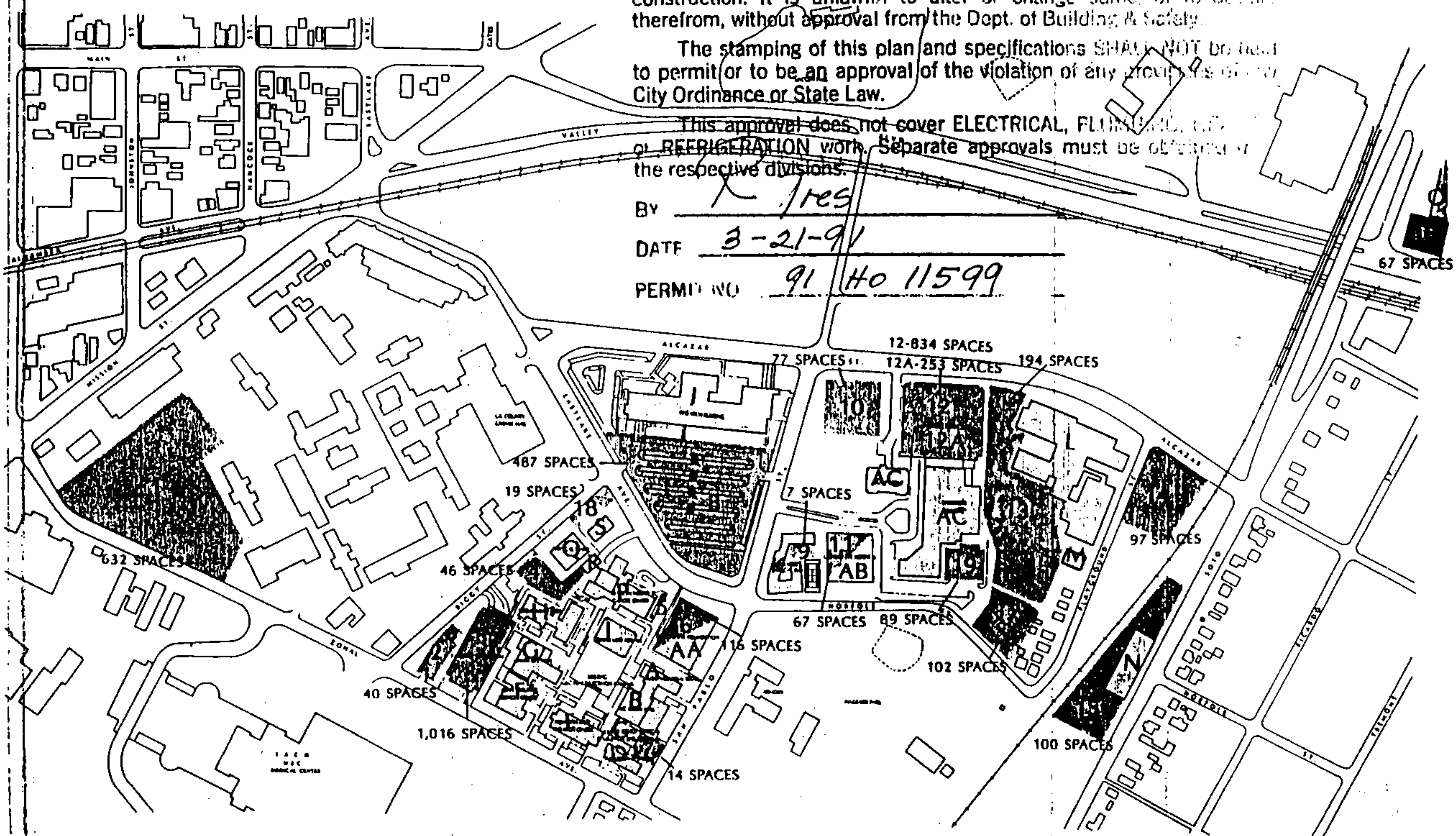
The stamping of this plan and specifications SHALL NOT be held to permit or to be an approval of the violation of any provisions of any City Ordinance or State Law.

This approval does not cover ELECTRICAL, PLUMBING, or REFRIGERATION work. Separate approvals must be obtained from the respective divisions.

BY Tres

DATE 3-21-91

PERMIT NO. 91 Ho 11599



HEALTH SCIENCES CAMPUS
UNIVERSITY OF SOUTHERN CALIFORNIA

EXISTING SITE PLAN

LEGEND ON BACK OF SITE PLAN
(OVER)

11/26/90

PARKING DISTRIBUTION STUDY
HEALTH SCIENCES CAMPUS
UNIVERSITY OF SOUTHERN CALIFORNIA

January 31, 1991
File: HSCPD

USC PARKING FACILITIES

Parking Lot Code On Map	Parking Lot Name	Parking Lot Capacity	Building Served	Building Location On Map	Code Required Parking	Total Spaces Assigned	Parking Surplus To Code
			USC FACILITIES:				
1	Lot 71	632	Bishop Research	C	67		
			Hoffman Research	E	208		
			Stauffer Research	F	204		
			Seaver Residence	G	89		
			McKibbin Addition	B	51		
						619	13
2	Biggy Lot	40	Central Service		33	33	7
3	Parking Structure	1016	Mudd Research	A	89		
			McKibbin Research	B	65		
			Raulston Research	D	65		
			Keith Admin	H	224		
			Norris Library	I	93		
			Physical Plant Annex	R	3		
			Environmental Safety	S	7		
			Parkview	K	51		
			Norris Hospital	P	228		
						825	191
4	Keith	46	Clinical Sciences	L	29	29	17
5	Norris Lot	9	Unassigned	P	0	0	9
7	Bishop Lot	14	Unassigned		0	0	14
8	Molec Med	487	Molec Medicine	J	276	276	211
9	Parkview	7	Unassigned		0	0	7
10	Alcazar	77	Unassigned	P	0	0	77
12A	HHE Struct	253	Unassigned		0	0	253
13	Clinic Sci	194	Clinical Sciences	L	194	194	0
14	Playground	97	Child Care	M	8	8	89
15	O'Neil	100	O'Neil	N	28	28	72
16	Edmonson	67	Edmonson	O	45	45	22
17	Norfolk	102	Norris Hospital	P	56	56	46
18	Phys Plant	19	Physical Plant	Q	16	16	3
TOTAL USC FACILITIES		3160				2129	1031

AFFLIATED PARKING FACILITIES

Parking Lot Code On Map	Parking Lot Name	Parking Lot Capacity	Building Served	Building Location On Map	Code Required Parking	Total Spaces Assigned	Parking Surplus To Code
6	Doheny Fnd	116	Doheny Foundation	AA	101	101	0
			Doheny Hospital	AB	3	3	12
11	Doheny Hos	67	Doheny Hosp	AB	67	67	0
12	HHE Struct	834	HHE Hospital	AC	550	550	0
			HHE Ambulatory	AD	288	288	0
19	HHE Lot	89	HHE Ambulatory	AD	8	8	81
TOTAL -	AFFLIATED	1106			1017	1017	93

PARKING DISTRIBUTION
HEALTH SCIENCES CAMPUS
UNIVERSITY OF SOUTHERN CALIFORNIA

January 31, 1991
FILE: HSCPD2

USC FACILITIES

Building Location On Map	Building Name	Building Area Gross SF	City of L.A. Modified Bldg Area SF	Parking Location On Map	Code Req'd Parking
A	Mudd Research	49,289	44,360	3	89
B	McKibbin Research	35,868	32,281	3	65
B	McKibbin Addition	28,129	25,316	1	51
C	Bishop Research	32,335	29,102	1	67
D	Raulston Research	35,934	32,341	3	65
E	Hoffman Research	118,519	106,667	1	208
F	Stauffer Research	102,179	91,961	1	204
H	Keith Administration	65,647	59,082	3	224
G	Seaver Residence	49,337	44,403	1	89
I	Norris Library	47,201	42,481	3	93
J	Molecular Medicine	153,229	137,906	8	276
K	Parkview	27,804	25,056	3	51
L	Clinical Sciences	123,833	111,450	13	196
L	Clinical Sciences			4	29
M	Child Care	4,000	3,600	14	8
N	Central Service	18,012	16,211	2	33
N	O'Neil Warehouse	15,000	13,500	15	28
O	Edmonson	30,616	27,554	16	45
P	Norris Hospital 70b	157,440	141,696	3	228
	Norris Hospital			17	56
Q	Physical Plant	8,348	7,513	18	16
R	Phys Plant Annex	1,560	1,404	3	3
S	Environmental Safety	3,394	3,055	3	7
	TOTAL USC	1,107,676	996,939		2,129

AFFLIATED FACILITIES

Building Location On Map	Building Name	Building Area Gross SF	City of L.A. Modified Bldg Area SF	Parking Location On Map	Code Req'd Parking
AA	Doheny Foundation	56,000	50,400	6	101
AB	Doheny Hospital-35 b	37,000	33,300	11	70
AD	HHE Hospital	335,000	301,500	12	550
AD	HHE Ambulatory Clini	71,000	63,900	12	220
	HHE Ambulatory Offic	Included	Included	12	68
AC	HHE Ambulatory Offic	Included	Included	19	4
	TOTAL AFFLIATED	499,000	449,100		1,013

SUMMARY:	Building Area Gross SF	City of L.A. Modified Bldg Area SF	Code Req'd Parking	Total Spaces Available	Parking Surplus to Code
USC Facilities	1,107,674	996,939	2,129	3,160	1,031
Affliated to USC					
Doheny Eye	93,000	83,700	171	183	12
HHE	406,000	365,400	842	923	81
	1,606,674	1,446,039	3,142	4,266	1,124

APPENDIX B

MANUAL TRAFFIC COUNTS

<< ACCUTEK >>
<< 21114 TRIGGER LANE >>
<< DIAMOND BAR, CA 91765 >>
<< (909) 595-6199 FAX: (909) 595-6022 >

File Name : 317501
Site Code : 00317501
Start Date : 10/17/2002
Page No : 1

Groups Printed- Turning Movement

	AVENUE 21 Southbound				MAIN STREET Westbound				Northbound				MAIN STREET 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		
07:00 AM	21	0	26	47	0	191	1	192	1	0	0	1	0	85	0	85	325
07:15 AM	17	0	27	44	0	266	0	266	0	0	0	0	2	86	0	88	398
07:30 AM	22	0	39	61	0	322	2	324	0	0	2	2	1	131	0	132	519
07:45 AM	29	2	21	52	0	404	2	406	1	0	2	3	0	107	0	107	568
Total	89	2	113	204	0	1183	5	1188	2	0	4	6	3	409	0	412	1810
08:00 AM	31	1	27	59	0	416	1	417	2	0	0	2	2	140	0	142	620
08:15 AM	32	0	24	56	0	408	0	408	0	0	1	1	0	123	0	123	588
08:30 AM	20	1	13	34	0	286	2	288	1	0	1	2	1	132	0	133	457
08:45 AM	32	0	27	59	0	275	0	275	2	0	0	2	0	194	0	194	530
Total	115	2	91	208	0	1385	3	1388	5	0	2	7	3	589	0	592	2195
09:00 AM	14	2	23	39	0	166	2	168	0	0	0	0	0	156	0	156	363
09:15 AM	18	0	21	39	0	185	1	186	0	0	0	0	0	102	0	102	327
09:30 AM	17	1	29	47	0	139	1	140	1	0	1	2	0	95	0	95	284
09:45 AM	20	0	21	41	0	140	0	140	0	0	1	1	0	105	0	105	287
Total	69	3	94	166	0	630	4	634	1	0	2	3	0	458	0	458	1261
*** BREAK ***																	
03:00 PM	27	3	44	74	0	158	3	161	1	0	0	1	0	149	0	149	385
03:15 PM	29	1	38	68	0	167	6	173	1	0	2	3	0	153	0	153	397
03:30 PM	20	0	27	47	0	161	3	164	5	0	0	5	1	200	0	201	417
03:45 PM	32	1	40	73	0	156	1	157	0	0	0	0	2	157	0	159	389
Total	108	5	149	262	0	642	13	655	7	0	2	9	3	659	0	662	1588
04:00 PM	22	1	26	49	0	146	2	148	2	0	1	3	0	212	0	212	412
04:15 PM	21	2	41	64	0	136	3	139	3	0	0	3	1	203	0	204	410
04:30 PM	16	2	30	48	0	152	2	154	0	0	2	2	1	209	0	210	414
04:45 PM	21	1	33	55	0	140	2	142	7	0	0	7	0	185	0	185	389
Total	80	6	130	216	0	574	9	583	12	0	3	15	2	809	0	811	1625
05:00 PM	32	1	21	54	0	154	0	154	1	0	0	1	1	226	0	227	436
05:15 PM	21	0	35	56	0	159	0	159	2	0	0	2	1	247	0	248	465
05:30 PM	36	0	29	65	0	169	4	173	3	0	0	3	2	279	0	281	522
05:45 PM	25	1	31	57	0	181	2	183	3	0	2	5	2	253	0	255	500
Total	114	2	116	232	0	663	6	669	9	0	2	11	6	1005	0	1011	1923
Grand Total	575	20	693	1288	0	5077	40	5117	36	0	15	51	17	3929	0	3946	10402
Apprch %	44.6	1.6	53.8		0.0	99.2	0.8		70.6	0.0	29.4		0.4	99.6	0.0		
Total %	5.5	0.2	6.7	12.4	0.0	48.8	0.4	49.2	0.3	0.0	0.1	0.5	0.2	37.8	0.0	37.9	

	AVENUE 21 Southbound				MAIN STREET Westbound				Northbound				MAIN STREET 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 07:00 AM to 09:45 AM - Peak 1 of 1																	
Intersection	07:30 AM																
Volume	114	3	111	228	0	1550	5	1555	3	0	5	8	3	501	0	504	2295
Percent	50.0	1.3	48.7		0.0	99.7	0.3		37.5	0.0	62.5		0.6	99.4	0.0		
08:00 Volume	31	1	27	59	0	416	1	417	2	0	0	2	2	140	0	142	620
Peak Factor																	0.925
High Int.	07:30 AM				08:00 AM				07:45 AM				08:00 AM				
Volume	22	0	39	61	0	416	1	417	1	0	2	3	2	140	0	142	
Peak Factor				0.934				0.932				0.667				0.887	

<< ACCUTEK >>
<< 21114 TRIGGER LANE >>
<< DIAMOND BAR, CA 91765 >>
<< (909) 595-6199 FAX: (909) 595-6022 >

File Name : 317501
Site Code : 00317501
Start Date : 10/17/2002

	AVENUE 21 Southbound				MAIN STREET Westbound				Northbound				MAIN STREET 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 03:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	05:00 PM																
Volume	114	2	116	232	0	663	6	669	9	0	2	11	6	1005	0	1011	1923
Percent	49.1	0.9	50.0		0.0	99.1	0.9		81.8	0.0	18.2		0.6	99.4	0.0		
05:30 Volume	36	0	29	65	0	169	4	173	3	0	0	3	2	279	0	281	522
Peak Factor																	0.921
High Int.	05:30 PM				05:45 PM				05:45 PM				05:30 PM				
Volume	36	0	29	65	0	181	2	183	3	0	2	5	2	279	0	281	
Peak Factor				0.892				0.914				0.550				0.899	

<< ACCUTEK >>
<< 21114 TRIGGER LANE >>
<< DIAMOND BAR, CA 91765 >>
<< (909) 595-6199 FAX: (909) 595-6022 >

File Name : 317504
Site Code : 00317504
Start Date : 10/17/2002
Page No : 1

Groups Printed- Turning Movement

	I-5 SB RAMPS Southbound				MISSION ROAD Westbound				Northbound				MISSION ROAD 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		
07:00 AM	23	1	137	161	0	278	95	373	0	0	0	0	12	118	0	130	664
07:15 AM	51	0	151	202	0	346	108	454	0	0	0	0	5	112	0	117	773
07:30 AM	30	0	165	195	0	364	116	480	0	0	0	0	8	167	0	175	850
07:45 AM	40	0	160	200	0	385	130	515	0	0	0	0	6	185	0	191	906
Total	144	1	613	758	0	1373	449	1822	0	0	0	0	31	582	0	613	3193
08:00 AM	52	0	131	183	0	365	111	476	0	0	0	0	8	160	0	168	827
08:15 AM	39	3	95	137	0	362	112	474	0	0	0	0	4	157	0	161	772
08:30 AM	34	0	101	135	0	318	96	414	0	0	0	0	8	154	0	162	711
08:45 AM	45	1	95	141	0	334	115	449	0	0	0	0	6	160	0	166	756
Total	170	4	422	596	0	1379	434	1813	0	0	0	0	26	631	0	657	3066
09:00 AM	46	1	99	146	0	273	109	382	0	0	0	0	7	132	0	139	667
09:15 AM	33	2	91	126	0	225	95	320	0	0	0	0	14	124	0	138	584
09:30 AM	43	2	85	130	0	186	90	276	0	0	0	0	8	121	0	129	535
09:45 AM	29	1	79	109	0	191	80	271	0	0	0	0	5	107	0	112	492
Total	151	6	354	511	0	875	374	1249	0	0	0	0	34	484	0	518	2278
*** BREAK ***																	
03:00 PM	18	1	55	74	0	161	148	309	0	0	0	0	31	230	0	261	644
03:15 PM	17	0	55	72	0	177	139	316	0	0	0	0	24	196	0	220	608
03:30 PM	23	2	60	85	0	157	146	303	0	0	0	0	26	223	0	249	637
03:45 PM	22	0	63	85	0	182	136	318	0	0	0	0	20	271	0	291	694
Total	80	3	233	316	0	677	569	1246	0	0	0	0	101	920	0	1021	2583
04:00 PM	19	2	59	80	0	175	162	337	0	0	0	0	12	309	0	321	738
04:15 PM	18	3	58	79	0	181	116	297	0	0	0	0	14	334	0	348	724
04:30 PM	26	0	61	87	0	190	137	327	0	0	0	0	14	333	0	347	761
04:45 PM	20	1	67	88	0	186	100	286	0	0	0	0	16	364	0	380	754
Total	83	6	245	334	0	732	515	1247	0	0	0	0	56	1340	0	1396	2977
05:00 PM	15	1	63	79	0	165	111	276	0	0	0	0	15	366	0	381	736
05:15 PM	19	0	72	91	0	184	91	275	0	0	0	0	21	419	0	440	806
05:30 PM	22	1	66	89	0	117	106	223	0	0	0	0	11	398	0	409	721
05:45 PM	11	4	76	91	0	137	103	240	0	0	0	0	12	349	0	361	692
Total	67	6	277	350	0	603	411	1014	0	0	0	0	59	1532	0	1591	2955
Grand Total	695	26	2144	2865	0	5639	2752	8391	0	0	0	0	307	5489	0	5796	17052
Apprch %	24.3	0.9	74.8		0.0	67.2	32.8		0.0	0.0	0.0		5.3	94.7	0.0		
Total %	4.1	0.2	12.6	16.8	0.0	33.1	16.1	49.2	0.0	0.0	0.0	0.0	1.8	32.2	0.0	34.0	

	I-5 SB RAMPS Southbound				MISSION ROAD Westbound				Northbound				MISSION ROAD 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 07:00 AM to 09:45 AM - Peak 1 of 1																	
Intersection	07:15 AM																
Volume	173	0	607	780	0	1460	465	1925	0	0	0	0	27	624	0	651	3356
Percent	22.2	0.0	77.8		0.0	75.8	24.2		0.0	0.0	0.0		4.1	95.9	0.0		
07:45 Volume	40	0	160	200	0	385	130	515	0	0	0	0	6	185	0	191	906
Peak Factor																	0.926
High Int.	07:15 AM				07:45 AM				6:45:00 AM				07:45 AM				
Volume	51	0	151	202	0	385	130	515	0	0	0	0	6	185	0	191	
Peak Factor				0.965				0.934								0.852	

<< ACCUTEK >>
<< 21114 TRIGGER LANE >>
<< DIAMOND BAR, CA 91765 >>
<< (909) 595-6199 FAX: (909) 595-6022 >

File Name : 317504
Site Code : 00317504
Start Date : 10/17/2002
Page No : 2

	I-5 SB RAMPS Southbound				MISSION ROAD Westbound				Northbound				MISSION ROAD 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 03:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	04:30 PM																
Volume	80	2	263	345	0	725	439	1164	0	0	0	0	66	1482	0	1548	3057
Percent	23.2	0.6	76.2		0.0	62.3	37.7		0.0	0.0	0.0		4.3	95.7	0.0		
05:15 Volume	19	0	72	91	0	184	91	275	0	0	0	0	21	419	0	440	806
Peak Factor																	0.948
High Int.	05:15 PM				04:30 PM								05:15 PM				
Volume	19	0	72	91	0	190	137	327	0	0	0	0	21	419	0	440	
Peak Factor				0.948				0.890								0.880	

<< ACCUTEK >>
<< 21114 TRIGGER LANE >>
<< DIAMOND BAR, CA 91765 >>
<< (909) 595-6199 FAX: (909) 595-6022 >

File Name : 317502
Site Code : 00317502
Start Date : 10/17/2002

Groups Printed- Turning Movement

	DALY STREET Southbound				Westbound				DALY STREET Northbound				I-5 FWY NB OFF RAMP 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		
07:00 AM	0	89	0	89	0	0	0	0	0	53	0	53	67	0	22	89	231
07:15 AM	0	138	0	138	0	0	0	0	0	79	0	79	67	0	34	101	318
07:30 AM	0	151	0	151	0	0	0	0	0	103	0	103	71	0	41	112	366
07:45 AM	0	188	0	188	0	0	0	0	0	99	0	99	105	0	48	153	440
Total	0	566	0	566	0	0	0	0	0	334	0	334	310	0	145	455	1355
08:00 AM	0	136	0	136	0	0	0	0	0	89	0	89	107	0	33	140	365
08:15 AM	0	129	0	129	0	0	0	0	0	79	0	79	110	0	23	133	341
08:30 AM	0	119	0	119	0	0	0	0	0	86	0	86	92	0	15	107	312
08:45 AM	0	94	0	94	0	0	0	0	0	73	0	73	106	0	18	124	291
Total	0	478	0	478	0	0	0	0	0	327	0	327	415	0	89	504	1309
09:00 AM	0	67	0	67	0	0	0	0	0	87	0	87	86	0	20	106	260
09:15 AM	0	83	0	83	0	0	0	0	0	83	0	83	60	0	19	79	245
09:30 AM	0	75	0	75	0	0	0	0	0	80	0	80	92	0	23	115	270
09:45 AM	0	72	0	72	0	0	0	0	0	78	0	78	67	0	25	92	242
Total	0	297	0	297	0	0	0	0	0	328	0	328	305	0	87	392	1017
*** BREAK ***																	
03:00 PM	0	105	0	105	0	0	0	0	0	128	0	128	79	0	42	121	354
03:15 PM	0	104	0	104	0	0	0	0	0	151	0	151	76	0	35	111	366
03:30 PM	0	114	0	114	0	0	0	0	0	159	0	159	65	0	31	96	369
03:45 PM	0	110	0	110	0	0	0	0	0	136	0	136	53	0	33	86	332
Total	0	433	0	433	0	0	0	0	0	574	0	574	273	0	141	414	1421
04:00 PM	0	108	0	108	0	0	0	0	0	171	0	171	51	0	33	84	363
04:15 PM	0	111	0	111	0	0	0	0	0	175	0	175	71	0	18	89	375
04:30 PM	0	112	0	112	0	0	0	0	0	178	0	178	60	0	17	77	367
04:45 PM	0	103	0	103	0	0	0	0	0	147	0	147	53	0	26	79	329
Total	0	434	0	434	0	0	0	0	0	671	0	671	235	0	94	329	1434
05:00 PM	0	115	0	115	0	0	0	0	0	191	0	191	46	0	33	79	385
05:15 PM	0	111	0	111	0	0	0	0	0	165	0	165	65	0	22	87	363
05:30 PM	0	120	0	120	0	0	0	0	0	188	0	188	42	0	31	73	381
05:45 PM	0	103	0	103	0	0	0	0	0	162	0	162	46	0	26	72	337
Total	0	449	0	449	0	0	0	0	0	706	0	706	199	0	112	311	1466
Grand Total	0	2657	0	2657	0	0	0	0	0	2940	0	2940	1737	0	668	2405	8002
Apprch %	0.0	100.0	0.0		0.0	0.0	0.0		0.0	100.0	0.0		72.2	0.0	27.8		
Total %	0.0	33.2	0.0	33.2	0.0	0.0	0.0	0.0	0.0	36.7	0.0	36.7	21.7	0.0	8.3	30.1	

	DALY STREET Southbound				Westbound				DALY STREET Northbound				I-5 FWY NB OFF RAMP 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 07:00 AM to 09:45 AM - Peak 1 of 1																	
Intersection	07:30 AM																
Volume	0	604	0	604	0	0	0	0	0	370	0	370	393	0	145	538	1512
Percent	0.0	100.0	0.0		0.0	0.0	0.0		0.0	100.0	0.0		73.0	0.0	27.0		
07:45 Volume	0	188	0	188	0	0	0	0	0	99	0	99	105	0	48	153	440
Peak Factor																	0.859
High Int.	07:45 AM				6:45:00 AM				07:30 AM				07:45 AM				
Volume	0	188	0	188	0	0	0	0	0	103	0	103	105	0	48	153	
Peak Factor				0.803								0.898				0.879	

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<< DIAMOND BAR, CA 91765 >>
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File Name : 317502
Site Code : 00317502
Start Date : 10/17/2002

	DALY STREET Southbound				Westbound				DALY STREET Northbound				I-5 FWY NB OFF RAMP 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 03:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	05:00 PM																
Volume	0	449	0	449	0	0	0	0	0	706	0	706	199	0	112	311	1466
Percent	0.0	100.0	0.0		0.0	0.0	0.0		0.0	100.0	0.0		64.0	0.0	36.0		
05:00 Volume	0	115	0	115	0	0	0	0	0	191	0	191	46	0	33	79	385
Peak Factor																	0.952
High Int.	05:30 PM								05:00 PM				05:15 PM				
Volume	0	120	0	120	0	0	0	0	0	191	0	191	65	0	22	87	
Peak Factor				0.935								0.924				0.894	

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<< 21114 TRIGGER LANE >>
<< DIAMOND BAR, CA 91765 >>
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File Name : 317503
Site Code : 00317503
Start Date : 10/17/2002
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Groups Printed- Turning Movement

	DALY STREET Southbound				MAIN STREET Westbound				DALY STREET Northbound				MAIN STREET 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		
07:00 AM	45	68	46	159	18	124	15	157	2	25	18	45	35	67	6	108	469
07:15 AM	48	116	48	212	30	189	22	241	6	36	25	67	43	66	6	115	635
07:30 AM	57	113	54	224	22	224	24	270	2	52	29	83	48	116	9	173	750
07:45 AM	78	130	55	263	25	279	31	335	4	64	34	102	47	73	11	131	831
Total	228	427	203	858	95	816	92	1003	14	177	106	297	173	322	32	527	2685
08:00 AM	101	113	55	269	18	287	24	329	2	39	28	69	62	94	13	169	836
08:15 AM	113	95	37	245	23	261	19	303	1	39	26	66	46	85	16	147	761
08:30 AM	83	92	46	221	32	185	16	233	2	47	25	74	75	70	12	157	685
08:45 AM	60	89	31	180	30	178	19	227	4	35	27	66	126	81	13	220	693
Total	357	389	169	915	103	911	78	1092	9	160	106	275	309	330	54	693	2975
09:00 AM	34	60	35	129	27	118	16	161	5	44	15	64	96	69	16	181	535
09:15 AM	55	53	39	147	27	121	18	166	7	33	13	53	52	65	8	125	491
09:30 AM	43	68	45	156	23	80	26	129	5	47	17	69	55	73	10	138	492
09:45 AM	46	64	23	133	18	83	13	114	6	32	14	52	37	76	12	125	424
Total	178	245	142	565	95	402	73	570	23	156	59	238	240	283	46	569	1942
*** BREAK ***																	
03:00 PM	35	80	38	153	37	81	21	139	7	85	31	123	63	126	15	204	619
03:15 PM	35	84	43	162	28	101	21	150	16	84	30	130	51	120	21	192	634
03:30 PM	43	81	41	165	42	92	19	153	6	99	21	126	77	129	15	221	665
03:45 PM	38	74	43	155	44	87	16	147	5	101	33	139	49	133	16	198	639
Total	151	319	165	635	151	361	77	589	34	369	115	518	240	508	67	815	2557
04:00 PM	35	95	39	169	30	90	17	137	7	112	25	144	65	154	20	239	689
04:15 PM	35	82	39	156	41	78	16	135	12	113	26	151	68	160	13	241	683
04:30 PM	37	76	31	144	39	83	17	139	9	124	33	166	65	160	15	240	689
04:45 PM	42	74	37	153	32	63	19	114	8	95	36	139	54	164	18	236	642
Total	149	327	146	622	142	314	69	525	36	444	120	600	252	638	66	956	2703
05:00 PM	31	77	43	151	41	90	15	146	13	106	31	150	60	177	17	254	701
05:15 PM	46	97	36	179	43	90	12	145	9	101	25	135	48	223	13	284	743
05:30 PM	50	66	39	155	49	86	17	152	15	109	34	158	62	232	21	315	780
05:45 PM	43	66	43	152	33	98	13	144	12	102	32	146	78	180	24	282	724
Total	170	306	161	637	166	364	57	587	49	418	122	589	248	812	75	1135	2948
Grand Total	1233	2013	986	4232	752	3168	446	4366	165	1724	628	2517	1462	2893	340	4695	15810
Apprch %	29.1	47.6	23.3		17.2	72.6	10.2		6.6	68.5	25.0		31.1	61.6	7.2		
Total %	7.8	12.7	6.2	26.8	4.8	20.0	2.8	27.6	1.0	10.9	4.0	15.9	9.2	18.3	2.2	29.7	

	DALY STREET Southbound				MAIN STREET Westbound				DALY STREET Northbound				MAIN STREET 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 07:00 AM to 09:45 AM - Peak 1 of 1																	
Intersection	07:30 AM																
Volume	349	451	201	1001	88	1051	98	1237	9	194	117	320	203	368	49	620	3178
Percent	34.9	45.1	20.1		7.1	85.0	7.9		2.8	60.6	36.6		32.7	59.4	7.9		
08:00 Volume	101	113	55	269	18	287	24	329	2	39	28	69	62	94	13	169	836
Peak Factor																	0.950
High Int.	08:00 AM				07:45 AM				07:45 AM				07:30 AM				
Volume	101	113	55	269	25	279	31	335	4	64	34	102	48	116	9	173	
Peak Factor				0.930				0.923				0.784				0.896	

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File Name : 317503
Site Code : 00317503
Start Date : 10/17/2002

	DALY STREET Southbound				MAIN STREET Westbound				DALY STREET Northbound				MAIN STREET 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 03:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	05:00 PM																
Volume	170	306	161	637	166	364	57	587	49	418	122	589	248	812	75	1135	2948
Percent	26.7	48.0	25.3		28.3	62.0	9.7		8.3	71.0	20.7		21.9	71.5	6.6		
05:30 Volume	50	66	39	155	49	86	17	152	15	109	34	158	62	232	21	315	780
Peak Factor																	0.945
High Int.	05:15 PM				05:30 PM				05:30 PM				05:30 PM				
Volume	46	97	36	179	49	86	17	152	15	109	34	158	62	232	21	315	
Peak Factor				0.890				0.965				0.932				0.901	

City Traffic Counters
626.256.4171

File Name : DalyMission
Site Code : 00000000
Start Date : 4/21/05
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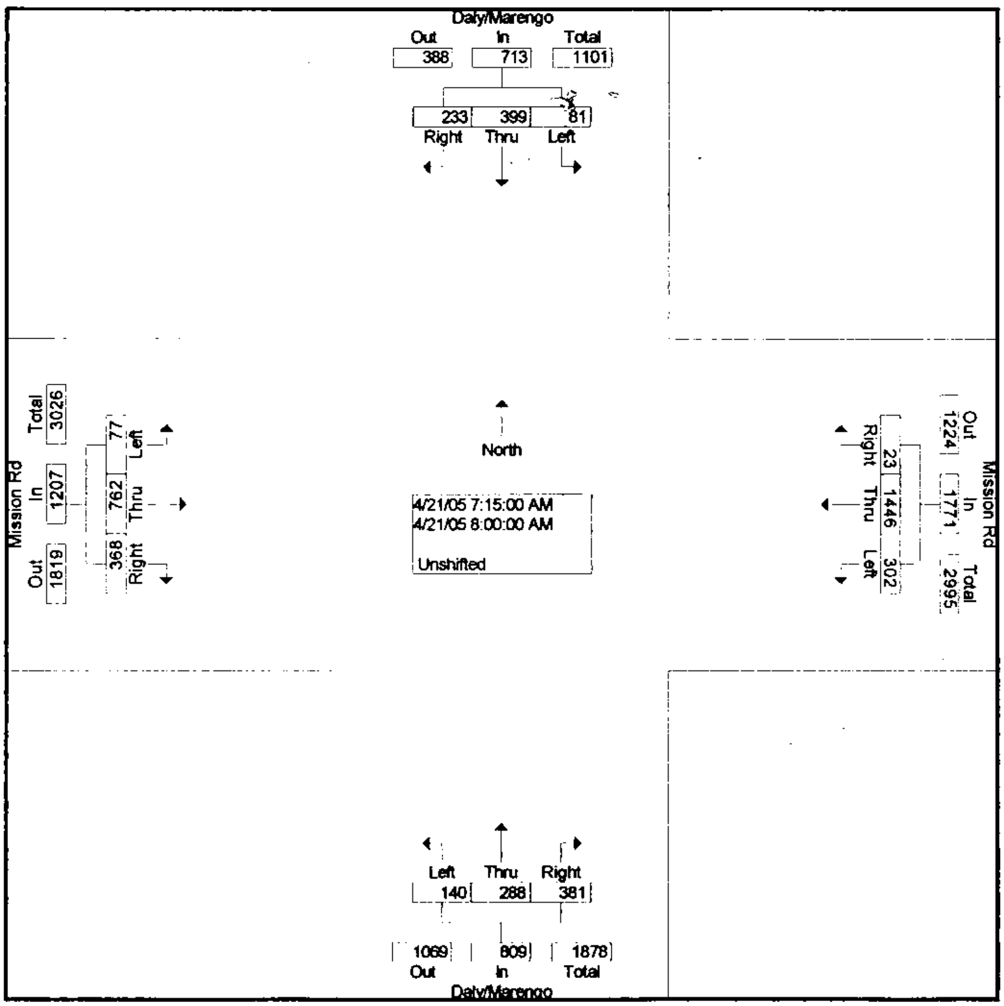
Groups Printed- Unshifted

	Daly/Marengo Southbound			Mission Rd Westbound			Daly/Marengo Northbound			Mission Rd Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	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	
07:00 AM	13	59	46	38	301	6	32	33	60	21	154	63	826
07:15 AM	19	101	46	59	323	7	40	75	100	18	172	110	1070
07:30 AM	18	100	63	68	346	6	35	62	102	23	166	100	1089
07:45 AM	24	109	66	80	366	5	36	76	86	16	214	96	1174
Total	74	369	221	245	1336	24	143	246	348	78	706	369	4159
08:00 AM	20	89	58	95	411	5	29	75	93	20	210	62	1167
08:15 AM	13	79	66	63	382	6	48	60	96	12	131	81	1037
08:30 AM	21	72	72	71	383	2	34	48	69	18	160	52	1002
08:45 AM	17	86	76	70	321	5	23	44	76	17	152	59	946
Total	71	326	272	299	1497	18	134	227	334	67	653	254	4152
09:00 AM	17	82	75	64	245	7	27	51	74	17	144	52	855
09:15 AM	13	68	55	50	249	7	27	41	47	22	141	64	784
09:30 AM	12	45	51	75	230	5	23	49	41	26	136	37	730
09:45 AM	16	71	50	59	145	17	23	64	44	21	111	49	670
Total	58	266	231	248	869	36	100	205	206	86	532	202	3039
03:00 PM	9	82	70	101	185	12	25	82	44	43	184	88	925
03:15 PM	11	74	58	103	184	14	16	72	61	29	175	83	880
03:30 PM	8	90	57	135	217	10	30	76	68	32	171	71	965
03:45 PM	9	101	71	97	222	8	32	117	69	23	179	73	1001
Total	37	347	256	436	808	44	103	347	242	127	709	315	3771
04:00 PM	6	81	71	110	170	9	22	91	76	51	255	72	1014
04:15 PM	6	70	71	101	169	8	31	95	54	39	229	77	950
04:30 PM	10	80	53	112	153	15	28	106	53	47	278	78	1013
04:45 PM	4	89	59	80	152	14	38	99	54	49	285	69	992
Total	26	320	254	403	644	46	119	391	237	186	1047	296	3969
05:00 PM	5	96	42	106	175	13	23	116	65	49	290	75	1055
05:15 PM	8	112	52	91	148	16	26	121	59	52	320	100	1105
05:30 PM	9	121	70	89	163	12	24	117	52	49	276	85	1067
05:45 PM	0	98	61	73	151	8	28	96	49	43	261	73	941
Total	22	427	225	359	637	49	101	450	225	193	1147	333	4168
Grand Total	288	2055	1459	1990	5791	217	700	1866	1592	737	4794	1769	23258
Apprch %	7.6	54.1	38.4	24.9	72.4	2.7	16.8	44.9	38.3	10.1	65.7	24.2	
Total %	1.2	8.8	6.3	8.6	24.9	0.9	3.0	8.0	6.8	3.2	20.6	7.6	

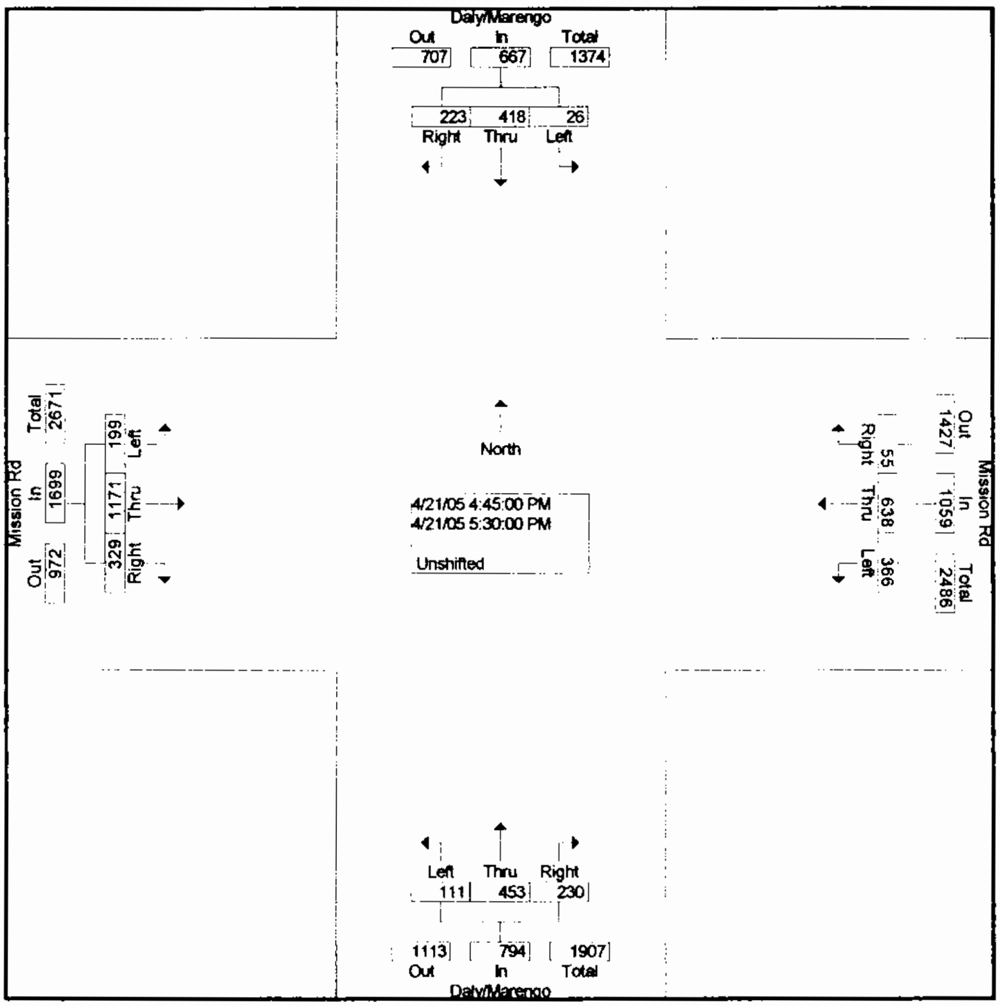
City Traffic Counters
626.256.4171

File Name : DalyMission
Site Code : 00000000
Start Date : 4/21/05

	Daly/Marengo Southbound				Mission Rd Westbound				Daly/Marengo Northbound				Mission Rd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Intersection	07:15 AM																
Volume	81	399	233	713	302	1446	23	1771	140	288	381	809	77	762	368	1207	4500
Percent	11.4	56.0	32.7		17.1	81.6	1.3		17.3	35.6	47.1		6.4	63.1	30.5		
07:45 Volume	24	109	66	199	80	366	5	451	36	76	86	198	16	214	96	326	1174
Peak Factor																	0.958
High Int.	07:45 AM				08:00 AM				07:15 AM				07:45 AM				
Volume	24	109	66	199	95	411	5	511	40	75	100	215	16	214	96	326	
Peak Factor				0.896				0.866				0.941				0.926	



Start Time	Daly/Marengo Southbound Left	Thru	Right	App. Total	Mission Rd Westbound Left	Thru	Right	App. Total	Daly/Marengo Northbound Left	Thru	Right	App. Total	Mission Rd Eastbound Left	Thru	Right	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	04:45 PM																
Volume	26	418	223	667	366	638	55	1059	111	453	230	794	199	1171	329	1699	4219
Percent	3.9	62.7	33.4		34.6	60.2	5.2		14.0	57.1	29.0		11.7	68.9	19.4		
05:15 Volume	8	112	52	172	91	148	16	255	26	121	59	206	52	320	100	472	1105
Peak Factor																	0.955
High Int.	05:30 PM				05:00 PM				05:15 PM				05:15 PM				
Volume	9	121	70	200	106	175	13	294	26	121	59	206	52	320	100	472	
Peak Factor				0.834				0.901				0.964				0.900	



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File Name : 317506
Site Code : 00317506
Start Date : 10/22/2002
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Groups Printed- Turning Movement

	MARENGO ST. EASTBOUND ~~Southbound~~				I-5 FWY NB ON RAMP Westbound				MARENGO ST. ~~Northbound~~ WESTBOUND				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		
07:00 AM	36	128	0	164	0	0	0	0	0	133	59	192	0	0	0	0	356
07:15 AM	43	172	0	215	0	0	0	0	0	156	59	215	0	0	0	0	430
07:30 AM	45	221	0	266	0	0	0	0	0	182	93	275	0	0	0	0	541
07:45 AM	38	228	0	266	0	0	0	0	0	190	53	243	0	0	0	0	509
Total	162	749	0	911	0	0	0	0	0	661	264	925	0	0	0	0	1836
08:00 AM	34	161	0	195	0	0	0	0	0	159	58	217	0	0	0	0	412
08:15 AM	37	165	0	202	0	0	0	0	0	157	61	218	0	0	0	0	420
08:30 AM	42	125	0	167	0	0	0	0	0	142	56	198	0	0	0	0	365
08:45 AM	60	157	0	217	0	0	0	0	0	130	35	165	0	0	0	0	382
Total	173	608	0	781	0	0	0	0	0	588	210	798	0	0	0	0	1579
09:00 AM	42	148	0	190	0	0	0	0	0	117	26	143	0	0	0	0	333
09:15 AM	39	104	0	143	0	0	0	0	0	121	28	149	0	0	0	0	292
09:30 AM	43	103	0	146	0	0	0	0	0	110	31	141	0	0	0	0	287
09:45 AM	43	97	0	140	0	0	0	0	0	91	32	123	0	0	0	0	263
Total	167	452	0	619	0	0	0	0	0	439	117	556	0	0	0	0	1175
*** BREAK ***																	
03:00 PM	97	142	0	239	0	0	0	0	0	172	70	242	0	0	0	0	481
03:15 PM	91	134	0	225	0	0	0	0	0	155	79	234	0	0	0	0	459
03:30 PM	101	182	0	283	0	0	0	0	0	177	86	263	0	0	0	0	546
03:45 PM	117	177	0	294	0	0	0	0	0	158	82	240	0	0	0	0	534
Total	406	635	0	1041	0	0	0	0	0	662	317	979	0	0	0	0	2020
04:00 PM	120	166	0	286	0	0	0	0	0	166	86	252	0	0	0	0	538
04:15 PM	108	155	0	263	0	0	0	0	0	146	83	229	0	0	0	0	492
04:30 PM	108	172	0	280	0	0	0	0	0	158	90	248	0	0	0	0	528
04:45 PM	97	161	0	258	0	0	0	0	0	183	79	262	0	0	0	0	520
Total	433	654	0	1087	0	0	0	0	0	653	338	991	0	0	0	0	2078
05:00 PM	104	179	0	283	0	0	0	0	0	195	70	265	0	0	0	0	548
05:15 PM	107	189	0	296	0	0	0	0	0	208	62	270	0	0	0	0	566
05:30 PM	81	178	0	259	0	0	0	0	0	196	65	261	0	0	0	0	520
05:45 PM	72	166	0	238	0	0	0	0	0	204	58	262	0	0	0	0	500
Total	364	712	0	1076	0	0	0	0	0	803	255	1058	0	0	0	0	2134
Grand Total	1705	3810	0	5515	0	0	0	0	0	3806	1501	5307	0	0	0	0	10822
Apprch %	30.9	69.1	0.0		0.0	0.0	0.0		0.0	71.7	28.3		0.0	0.0	0.0		
Total %	15.8	35.2	0.0	51.0	0.0	0.0	0.0	0.0	0.0	35.2	13.9	49.0	0.0	0.0	0.0	0.0	

	EASTBOUND MARENGO ST. ~~Southbound~~				I-5 FWY NB ON RAMP ~~Westbound~~				WESTBOUND MARENGO ST. ~~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 07:00 AM to 09:45 AM - Peak 1 of 1																	
Intersection	07:15 AM																
Volume	160	782	0	942	0	0	0	0	0	687	263	950	0	0	0	0	1892
Percent	17.0	83.0	0.0		0.0	0.0	0.0		0.0	72.3	27.7		0.0	0.0	0.0		
07:30 Volume	45	221	0	266	0	0	0	0	0	182	93	275	0	0	0	0	541
Peak Factor																	0.874
High Int.	07:30 AM				6:45:00 AM				07:30 AM				6:45:00 AM				
Volume	45	221	0	266	0	0	0	0	0	182	93	275					
Peak Factor				0.885								0.864					

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	EASTBOUND MARENGO ST. ~~Southbound~~				I-5 FWY NB ON RAMP ~~Westbound~~				WESTBOUND MARENGO ST. ~~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 03:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	04:30 PM																
Volume	416	701	0	1117	0	0	0	0	0	744	301	1045	0	0	0	0	2162
Percent	37.2	62.8	0.0		0.0	0.0	0.0		0.0	71.2	28.8		0.0	0.0	0.0		
05:15 Volume	107	189	0	296	0	0	0	0	0	208	62	270	0	0	0	0	566
Peak Factor																	0.955
High Int.	05:15 PM								05:15 PM								
Volume	107	189	0	296	0	0	0	0	0	208	62	270					
Peak Factor				0.943								0.968					

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Groups Printed- Turning Movement

	GRIFFIN AVE. ~~Southbound~~ EASTBOUND				MISSION ROAD ~~Westbound~~ SOUTHBOUND				ZONAL AVE. ~~Northbound~~ WESTBOUND				MISSION ROAD ~~Eastbound~~ NORTHBOUND				
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		
07:00 AM	24	36	8	68	1	228	22	251	8	25	29	62	48	94	13	155	536
07:15 AM	22	43	10	75	2	303	22	327	9	20	41	70	57	96	9	162	634
07:30 AM	33	66	16	115	1	347	28	376	10	15	39	64	58	137	15	210	765
07:45 AM	30	68	12	110	2	299	33	334	7	28	32	67	41	144	18	203	714
Total	109	213	46	368	6	1177	105	1288	34	88	141	263	204	471	55	730	2649
08:00 AM	22	83	19	124	2	302	45	349	11	33	37	81	60	137	20	217	771
08:15 AM	33	44	16	93	6	388	47	441	9	17	15	41	52	143	18	213	788
08:30 AM	16	59	17	92	3	317	24	344	6	18	26	50	46	92	9	147	633
08:45 AM	18	19	11	48	4	262	41	307	4	20	40	64	52	93	7	152	571
Total	89	205	63	357	15	1269	157	1441	30	88	118	236	210	465	54	729	2763
09:00 AM	15	40	17	72	1	266	45	312	9	19	35	63	89	101	7	197	644
09:15 AM	23	28	12	63	2	223	14	239	11	20	37	68	60	101	13	174	544
09:30 AM	19	61	8	88	2	202	18	222	7	23	45	75	64	102	12	178	563
09:45 AM	22	31	6	59	3	162	23	188	5	14	31	50	88	89	8	185	482
Total	79	160	43	282	8	853	100	961	32	76	148	256	301	393	40	734	2233
*** BREAK ***																	
03:00 PM	22	31	8	61	8	138	12	158	26	69	61	156	43	152	31	226	601
03:15 PM	29	45	15	89	15	155	9	179	28	82	74	184	52	143	28	223	675
03:30 PM	30	23	13	66	29	208	32	269	29	52	70	151	48	194	37	279	765
03:45 PM	25	20	6	51	20	141	17	178	39	79	77	195	73	196	29	298	722
Total	106	119	42	267	72	642	70	784	122	282	282	686	216	685	125	1026	2763
04:00 PM	27	24	12	63	32	174	24	230	60	75	65	200	47	210	54	311	804
04:15 PM	24	22	6	52	15	138	9	162	44	70	46	160	43	208	21	272	646
04:30 PM	20	21	4	45	13	189	8	210	32	57	54	143	58	292	26	376	774
04:45 PM	26	22	9	57	15	168	12	195	34	76	60	170	31	290	25	346	768
Total	97	89	31	217	75	669	53	797	170	278	225	673	179	1000	126	1305	2992
05:00 PM	25	24	8	57	20	177	10	207	69	81	54	204	47	332	45	424	892
05:15 PM	36	25	8	69	15	149	11	175	56	85	72	213	41	340	34	415	872
05:30 PM	27	20	11	58	18	118	12	148	42	68	41	151	39	404	53	496	853
05:45 PM	25	21	7	53	14	131	11	156	30	61	51	142	31	371	27	429	780
Total	113	90	34	237	67	575	44	686	197	295	218	710	158	1447	159	1764	3397
Grand Total	593	876	259	1728	243	5185	529	5957	585	1107	1132	2824	1268	4461	559	6288	16797
Apprch %	34.3	50.7	15.0		4.1	87.0	8.9		20.7	39.2	40.1		20.2	70.9	8.9		
Total %	3.5	5.2	1.5	10.3	1.4	30.9	3.1	35.5	3.5	6.6	6.7	16.8	7.5	26.6	3.3	37.4	

	GRIFFIN AVE. ~~Southbound~~ EASTBOUND				MISSION ROAD ~~Westbound~~ SOUTHBOUND				ZONAL AVE. ~~Northbound~~ WESTBOUND				MISSION ROAD ~~Eastbound~~ NORTHBOUND				
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 07:00 AM to 09:45 AM - Peak 1 of 1																	
Intersection	07:30 AM																
Volume	118	261	63	442	11	1336	153	1500	37	93	123	253	211	561	71	843	3038
Percent	26.7	59.0	14.3		0.7	89.1	10.2		14.6	36.8	48.6		25.0	66.5	8.4		
08:15 Volume	33	44	16	93	6	388	47	441	9	17	15	41	52	143	18	213	788
Peak Factor																	0.964
High Int.	08:00 AM				08:15 AM				08:00 AM				08:00 AM				
Volume	22	83	19	124	6	388	47	441	11	33	37	81	60	137	20	217	
Peak Factor				0.891				0.850				0.781				0.971	

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	GRIFFIN AVE. ~~Southbound~~ EASTBOUND				MISSION ROAD ~~Westbound~~ SOUTHBOUND				ZONAL AVE. ~~Northbound~~ WESTBOUND				MISSION ROAD ~~Eastbound~~ NORTHBOUND				
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 03:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	05:00 PM																
Volume	113	90	34	237	67	575	44	686	197	295	218	710	158	1447	159	1764	3397
Percent	47.7	38.0	14.3		9.8	83.8	6.4		27.7	41.5	30.7		9.0	82.0	9.0		
05:00 Volume	25	24	8	57	20	177	10	207	69	81	54	204	47	332	45	424	892
Peak Factor																	0.952
High Int.	05:15 PM				05:00 PM				05:15 PM				05:30 PM				
Volume	36	25	8	69	20	177	10	207	56	85	72	213	39	404	53	496	
Peak Factor				0.859				0.829				0.833				0.889	

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Groups Printed- Turning Movement

	MISSION ROAD Southbound				MAIN ST. Westbound				MISSION ROAD Northbound				VALLEY 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		
07:00 AM	0	298	18	316	0	0	0	0	13	49	0	62	16	76	26	118	496
07:15 AM	0	385	20	405	0	0	0	0	28	68	0	96	14	96	33	143	644
07:30 AM	0	379	32	411	0	0	0	0	27	74	0	101	16	112	42	170	682
07:45 AM	0	383	50	433	0	0	0	0	24	67	0	91	10	124	65	199	723
Total	0	1445	120	1565	0	0	0	0	92	258	0	350	56	408	166	630	2545
08:00 AM	0	342	31	373	0	0	0	0	27	75	0	102	17	89	54	160	635
08:15 AM	0	370	18	388	0	0	0	0	22	70	0	92	9	83	33	125	605
08:30 AM	0	324	22	346	0	0	0	0	26	64	0	90	11	88	42	141	577
08:45 AM	0	333	15	348	0	0	0	0	25	71	0	96	12	99	38	149	593
Total	0	1369	86	1455	0	0	0	0	100	280	0	380	49	359	167	575	2410
09:00 AM	0	216	22	238	0	0	0	0	21	47	0	68	13	78	31	122	428
09:15 AM	0	219	22	241	0	0	0	0	23	61	0	84	10	77	40	127	452
09:30 AM	0	178	22	200	0	0	0	0	18	53	0	71	11	65	45	121	392
09:45 AM	0	169	14	183	0	0	0	0	24	59	0	83	13	87	39	139	405
Total	0	782	80	862	0	0	0	0	86	220	0	306	47	307	155	509	1677
*** BREAK ***																	
03:00 PM	0	112	34	146	0	0	0	0	43	148	0	191	16	126	42	184	521
03:15 PM	0	140	35	175	0	0	0	0	44	114	0	158	8	140	73	221	554
03:30 PM	0	131	42	173	0	0	0	0	60	148	0	208	6	156	51	213	594
03:45 PM	0	143	37	180	0	0	0	0	54	160	0	214	5	143	60	208	602
Total	0	526	148	674	0	0	0	0	201	570	0	771	35	565	226	826	2271
04:00 PM	0	161	40	201	0	0	0	0	66	175	0	241	6	164	64	234	676
04:15 PM	0	160	34	194	0	0	0	0	76	170	0	246	6	162	78	246	686
04:30 PM	0	148	36	184	0	0	0	0	63	219	0	282	7	137	80	224	690
04:45 PM	0	135	27	162	0	0	0	0	79	228	0	307	12	159	72	243	712
Total	0	604	137	741	0	0	0	0	284	792	0	1076	31	622	294	947	2764
05:00 PM	0	142	47	189	0	0	0	0	84	247	0	331	14	162	87	263	783
05:15 PM	0	122	40	162	0	0	0	0	108	255	5	368	8	201	70	279	809
05:30 PM	0	145	25	170	0	0	0	0	94	273	0	367	5	197	85	287	824
05:45 PM	0	106	34	140	0	0	0	0	83	255	0	338	3	163	81	247	725
Total	0	515	146	661	0	0	0	0	369	1030	5	1404	30	723	323	1076	3141
Grand Total	0	5241	717	5958	0	0	0	0	1132	3150	5	4287	248	2984	1331	4563	14808
Apprch %	0.0	88.0	12.0		0.0	0.0	0.0		26.4	73.5	0.1		5.4	65.4	29.2		
Total %	0.0	35.4	4.8	40.2	0.0	0.0	0.0	0.0	7.6	21.3	0.0	29.0	1.7	20.2	9.0	30.8	

	MISSION ROAD Southbound				MAIN ST. Westbound				MISSION ROAD Northbound				VALLEY 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 07:00 AM to 09:45 AM - Peak 1 of 1																	
Intersection	07:15 AM																
Volume	0	1489	133	1622	0	0	0	0	106	284	0	390	57	421	194	672	2684
Percent	0.0	91.8	8.2		0.0	0.0	0.0		27.2	72.8	0.0		8.5	62.6	28.9		
07:45 Volume	0	383	50	433	0	0	0	0	24	67	0	91	10	124	65	199	723
Peak Factor																	0.928
High Int.	07:45 AM				6:45:00 AM				08:00 AM				07:45 AM				
Volume	0	383	50	433	0	0	0	0	27	75	0	102	10	124	65	199	
Peak Factor				0.936								0.956				0.844	

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	MISSION ROAD Southbound				MAIN ST. Westbound				MISSION ROAD Northbound				VALLEY 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 03:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	05:00 PM																
Volume	0	515	146	661	0	0	0	0	369	1030	5	1404	30	723	323	1076	3141
Percent	0.0	77.9	22.1		0.0	0.0	0.0		26.3	73.4	0.4		2.8	67.2	30.0		
05:30 Volume	0	145	25	170	0	0	0	0	94	273	0	367	5	197	85	287	824
Peak Factor																	0.953
High Int.	05:00 PM								05:15 PM				05:30 PM				
Volume	0	142	47	189	0	0	0	0	108	255	5	368	5	197	85	287	
Peak Factor				0.874								0.954				0.937	

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Groups Printed- Turning Movement

	MISSION ROAD Southbound				MAIN STREET Westbound				MISSION ROAD 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		
07:00 AM	46	221	0	267	23	145	86	254	0	70	2	72	0	0	0	0	593
07:15 AM	71	308	0	379	26	146	104	276	0	98	5	103	0	0	0	0	758
07:30 AM	71	316	0	387	27	222	94	343	0	112	3	115	0	0	0	0	845
07:45 AM	121	343	0	464	31	267	101	399	0	123	5	128	0	0	0	0	991
Total	309	1188	0	1497	107	780	385	1272	0	403	15	418	0	0	0	0	3187
08:00 AM	106	298	0	404	23	243	74	340	0	127	3	130	0	0	0	0	874
08:15 AM	137	303	0	440	34	198	78	310	0	102	7	109	0	0	0	0	859
08:30 AM	92	262	0	354	17	193	78	288	0	90	9	99	0	0	0	0	741
08:45 AM	74	261	0	335	30	184	86	300	0	102	9	111	0	0	0	0	746
Total	409	1124	0	1533	104	818	316	1238	0	421	28	449	0	0	0	0	3220
09:00 AM	38	179	0	217	31	118	63	212	0	71	6	77	0	0	0	0	506
09:15 AM	53	191	0	244	16	104	55	175	0	108	6	114	0	0	0	0	533
09:30 AM	38	151	0	189	31	90	53	174	0	97	4	101	0	0	0	0	464
09:45 AM	58	130	0	188	27	113	42	182	0	85	6	91	0	0	0	0	461
Total	187	651	0	838	105	425	213	743	0	361	22	383	0	0	0	0	1964
*** BREAK ***																	
03:00 PM	51	121	0	172	35	110	29	174	0	189	10	199	0	0	0	0	545
03:15 PM	49	138	0	187	38	125	34	197	0	193	6	199	0	0	0	0	583
03:30 PM	57	144	0	201	46	133	38	217	0	187	10	197	0	0	0	0	615
03:45 PM	39	152	0	191	31	115	27	173	0	223	12	235	0	0	0	0	599
Total	196	555	0	751	150	483	128	761	0	792	38	830	0	0	0	0	2342
04:00 PM	35	169	0	204	37	122	38	197	0	231	10	241	0	0	0	0	642
04:15 PM	38	162	0	200	48	113	31	192	0	233	12	245	0	0	0	0	637
04:30 PM	59	143	0	202	46	112	37	195	0	287	15	302	0	0	0	0	699
04:45 PM	37	123	0	160	40	144	41	225	0	294	17	311	0	0	0	0	696
Total	169	597	0	766	171	491	147	809	0	1045	54	1099	0	0	0	0	2674
05:00 PM	36	159	0	195	32	138	30	200	0	328	14	342	0	0	0	0	737
05:15 PM	43	122	0	165	26	147	36	209	0	314	14	328	0	0	0	0	702
05:30 PM	26	137	0	163	29	143	36	208	0	340	15	355	0	0	0	0	726
05:45 PM	35	113	0	148	23	121	32	176	0	322	21	343	0	0	0	0	667
Total	140	531	0	671	110	549	134	793	0	1304	64	1368	0	0	0	0	2832
Grand Total	1410	4646	0	6056	747	3546	1323	5616	0	4326	221	4547	0	0	0	0	16219
Apprch %	23.3	76.7	0.0		13.3	63.1	23.6		0.0	95.1	4.9		0.0	0.0	0.0		
Total %	8.7	28.6	0.0	37.3	4.6	21.9	8.2	34.6	0.0	26.7	1.4	28.0	0.0	0.0	0.0	0.0	

	MISSION ROAD Southbound				MAIN STREET Westbound				MISSION ROAD 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 07:00 AM to 09:45 AM - Peak 1 of 1																	
Intersection	07:30 AM																
Volume	435	1260	0	1695	115	930	347	1392	0	464	18	482	0	0	0	0	3569
Percent	25.7	74.3	0.0		8.3	66.8	24.9		0.0	96.3	3.7		0.0	0.0	0.0		
07:45 Volume	121	343	0	464	31	267	101	399	0	123	5	128	0	0	0	0	991
Peak Factor																	0.900
High Int.	07:45 AM				07:45 AM				08:00 AM				6:45:00 AM				
Volume	121	343	0	464	31	267	101	399	0	127	3	130					
Peak Factor				0.913				0.872				0.927					

	MISSION ROAD Southbound				MAIN STREET Westbound				MISSION ROAD 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 03:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	04:45 PM																
Volume	142	541	0	683	127	572	143	842	0	1276	60	1336	0	0	0	0	2861
Percent	20.8	79.2	0.0		15.1	67.9	17.0		0.0	95.5	4.5		0.0	0.0	0.0		
05:00 Volume	36	159	0	195	32	138	30	200	0	328	14	342	0	0	0	0	737
Peak Factor																	0.970
High Int.	05:00 PM				04:45 PM				05:30 PM								
Volume	36	159	0	195	40	144	41	225	0	340	15	355					
Peak Factor				0.876				0.936				0.941					

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<< 21114 TRIGGER LANE >>
<< DIAMOND BAR, CA 91765 >>
<< (909) 595-6199 FAX: (909) 595-6022 >

File Name : 325103
Site Code : 00325103
Start Date : 03/05/2003

Groups Printed- Turning Movement

	BIGGY STREET Southbound				ZONAL AVENUE Westbound				BIGGY STREET Northbound				ZONAL AVENUE 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		
07:00 AM	17	1	0	18	28	62	3	93	3	0	2	5	4	91	29	124	240
07:15 AM	16	0	2	18	21	77	2	100	1	1	5	7	2	120	45	167	292
07:30 AM	26	0	0	26	22	106	0	128	2	0	1	3	2	107	41	150	307
07:45 AM	38	0	2	40	39	84	0	123	1	0	3	4	2	126	52	180	347
Total	97	1	4	102	110	329	5	444	7	1	11	19	10	444	167	621	1186
08:00 AM	29	0	1	30	38	93	1	132	1	0	2	3	1	133	59	193	358
08:15 AM	29	0	4	33	35	97	0	132	1	0	1	2	0	109	49	158	325
08:30 AM	32	0	4	36	35	84	2	121	0	0	0	0	2	92	54	148	305
08:45 AM	37	0	1	38	37	86	1	124	2	1	2	5	1	106	53	160	327
Total	127	0	10	137	145	360	4	509	4	1	5	10	4	440	215	659	1315
09:00 AM	22	0	2	24	44	67	0	111	2	0	1	3	2	95	44	141	279
09:15 AM	25	0	4	29	59	72	2	133	2	0	1	3	4	75	48	127	292
09:30 AM	18	0	7	25	40	61	2	103	1	0	2	3	2	68	28	98	229
09:45 AM	22	0	8	30	41	73	1	115	0	1	4	5	7	81	36	124	274
Total	87	0	21	108	184	273	5	462	5	1	8	14	15	319	156	490	1074
*** BREAK ***																	
03:00 PM	27	0	8	35	27	106	0	133	1	0	0	1	3	99	28	130	299
03:15 PM	32	0	3	35	11	102	0	113	8	0	5	13	2	85	17	104	265
03:30 PM	29	0	8	37	13	106	1	120	4	0	1	5	1	92	16	109	271
03:45 PM	21	0	10	31	22	89	1	112	0	0	2	2	1	95	26	122	267
Total	109	0	29	138	73	403	2	478	13	0	8	21	7	371	87	465	1102
04:00 PM	26	1	8	35	17	119	1	137	1	0	1	2	2	84	21	107	281
04:15 PM	28	0	5	33	13	114	4	131	0	0	2	2	2	89	22	113	279
04:30 PM	20	0	6	26	21	107	0	128	0	0	2	2	1	93	27	121	277
04:45 PM	23	0	7	30	17	136	1	154	0	0	2	2	0	96	30	126	312
Total	97	1	26	124	68	476	6	550	1	0	7	8	5	362	100	467	1149
05:00 PM	33	0	6	39	26	147	2	175	4	1	4	9	0	82	25	107	330
05:15 PM	24	0	1	25	24	120	1	145	0	0	1	1	0	67	15	82	253
05:30 PM	10	0	0	10	24	145	0	169	1	0	0	1	1	72	22	95	275
05:45 PM	15	0	5	20	19	114	1	134	0	0	1	1	1	69	18	88	243
Total	82	0	12	94	93	526	4	623	5	1	6	12	2	290	80	372	1101
Grand Total	599	2	102	703	673	2367	26	3066	35	4	45	84	43	2226	805	3074	6927
Apprch %	85.2	0.3	14.5		22.0	77.2	0.8		41.7	4.8	53.6		1.4	72.4	26.2		
Total %	8.6	0.0	1.5	10.1	9.7	34.2	0.4	44.3	0.5	0.1	0.6	1.2	0.6	32.1	11.6	44.4	

	BIGGY STREET Southbound				ZONAL AVENUE Westbound				BIGGY STREET Northbound				ZONAL AVENUE 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 07:00 AM to 09:45 AM - Peak 1 of 1																	
Intersection	07:30 AM																
Volume	122	0	7	129	134	380	1	515	5	0	7	12	5	475	201	681	1337
Percent	94.6	0.0	5.4		26.0	73.8	0.2		41.7	0.0	58.3		0.7	69.8	29.5		
08:00 Volume	29	0	1	30	38	93	1	132	1	0	2	3	1	133	59	193	358
Peak Factor																	0.934
High Int.	07:45 AM				08:00 AM				07:45 AM				08:00 AM				
Volume	38	0	2	40	38	93	1	132	1	0	3	4	1	133	59	193	
Peak Factor				0.806				0.975				0.750				0.882	

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File Name : 325103
Site Code : 00325103
Start Date : 03/05/2003

	BIGGY STREET Southbound				ZONAL AVENUE Westbound				BIGGY STREET Northbound				ZONAL AVENUE 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 03:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	04:15 PM																
Volume	104	0	24	128	77	504	7	588	4	1	10	15	3	360	104	467	1198
Percent	81.3	0.0	18.8		13.1	85.7	1.2		26.7	6.7	66.7		0.6	77.1	22.3		
05:00 Volume	33	0	6	39	26	147	2	175	4	1	4	9	0	82	25	107	330
Peak Factor																	0.908
High Int.	05:00 PM				05:00 PM				05:00 PM				04:45 PM				
Volume	33	0	6	39	26	147	2	175	4	1	4	9	0	96	30	126	
Peak Factor				0.821				0.840				0.417				0.927	

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File Name 309402
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Groups Printed- Turning Movement

	Southbound				VALLEY BLVD. Westbound				SAN PABLO STREET Northbound				VALLEY 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		
07:00 AM	0	0	0	0	0	234	12	246	3	0	4	7	8	90	0	98	351
07:15 AM	0	0	0	0	0	301	26	327	11	0	9	20	14	123	0	137	484
07:30 AM	0	0	0	0	0	372	32	404	4	0	15	19	21	151	0	172	595
07:45 AM	0	0	0	0	0	362	41	403	7	0	8	15	15	193	0	208	626
Total	0	0	0	0	0	1269	111	1380	25	0	36	61	58	557	0	615	2056
08:00 AM	0	0	0	0	0	328	23	351	6	0	5	11	11	145	0	156	518
08:15 AM	0	0	0	0	0	314	51	365	6	0	14	20	20	115	0	135	520
08:30 AM	0	0	0	0	0	340	44	384	8	0	9	17	13	127	0	140	541
08:45 AM	0	0	0	0	0	252	32	284	9	0	8	17	21	132	0	153	454
Total	0	0	0	0	0	1234	150	1384	29	0	36	65	65	519	0	584	2033
09:00 AM	0	0	0	0	0	218	23	241	10	0	10	20	8	106	0	114	375
09:15 AM	0	0	0	0	0	200	12	212	8	0	4	12	10	107	0	117	341
09:30 AM	0	0	0	0	0	152	17	169	5	0	10	15	16	112	0	128	312
09:45 AM	0	0	0	0	0	157	18	175	6	0	10	16	21	95	0	116	307
Total	0	0	0	0	0	727	70	797	29	0	34	63	55	420	0	475	1335
*** BREAK ***																	
03:00 PM	0	0	0	0	0	172	23	195	20	0	20	40	15	181	0	196	431
03:15 PM	0	0	0	0	0	201	11	212	21	0	21	42	23	184	0	207	461
03:30 PM	0	0	0	0	0	179	21	200	10	0	2	12	17	238	0	255	467
03:45 PM	0	0	0	0	0	163	19	182	26	0	6	32	19	177	0	196	410
Total	0	0	0	0	0	715	74	789	77	0	49	126	74	780	0	854	1769
04:00 PM	0	0	0	0	0	167	9	176	19	0	13	32	24	217	0	241	449
04:15 PM	0	0	0	0	0	149	6	155	18	0	13	31	15	267	0	282	468
04:30 PM	0	0	0	0	0	201	12	213	21	0	21	42	7	256	0	263	518
04:45 PM	0	0	0	0	0	167	11	178	21	0	16	37	9	277	0	286	501
Total	0	0	0	0	0	684	38	722	79	0	63	142	55	1017	0	1072	1936
05:00 PM	0	0	0	0	0	173	1	174	0	0	1	1	2	268	0	270	445
05:15 PM	0	0	0	0	0	170	1	171	0	0	0	0	0	336	0	336	507
05:30 PM	0	0	0	0	0	201	0	201	0	0	0	0	0	337	0	337	538
05:45 PM	0	0	0	0	0	155	1	156	0	0	0	0	0	327	0	327	483
Total	0	0	0	0	0	699	3	702	0	0	1	1	2	1266	0	1270	1973
Grand Total	0	0	0	0	0	5328	446	5774	239	0	219	458	309	4561	0	4870	11102
Apprch %	0.0	0.0	0.0		0.0	92.3	7.7		52.2	0.0	47.8		6.3	93.7	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	48.0	4.0	52.0	2.2	0.0	2.0	4.1	2.8	41.1	0.0	43.9	

	Southbound				VALLEY BLVD. Westbound				SAN PABLO STREET Northbound				VALLEY 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 07:00 AM to 09:45 AM - Peak 1 of 1																	
Intersection	07:30 AM																
Volume	0	0	0	0	0	1376	147	1523	23	0	42	65	67	604	0	671	2259
Percent	0.0	0.0	0.0		0.0	90.3	9.7		35.4	0.0	64.6		10.0	90.0	0.0		
07:45 Volume	0	0	0	0	0	362	41	403	7	0	8	15	15	193	0	208	626
Peak Factor																	0.902
High Int.	6:45:00 AM				07:30 AM				08:15 AM				07:45 AM				
Volume	0	0	0	0	0	372	32	404	6	0	14	20	15	193	0	208	
Peak Factor								0.942				0.813				0.806	

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		Southbound				VALLEY BLVD. Westbound				SAN PABLO STREET Northbound				VALLEY 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 03:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	04:45 PM																
Volume	0	0	0	0	0	711	13	724	21	0	17	38	11	1218	0	1229	1991
Percent	0.0	0.0	0.0		0.0	98.2	1.8		55.3	0.0	44.7		0.9	99.1	0.0		
05:30 Volume	0	0	0	0	0	201	0	201	0	0	0	0	0	337	0	337	538
Peak Factor																	0.925
High Int.					05:30 PM				04:45 PM				05:30 PM				
Volume	0	0	0	0	0	201	0	201	21	0	16	37	0	337	0	337	
Peak Factor								0.900				0.257				0.912	

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File Name : 309403
Site Code : 00309403
Start Date : 04/18/2002
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Groups Printed- Turning Movement

	SAN PABLO STREET Southbound				ALCAZAR STREET Westbound				SAN PABLO STREET Northbound				ALCAZAR STREET 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		
07:00 AM	4	14	5	23	4	30	38	72	32	3	3	38	1	33	7	41	174
07:15 AM	5	26	8	39	5	39	43	87	31	12	0	43	5	47	7	59	228
07:30 AM	5	31	19	55	16	44	53	113	44	7	3	54	2	26	6	34	256
07:45 AM	6	36	10	52	11	57	67	135	29	17	9	55	2	34	7	43	285
Total	20	107	42	169	36	170	201	407	136	39	15	190	10	140	27	177	943
08:00 AM	4	21	10	35	10	75	70	155	43	8	1	52	7	38	1	46	288
08:15 AM	8	36	15	59	7	62	67	136	30	12	6	48	3	29	10	42	285
08:30 AM	5	39	11	55	7	46	70	123	17	10	4	31	3	25	4	32	241
08:45 AM	12	29	16	57	9	50	78	137	24	8	0	32	15	33	6	54	280
Total	29	125	52	206	33	233	285	551	114	38	11	163	28	125	21	174	1094
09:00 AM	6	21	6	33	5	34	47	86	20	10	8	38	6	20	7	33	190
09:15 AM	6	11	10	27	7	30	77	114	30	5	4	39	11	34	5	50	230
09:30 AM	8	15	13	36	6	27	53	86	20	12	14	46	13	21	4	38	206
09:45 AM	9	20	5	34	4	24	52	80	30	14	12	56	19	23	5	47	217
Total	29	67	34	130	22	115	229	366	100	41	38	179	49	98	21	168	843
*** BREAK ***																	
03:00 PM	5	21	37	63	20	38	29	87	53	18	5	76	3	60	4	67	293
03:15 PM	8	13	23	44	15	34	33	82	63	28	10	101	5	38	3	46	273
03:30 PM	8	10	10	28	7	42	32	81	69	17	12	98	1	47	3	51	258
03:45 PM	10	8	24	42	7	18	17	42	49	27	3	79	5	59	10	74	237
Total	31	52	94	177	49	132	111	292	234	90	30	354	14	204	20	238	1061
04:00 PM	5	10	15	30	8	21	31	60	32	16	2	50	5	77	7	89	229
04:15 PM	5	8	11	24	8	26	25	59	49	25	3	77	6	46	3	55	215
04:30 PM	6	8	12	26	11	35	33	79	50	26	8	84	2	28	6	36	225
04:45 PM	4	7	13	24	15	23	37	75	58	19	3	80	2	39	1	42	221
Total	20	33	51	104	42	105	126	273	189	86	16	291	15	190	17	222	890
05:00 PM	9	7	11	27	9	33	35	77	83	4	9	96	3	64	4	71	271
05:15 PM	4	2	6	12	6	32	31	69	75	1	10	86	1	37	2	40	207
05:30 PM	6	2	3	11	4	44	26	74	70	3	2	75	0	21	2	23	183
05:45 PM	3	1	2	6	2	38	26	66	54	2	3	59	1	22	0	23	154
Total	22	12	22	56	21	147	118	286	282	10	24	316	5	144	8	157	815
Grand Total	151	396	295	842	203	902	1070	2175	1055	304	134	1493	121	901	114	1136	5646
Apprch %	17.9	47.0	35.0		9.3	41.5	49.2		70.7	20.4	9.0		10.7	79.3	10.0		
Total %	2.7	7.0	5.2	14.9	3.6	16.0	19.0	38.5	18.7	5.4	2.4	26.4	2.1	16.0	2.0	20.1	

	SAN PABLO STREET Southbound				ALCAZAR STREET Westbound				SAN PABLO STREET Northbound				ALCAZAR STREET 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 07:00 AM to 09:45 AM - Peak 1 of 1																	
Intersection	07:30 AM																
Volume	23	124	54	201	44	238	257	539	146	44	19	209	14	127	24	165	1114
Percent	11.4	61.7	26.9		8.2	44.2	47.7		69.9	21.1	9.1		8.5	77.0	14.5		
08:00 Volume	4	21	10	35	10	75	70	155	43	8	1	52	7	38	1	46	288
Peak Factor																	0.967
High Int.	08:15 AM				08:00 AM				07:45 AM				08:00 AM				
Volume	8	36	15	59	10	75	70	155	29	17	9	55	7	38	1	46	
Peak Factor				0.852				0.869				0.950				0.897	

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Site Code 00309403
Start Date 04/18/2002

	SAN PABLO STREET Southbound				ALCAZAR STREET Westbound				SAN PABLO STREET Northbound				ALCAZAR STREET 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 03:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	03:00 PM																
Volume	31	52	94	177	49	132	111	292	234	90	30	354	14	204	20	238	1061
Percent	17.5	29.4	53.1		16.8	45.2	38.0		66.1	25.4	8.5		5.9	85.7	8.4		
03:00 Volume	5	21	37	63	20	38	29	87	53	18	5	76	3	60	4	67	293
Peak Factor																	0.905
High Int.	03:00 PM				03:00 PM				03:15 PM				03:45 PM				
Volume	5	21	37	63	20	38	29	87	63	28	10	101	5	59	10	74	
Peak Factor				0.702				0.839				0.876				0.804	

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Groups Printed- Turning Movement

	SAN PABLO STREET Southbound				NORFOLK STREET Westbound				SAN PABLO STREET Northbound				EASTLAKE AVE. 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		
07:00 AM	18	24	2	44	1	2	2	5	5	46	14	65	4	2	9	15	129
07:15 AM	14	43	1	58	1	3	1	5	8	50	16	74	11	3	6	20	157
07:30 AM	17	63	1	81	1	1	2	4	6	55	17	78	5	3	9	17	180
07:45 AM	23	64	3	90	1	6	3	10	6	51	20	77	10	6	12	28	205
Total	72	194	7	273	4	12	8	24	25	202	67	294	30	14	36	80	671
08:00 AM	35	58	3	96	1	2	5	8	12	53	20	85	6	2	8	16	205
08:15 AM	38	44	2	84	4	1	3	8	20	39	34	93	7	6	16	29	214
08:30 AM	43	51	2	96	4	9	2	15	17	38	18	73	8	4	7	19	203
08:45 AM	50	45	8	103	4	4	5	13	13	32	31	76	13	5	12	30	222
Total	166	198	15	379	13	16	15	44	62	162	103	327	34	17	43	94	844
09:00 AM	33	34	1	68	4	2	10	16	8	39	23	70	13	3	20	36	190
09:15 AM	42	35	7	84	5	3	5	13	7	37	30	74	13	3	16	32	203
09:30 AM	31	47	7	85	9	6	8	23	16	34	30	80	12	1	16	29	217
09:45 AM	38	29	8	75	9	5	8	22	10	48	20	78	18	7	22	47	222
Total	144	145	23	312	27	16	31	74	41	158	103	302	56	14	74	144	832
*** BREAK ***																	
03:00 PM	22	43	5	70	2	2	10	14	6	45	12	63	23	6	18	47	194
03:15 PM	19	32	3	54	7	11	8	26	17	62	16	95	24	10	27	61	236
03:30 PM	11	36	3	50	3	10	4	17	6	60	21	87	21	3	27	51	205
03:45 PM	13	36	3	52	5	5	6	16	7	55	15	77	22	6	25	53	198
Total	65	147	14	226	17	28	28	73	36	222	64	322	90	25	97	212	833
04:00 PM	10	38	1	49	5	3	7	15	4	31	8	43	28	2	15	45	152
04:15 PM	16	35	2	53	6	4	10	20	2	42	16	60	28	1	15	44	177
04:30 PM	9	42	2	53	9	4	3	16	8	44	6	58	19	8	23	50	177
04:45 PM	21	36	2	59	6	5	8	19	6	49	22	77	20	2	21	43	198
Total	56	151	7	214	26	16	28	70	20	166	52	238	95	13	74	182	704
05:00 PM	11	37	1	49	4	6	17	27	6	48	15	69	23	5	24	52	197
05:15 PM	11	31	1	43	5	4	7	16	7	45	4	56	15	4	21	40	155
05:30 PM	9	26	1	36	5	4	9	18	17	45	13	75	18	6	12	36	165
05:45 PM	3	25	1	29	2	2	10	14	6	43	4	53	14	1	15	30	126
Total	34	119	4	157	16	16	43	75	36	181	36	253	70	16	72	158	643
Grand Total	537	954	70	1561	103	104	153	360	220	1091	425	1736	375	99	396	870	4527
Apprch %	34.4	61.1	4.5		28.6	28.9	42.5		12.7	62.8	24.5		43.1	11.4	45.5		
Total %	11.9	21.1	1.5	34.5	2.3	2.3	3.4	8.0	4.9	24.1	9.4	38.3	8.3	2.2	8.7	19.2	

	SAN PABLO STREET Southbound				NORFOLK STREET Westbound				SAN PABLO STREET Northbound				EASTLAKE AVE. 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 07:00 AM to 09:45 AM - Peak 1 of 1																	
Intersection	08:00 AM																
Volume	166	198	15	379	13	16	15	44	62	162	103	327	34	17	43	94	844
Percent	43.8	52.2	4.0		29.5	36.4	34.1		19.0	49.5	31.5		36.2	18.1	45.7		
08:45 Volume	50	45	8	103	4	4	5	13	13	32	31	76	13	5	12	30	222
Peak Factor																	0.950
High Int.	08:45 AM				08:30 AM				08:15 AM				08:45 AM				
Volume	50	45	8	103	4	9	2	15	20	39	34	93	13	5	12	30	
Peak Factor				0.920				0.733				0.879				0.783	

<< ACCUTEK >>
<< 21114 TRIGGER LANE >>
<< DIAMOND BAR, CA 91765 >>
<< (909) 595-6199 FAX: (909) 595-6022 >

File Name 309404
Site Code 00309404
Start Date 04/18/2002

	SAN PABLO STREET Southbound				NORFOLK STREET Westbound				SAN PABLO STREET Northbound				EASTLAKE AVE. 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 03:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	03:00 PM																
Volume	65	147	14	226	17	28	28	73	36	222	64	322	90	25	97	212	833
Percent	28.8	65.0	6.2		23.3	38.4	38.4		11.2	68.9	19.9		42.5	11.8	45.8		
03:15 Volume	19	32	3	54	7	11	8	26	17	62	16	95	24	10	27	61	236
Peak Factor																	0.882
High Int.	03:00 PM				03:15 PM				03:15 PM				03:15 PM				
Volume	22	43	5	70	7	11	8	26	17	62	16	95	24	10	27	61	
Peak Factor				0.807				0.702				0.847				0.869	

<< ACCUTEK >>
<< 21114 TRIGGER LANE >>
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File Name : 309405
Site Code : 00309405
Start Date : 04/18/2002
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Groups Printed- Turning Movement

	SAN PABLO ST. Southbound				ZONAL AVE. Westbound				SAN PABLO ST. Northbound				ZONAL AVE. 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		
07:00 AM	24	0	10	34	45	107	0	152	0	0	0	0	0	56	36	92	278
07:15 AM	33	0	17	50	56	90	0	146	0	0	0	0	0	95	39	134	330
07:30 AM	45	0	35	80	53	105	0	158	0	0	0	0	0	93	39	132	370
07:45 AM	51	0	28	79	52	124	0	176	0	0	0	0	0	87	36	123	378
Total	153	0	90	243	206	426	0	632	0	0	0	0	0	331	150	481	1356
08:00 AM	43	0	20	63	69	119	0	188	0	0	0	0	0	93	37	130	381
08:15 AM	51	0	11	62	61	93	0	154	0	0	0	0	0	73	24	97	313
08:30 AM	48	0	17	65	48	98	0	146	0	0	0	0	0	41	30	71	282
08:45 AM	50	0	12	62	49	112	0	161	0	0	0	0	0	48	17	65	288
Total	192	0	60	252	227	422	0	649	0	0	0	0	0	255	108	363	1264
09:00 AM	40	0	10	50	38	103	0	141	0	0	0	0	0	52	39	91	282
09:15 AM	32	0	13	45	49	100	0	149	0	0	0	0	0	31	31	62	256
09:30 AM	37	0	18	55	40	64	0	104	0	0	0	0	0	82	33	115	274
09:45 AM	42	0	19	61	33	75	0	108	0	0	0	0	0	52	38	90	259
Total	151	0	60	211	160	342	0	502	0	0	0	0	0	217	141	358	1071
*** BREAK ***																	
03:00 PM	33	0	31	64	42	79	0	121	0	0	0	0	0	58	34	92	277
03:15 PM	39	0	24	63	59	81	0	140	0	0	0	0	0	64	37	101	304
03:30 PM	38	0	25	63	44	72	0	116	0	0	0	0	0	101	45	146	325
03:45 PM	40	0	22	62	29	92	0	121	0	0	0	0	0	99	53	152	335
Total	150	0	102	252	174	324	0	498	0	0	0	0	0	322	169	491	1241
04:00 PM	29	0	45	74	15	77	0	92	0	0	0	0	0	115	37	152	318
04:15 PM	25	0	48	73	18	83	0	101	0	0	0	0	0	102	41	143	317
04:30 PM	30	0	36	66	28	57	0	85	0	0	0	0	0	117	34	151	302
04:45 PM	38	0	28	66	26	87	0	113	0	0	0	0	0	96	55	151	330
Total	122	0	157	279	87	304	0	391	0	0	0	0	0	430	167	597	1267
05:00 PM	31	0	53	84	31	90	0	121	0	0	0	0	0	116	42	158	363
05:15 PM	24	0	35	59	21	85	0	106	0	0	0	0	0	89	41	130	295
05:30 PM	24	0	40	64	26	69	0	95	0	0	0	0	0	87	46	133	292
05:45 PM	20	0	33	53	21	90	0	111	0	0	0	0	0	66	34	100	264
Total	99	0	161	260	99	334	0	433	0	0	0	0	0	358	163	521	1214
Grand Total	867	0	630	1497	953	2152	0	3105	0	0	0	0	0	1913	898	2811	7413
Apprch %	57.9	0.0	42.1		30.7	69.3	0.0		0.0	0.0	0.0		0.0	68.1	31.9		
Total %	11.7	0.0	8.5	20.2	12.9	29.0	0.0	41.9	0.0	0.0	0.0	0.0	0.0	25.8	12.1	37.9	

	SAN PABLO ST. Southbound				ZONAL AVE. Westbound				SAN PABLO ST. Northbound				ZONAL AVE. 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 07:00 AM to 09:45 AM - Peak 1 of 1																	
Intersection	07:15 AM																
Volume	172	0	100	272	230	438	0	668	0	0	0	0	0	368	151	519	1459
Percent	63.2	0.0	36.8		34.4	65.6	0.0		0.0	0.0	0.0		0.0	70.9	29.1		
08:00 Volume	43	0	20	63	69	119	0	188	0	0	0	0	0	93	37	130	381
Peak Factor																	0.957
High Int.	07:30 AM				08:00 AM				6:45:00 AM				07:15 AM				
Volume	45	0	35	80	69	119	0	188	0	0	0	0	0	95	39	134	
Peak Factor				0.850				0.888								0.968	

<< ACCUTEK >>
<< 21114 TRIGGER LANE >>
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File Name : 309405
Site Code : 00309405
Start Date : 04/18/2002
Page No : 2

	SAN PABLO ST. Southbound				ZONAL AVE. Westbound				SAN PABLO ST. Northbound				ZONAL AVE. 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 03:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	04:15 PM																
Volume	124	0	165	289	103	317	0	420	0	0	0	0	0	431	172	603	1312
Percent	42.9	0.0	57.1		24.5	75.5	0.0		0.0	0.0	0.0		0.0	71.5	28.5		
05:00 Volume	31	0	53	84	31	90	0	121	0	0	0	0	0	116	42	158	363
Peak Factor																	0.904
High Int.	05:00 PM				05:00 PM								05:00 PM				
Volume	31	0	53	84	31	90	0	121	0	0	0	0	0	116	42	158	
Peak Factor				0.860				0.868								0.954	

ACCUTEK

TRAFFIC COUNT SUMMARY

STREET:
North/South SOTO STREET

East/West ALCAZAR ST.

Day: THURSDAY Date: 02-03-00 Weather: CLEAR

Hours: 7-10 AM 3-6 PM FILE: 272605

School Day: YES District: LOS ANGELES

	N/B	S/B	E/B	W/B
DUAL-	0	0	0	0
WHEELED	0	0	0	0
BIKES	0	0	0	0
BUSES	0	0	0	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	254	7:30	495	8:00	75	7:45	63	8:00
PM PK 15 MIN	324	5:45	207	4:30	209	5:00	62	4:30
AM PK HOUR	938	7:15	1797	7:30	244	7:15	197	7:30
PM PK HOUR	1171	5:00	760	3:00	631	4:45	171	3:45

NORTHBOUND Approach / SOUTHBOUND Approach / TOTAL / XING S/L / XING N/L

Hours	Lt	Th	Rt	Total	Hours	Lt	Th	Rt	Total	N-S	S/L Ped	S/L Sch	N/L Ped	N/L Sch
7-8	177	701	12	890	7-8	33	1168	299	1500	2390	0	0	0	0
8-9	208	549	34	791	8-9	29	1077	473	1579	2370	0	0	0	0
9-10	208	386	8	602	9-10	17	499	240	756	1358	0	0	0	0
3-4	127	818	17	962	3-4	20	653	87	760	1722	0	0	0	0
4-5	64	808	24	896	4-5	9	591	60	660	1556	0	0	0	0
5-6	75	1074	22	1171	5-6	23	525	51	599	1770	0	0	0	0
TOTAL	859	4336	117	5312	TOTAL	131	4513	1210	5854	11166	0	0	0	0

EASTBOUND Approach / WESTBOUND Approach / TOTAL / XING W/L / XING E/L

Hours	Lt	Th	Rt	Total	Hours	Lt	Th	Rt	Total	E-W	W/L Ped	W/L Sch	E/L Ped	E/L Sch
7-8	77	43	105	225	7-8	51	58	32	141	366	0	0	0	0
8-9	58	33	92	183	8-9	39	75	30	144	327	0	0	0	0
9-10	51	25	91	167	9-10	27	15	15	57	224	0	0	0	0
3-4	192	51	256	499	3-4	60	42	34	136	635	0	0	0	0
4-5	278	54	287	619	4-5	76	42	42	160	779	0	0	0	0
5-6	349	54	213	616	5-6	51	29	33	113	729	0	0	0	0
TOTAL	1005	260	1044	2309	TOTAL	304	261	186	751	3060	0	0	0	0

<< ACCUTEK >>
<< 21114 TRIGGER LANE >>
<< DIAMOND BAR, CA 91765 >>
<< (909) 595-6199 FAX: (909) 595-6022 >

File Name : 311001
Site Code : 00031101
Start Date : 05/16/2002

Groups Printed- Turning Movement

	SOTO STREET Southbound				I-10 WB RAMPS Westbound				SOTO STREET Northbound				CHARLOTTE 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		
07:00 AM	8	174	71	253	105	119	76	300	33	150	10	193	49	14	8	71	817
07:15 AM	18	238	80	336	109	99	81	289	46	176	18	240	67	24	5	96	961
07:30 AM	17	276	78	371	131	90	101	322	49	182	16	247	84	25	9	118	1058
07:45 AM	13	298	75	386	99	69	118	286	46	231	15	292	59	25	7	91	1055
Total	56	986	304	1346	444	377	376	1197	174	739	59	972	259	88	29	376	3891
08:00 AM	7	285	81	373	62	51	80	193	36	162	26	224	64	23	6	93	883
08:15 AM	10	284	110	404	83	115	83	281	33	121	28	182	61	13	2	76	943
08:30 AM	10	209	98	317	85	122	64	271	22	129	19	170	48	19	3	70	828
08:45 AM	6	226	90	322	70	96	67	233	38	118	20	176	28	9	3	40	771
Total	33	1004	379	1416	300	384	294	978	129	530	93	752	201	64	14	279	3425
09:00 AM	8	149	59	216	64	75	62	201	26	113	22	161	30	10	2	42	620
09:15 AM	6	121	50	177	53	71	57	181	23	100	23	146	37	18	3	58	562
09:30 AM	5	112	46	163	72	65	60	197	21	105	22	148	33	12	4	49	557
09:45 AM	4	129	56	189	66	57	77	200	28	105	12	145	29	12	3	44	578
Total	23	511	211	745	255	268	256	779	98	423	79	600	129	52	12	193	2317
*** BREAK ***																	
03:00 PM	10	239	61	310	62	63	60	185	39	233	18	290	71	35	8	114	899
03:15 PM	9	232	81	322	71	41	76	188	36	202	11	249	84	30	3	117	876
03:30 PM	9	250	72	331	57	69	68	194	34	214	12	260	82	37	6	125	910
03:45 PM	5	189	52	246	70	94	81	245	42	242	9	293	69	33	7	109	893
Total	33	910	266	1209	260	267	285	812	151	891	50	1092	306	135	24	465	3578
04:00 PM	3	243	61	307	73	52	61	186	33	225	12	270	71	33	3	107	870
04:15 PM	2	174	69	245	55	43	57	155	31	214	9	254	73	39	11	123	777
04:30 PM	4	221	54	279	69	48	77	194	31	212	19	262	96	33	11	140	875
04:45 PM	5	180	47	232	77	65	66	208	28	255	14	297	69	41	5	115	852
Total	14	818	231	1063	274	208	261	743	123	906	54	1083	309	146	30	485	3374
05:00 PM	7	200	76	283	81	64	79	224	28	221	20	269	96	29	11	136	912
05:15 PM	6	177	55	238	82	73	68	223	19	244	15	278	85	32	10	127	866
05:30 PM	7	171	45	223	96	82	102	280	21	255	13	289	81	19	13	113	905
05:45 PM	3	158	42	203	90	64	90	244	15	274	15	304	58	20	10	88	839
Total	23	706	218	947	349	283	339	971	83	994	63	1140	320	100	44	464	3522
Grand Total	182	4935	1609	6726	1882	1787	1811	5480	758	4483	398	5639	1524	585	153	2262	20107
Apprch %	2.7	73.4	23.9		34.3	32.6	33.0		13.4	79.5	7.1		67.4	25.9	6.8		
Total %	0.9	24.5	8.0	33.5	9.4	8.9	9.0	27.3	3.8	22.3	2.0	28.0	7.6	2.9	0.8	11.2	

	SOTO STREET Southbound				I-10 WB RAMPS Westbound				SOTO STREET Northbound				CHARLOTTE 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 07:00 AM to 09:45 AM - Peak 1 of 1																	
Intersection	07:15 AM																
Volume	55	1097	314	1466	401	309	380	1090	177	751	75	1003	274	97	27	398	3957
Percent	3.8	74.8	21.4		36.8	28.3	34.9		17.6	74.9	7.5		68.8	24.4	6.8		
07:30 Volume	17	276	78	371	131	90	101	322	49	182	16	247	84	25	9	118	1058
Peak Factor																	0.935
High Int.	07:45 AM				07:30 AM				07:45 AM				07:30 AM				
Volume	13	298	75	386	131	90	101	322	46	231	15	292	84	25	9	118	
Peak Factor				0.949				0.846				0.859				0.843	

<< ACCUTEK >>
<< 21114 TRIGGER LANE >>
<< DIAMOND BAR, CA 91765 >>
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File Name : 311001
Site Code : 00031101
Start Date : 05/16/2002

	SOTO STREET Southbound				I-10 WB RAMPS Westbound				SOTO STREET Northbound				CHARLOTTE 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 03:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	03:00 PM																
Volume	33	910	266	1209	260	267	285	812	151	891	50	1092	306	135	24	465	3578
Percent	2.7	75.3	22.0		32.0	32.9	35.1		13.8	81.6	4.6		65.8	29.0	5.2		
03:30 Volume	9	250	72	331	57	69	68	194	34	214	12	260	82	37	6	125	910
Peak Factor																	0.983
High Int.	03:30 PM				03:45 PM				03:45 PM				03:30 PM				
Volume	9	250	72	331	70	94	81	245	42	242	9	293	82	37	6	125	
Peak Factor				0.913				0.829				0.932				0.930	

<< ACCUTEK >>
<< 21114 TRIGGER LANE >>
<< DIAMOND BAR, CA 91765 >>
<< (909) 595-6199 FAX: (909) 595-6022 >

File Name : 317510
Site Code : 00317510
Start Date : 10/22/2002
Page No : 1

Groups Printed- Turning Movement

	SOTO STREET Southbound				MARENGO STREET Westbound				SOTO STREET Northbound				MARENGO STREET 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		
07:00 AM	68	142	94	304	28	35	10	73	35	162	93	290	24	32	11	67	734
07:15 AM	82	172	139	393	24	71	7	102	49	211	113	373	34	28	14	76	944
07:30 AM	122	184	156	462	39	88	10	137	45	203	150	398	32	49	8	89	1086
07:45 AM	140	161	155	456	37	92	9	138	36	215	167	418	35	48	20	103	1115
Total	412	659	544	1615	128	286	36	450	165	791	523	1479	125	157	53	335	3879
08:00 AM	137	177	154	468	20	87	6	113	30	171	131	332	31	47	10	88	1001
08:15 AM	116	181	105	402	18	56	8	82	30	164	133	327	36	43	10	89	900
08:30 AM	77	140	114	331	9	58	4	71	40	114	100	254	44	35	9	88	744
08:45 AM	57	142	90	289	15	32	6	53	31	137	90	258	42	38	16	96	696
Total	387	640	463	1490	62	233	24	319	131	586	454	1171	153	163	45	361	3341
09:00 AM	54	119	70	243	9	28	2	39	33	130	64	227	50	26	15	91	600
09:15 AM	40	98	61	199	11	24	4	39	23	111	95	229	27	27	15	69	536
09:30 AM	30	109	68	207	10	30	3	43	38	130	59	227	32	54	12	98	575
09:45 AM	40	121	72	233	4	28	6	38	32	123	70	225	38	34	16	88	584
Total	164	447	271	882	34	110	15	159	126	494	288	908	147	141	58	346	2295
*** BREAK ***																	
03:00 PM	53	147	175	375	13	38	2	53	38	163	74	275	69	87	43	204	907
03:15 PM	43	138	179	360	13	31	4	48	44	166	92	302	58	97	25	180	890
03:30 PM	58	144	179	381	8	33	8	49	55	174	100	329	49	107	26	182	941
03:45 PM	47	133	174	354	21	32	9	62	68	186	64	318	58	133	48	239	973
Total	201	562	707	1470	55	134	23	212	205	689	330	1224	234	424	147	805	3711
04:00 PM	41	149	199	389	11	38	5	54	67	204	75	346	60	98	44	202	991
04:15 PM	36	142	175	353	13	19	6	38	61	182	77	320	63	111	28	202	913
04:30 PM	48	143	183	374	8	34	7	49	56	198	63	317	50	102	55	207	947
04:45 PM	44	166	160	370	12	39	5	56	57	228	83	368	60	91	45	196	990
Total	169	600	717	1486	44	130	23	197	241	812	298	1351	233	402	172	807	3841
05:00 PM	46	142	169	357	16	39	6	61	56	202	85	343	53	93	48	194	955
05:15 PM	49	118	174	341	11	41	4	56	66	213	89	368	63	110	59	232	997
05:30 PM	51	143	145	339	13	46	1	60	61	258	99	418	59	68	59	186	1003
05:45 PM	36	122	129	287	13	39	9	61	64	222	99	385	53	76	52	181	914
Total	182	525	617	1324	53	165	20	238	247	895	372	1514	228	347	218	793	3869
Grand Total	1515	3433	3319	8267	376	1058	141	1575	1115	4267	2265	7647	1120	1634	693	3447	20936
Apprch %	18.3	41.5	40.1		23.9	67.2	9.0		14.6	55.8	29.6		32.5	47.4	20.1		
Total %	7.2	16.4	15.9	39.5	1.8	5.1	0.7	7.5	5.3	20.4	10.8	36.5	5.3	7.8	3.3	16.5	

	SOTO STREET Southbound				MARENGO STREET Westbound				SOTO STREET Northbound				MARENGO STREET 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 07:00 AM to 09:45 AM - Peak 1 of 1																	
Intersection	07:15 AM																
Volume	481	694	604	1779	120	338	32	490	160	800	561	1521	132	172	52	356	4146
Percent	27.0	39.0	34.0		24.5	69.0	6.5		10.5	52.6	36.9		37.1	48.3	14.6		
07:45 Volume	140	161	155	456	37	92	9	138	36	215	167	418	35	48	20	103	1115
Peak Factor																	0.930
High Int.	08:00 AM				07:45 AM				07:45 AM				07:45 AM				
Volume	137	177	154	468	37	92	9	138	36	215	167	418	35	48	20	103	
Peak Factor				0.950				0.888				0.910				0.864	

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File Name : 317510
Site Code : 00317510
Start Date : 10/22/2002

	SOTO STREET Southbound				MARENGO STREET Westbound				SOTO STREET Northbound				MARENGO STREET 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 03:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	04:45 PM																
Volume	190	569	648	1407	52	165	16	233	240	901	356	1497	235	362	211	808	3945
Percent	13.5	40.4	46.1		22.3	70.8	6.9		16.0	60.2	23.8		29.1	44.8	26.1		
05:30 Volume	51	143	145	339	13	46	1	60	61	258	99	418	59	68	59	186	1003
Peak Factor																	0.983
High Int.	04:45 PM				05:00 PM				05:30 PM				05:15 PM				
Volume	44	166	160	370	16	39	6	61	61	258	99	418	63	110	59	232	
Peak Factor				0.951				0.955				0.895				0.871	

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File Name : 317511
Site Code : 00317511
Start Date : 10/22/2002
Page No : 1

Groups Printed- Turning Movement

	SOTO STREET Southbound				I-10 EB OFF RAMP Westbound				SOTO STREET Northbound				WABASHI AVE. 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		
07:00 AM	0	168	28	196	46	0	23	69	11	101	0	112	3	22	115	140	517
07:15 AM	0	185	33	218	82	0	33	115	8	173	0	181	9	31	144	184	698
07:30 AM	0	178	20	198	70	0	27	97	12	181	0	193	12	18	136	166	654
07:45 AM	0	217	30	247	73	0	37	110	19	192	0	211	10	28	155	193	761
Total	0	748	111	859	271	0	120	391	50	647	0	697	34	99	550	683	2630
08:00 AM	0	181	33	214	76	0	36	112	11	141	0	152	8	21	126	155	633
08:15 AM	0	178	28	206	62	0	24	86	5	145	0	150	13	22	113	148	590
08:30 AM	0	171	26	197	47	0	17	64	7	132	0	139	12	16	80	108	508
08:45 AM	0	167	20	187	49	0	16	65	6	106	0	112	7	17	87	111	475
Total	0	697	107	804	234	0	93	327	29	524	0	553	40	76	406	522	2206
09:00 AM	0	143	26	169	44	0	19	63	10	101	0	111	4	18	67	89	432
09:15 AM	0	94	26	120	38	0	18	56	10	106	0	116	9	14	78	101	393
09:30 AM	0	111	29	140	32	0	14	46	11	110	0	121	9	19	84	112	419
09:45 AM	0	147	24	171	29	0	21	50	17	99	0	116	9	20	82	111	448
Total	0	495	105	600	143	0	72	215	48	416	0	464	31	71	311	413	1692
*** BREAK ***																	
03:00 PM	0	178	33	211	60	0	22	82	15	158	0	173	20	34	77	131	597
03:15 PM	0	150	32	182	57	0	25	82	18	175	0	193	13	44	81	138	595
03:30 PM	0	149	28	177	56	0	25	81	12	194	0	206	17	54	84	155	619
03:45 PM	0	177	36	213	52	0	24	76	22	205	0	227	28	62	61	151	667
Total	0	654	129	783	225	0	96	321	67	732	0	799	78	194	303	575	2478
04:00 PM	0	176	41	217	52	0	17	69	21	198	0	219	14	48	91	153	658
04:15 PM	0	167	40	207	57	0	22	79	25	197	0	222	16	44	82	142	650
04:30 PM	0	170	32	202	45	0	19	64	25	184	0	209	14	64	84	162	637
04:45 PM	0	189	31	220	56	0	23	79	16	220	0	236	20	52	105	177	712
Total	0	702	144	846	210	0	81	291	87	799	0	886	64	208	362	634	2657
05:00 PM	0	152	38	190	57	0	23	80	21	202	0	223	18	49	86	153	646
05:15 PM	0	130	29	159	62	0	26	88	16	220	0	236	25	76	117	218	701
05:30 PM	0	159	21	180	56	0	26	82	22	247	0	269	21	64	103	188	719
05:45 PM	0	156	24	180	53	0	24	77	19	219	0	238	34	67	95	196	691
Total	0	597	112	709	228	0	99	327	78	888	0	966	98	256	401	755	2757
Grand Total	0	3893	708	4601	1311	0	561	1872	359	4006	0	4365	345	904	2333	3582	14420
Apprch %	0.0	84.6	15.4		70.0	0.0	30.0		8.2	91.8	0.0		9.6	25.2	65.1		
Total %	0.0	27.0	4.9	31.9	9.1	0.0	3.9	13.0	2.5	27.8	0.0	30.3	2.4	6.3	16.2	24.8	

	SOTO STREET Southbound				I-10 EB OFF RAMP Westbound				SOTO STREET Northbound				WABASHI AVE. 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 07:00 AM to 09:45 AM - Peak 1 of 1																	
Intersection	07:15 AM																
Volume	0	761	116	877	301	0	133	434	50	687	0	737	39	98	561	698	2746
Percent	0.0	86.8	13.2		69.4	0.0	30.6		6.8	93.2	0.0		5.6	14.0	80.4		
07:45 Volume	0	217	30	247	73	0	37	110	19	192	0	211	10	28	155	193	761
Peak Factor																	0.902
High Int.	07:45 AM				07:15 AM				07:45 AM				07:45 AM				
Volume	0	217	30	247	82	0	33	115	19	192	0	211	10	28	155	193	
Peak Factor				0.888				0.943				0.873				0.904	

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File Name : 317511
Site Code : 00317511
Start Date : 10/22/2002

	SOTO STREET Southbound				I-10 EB OFF RAMP Westbound				SOTO STREET Northbound				WABASHI AVE. 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 02:45 PM to 05:45 PM - Peak 1 of 1																	
Intersection	04:45 PM																
Volume	0	630	119	749	231	0	98	329	75	889	0	964	84	241	411	736	2778
Percent	0.0	84.1	15.9		70.2	0.0	29.8		7.8	92.2	0.0		11.4	32.7	55.8		
05:30 Volume	0	159	21	180	56	0	26	82	22	247	0	269	21	64	103	188	719
Peak Factor																	0.966
High Int.	04:45 PM				05:15 PM				05:30 PM				05:15 PM				
Volume	0	189	31	220	62	0	26	88	22	247	0	269	25	76	117	218	
Peak Factor				0.851				0.935				0.896				0.844	

APPENDIX C

PROJECT PARKING SCENARIO NO. 1
CMA AND LEVELS OF SERVICE EXPLANATION
PROPOSED PROJECT CMA DATA WORKSHEETS – AM AND PM PEAK COMMUTER HOURS

CRITICAL MOVEMENT ANALYSIS (CMA) DESCRIPTION

Level of Service is a term used to describe prevailing conditions and their effect on traffic. Broadly interpreted, the Level of Service concept denotes any one of a number of differing combinations of operating conditions which may take place as a roadway is accommodating various traffic volumes. Level of Service is a qualitative measure of the effect of such factors as travel speed, travel time, interruptions, freedom to maneuver, safety, driving comfort and convenience.

Six Levels of Service, A through F, have been defined in the 1965 *Highway Capacity Manual*. Level of Service A describes a condition of free flow, with low traffic volumes and relatively high speeds, while Level of Service F describes forced traffic flow at low speeds with jammed conditions and queues which cannot clear during the green phases.

Critical Movement Analysis (CMA) is a procedure which provides a capacity and level of service geometry and traffic signal operation and results in a level of service determination for the intersection as a whole operating unit.

The per lane volume for each movement in the intersection is determined and the per lane intersection capacity based on the Transportation Research Board (TRB) Report 212 (*Interim Materials on Highway Capacity*). The resulting CMA represents the ratio of the intersection's cumulative volume over its respective capacity (V/C ratio). Critical Movement Analysis takes into account lane widths, bus and truck operations, pedestrian activity and parking activity, as well as number of lanes and geometrics.

The Level of Service (abbreviated from the *Highway Capacity Manual*) are listed here with their corresponding CMA and Load Factor equivalents. Load Factor is that proportion of the signal cycles during the peak hour which are fully loaded; i.e. when all of the vehicles waiting at the beginning of green are not able to clear on that green phase.

Critical Movement Analysis Characteristics

Level of Service	Load Factor	Equivalent CMA
A (free flow)	0.0	0.00 - 0.60
B (rural design)	0.0 - 0.1	0.61 - 0.70
C (urban design)	0.1 - 0.3	0.71 - 0.80
D (maximum urban design)	0.3 - 0.7	0.81 - 0.90
E (capacity)	0.7 - 1.0	0.91 - 1.00
F (force flow)	Not Applicable	Not Applicable

SERVICE LEVEL A
There are no loaded cycles and few are even close to loaded at this service level. No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication.

SERVICE LEVEL B
This level represents stable operation where an occasional approach phase is fully utilized and a substantial number are approaching full use. Many drivers begin to feel restricted within platoons of vehicles.

SERVICE LEVEL C
At this level stable operation continues. Loading is still intermittent but more frequent than at Level B. Occasionally drivers may have to wait through more one red signal indication and backups may develop behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so.

SERVICE LEVEL D
This level encompasses a zone of increasing restriction approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak hour, but enough cycles with lower demand occur to permit periodic clearance of queues, thus preventing excessive backups. Drivers frequently have to wait through more than one red signal. This level is the lower limit of acceptable operation to most drivers.

SERVICE LEVEL E
This represents near capacity and capacity operation. At capacity (CMA = 1.0) it represents the most vehicles that the particular intersection can accommodate. However, full utilization of every signal cycle is seldom attained no matter how great the demand. At this level all drivers wait through more than one red signal, and frequently through several.

SERVICE LEVEL F
Jammed conditions. Traffic backed up from a downstream location on one of the street restricts or prevents movement of traffic through the intersection under consideration.

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PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

CRITICAL MOVEMENT ANALYSIS

N-S St: I-5 SB Off Ramp/Avenue 21
E-W St: Main Street
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA1
Counts by: Accutek

I-5 SB Off Ramp/Avenue 21 @ Main Street
Peak Hour: AM
Annual Growth: 1.0%

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	5	0	-	1	6	0	-	0	6	0	-	0	6	0	-	0	6	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	0	0	8	0	0	0	9	0	0	0	9	0	0	0	9	0	0	0	9
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-
Comb. L-T-R -		1				1				1				1				1	
SB Left	113	1	113	12	125	1	125	0	125	1	125	18	143	1	143	0	143	1	143
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-
Comb. T-R		1	119			1	132			1	132			1	132			1	132
SB Right	116	0	-	13	129	0	-	0	129	0	-	0	129	0	-	0	129	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	511	1	257	56	567	1	285	71	638	1	321	18	656	1	330	0	656	1	330
Comb. T-R		1	257			1	285			1	321			1	330			1	330
EB Right	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	5	0	-	1	6	0	-	0	6	0	-	0	6	0	-	0	6	0	-
Comb. L-T		1	793			1	880			1	918			1	920			1	920
WB Thru	1581	1	793	174	1755	1	880	75	1830	1	918	4	1834	1	920	0	1834	1	920
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	124			N-S:	138			N-S:	138			N-S:	152			N-S:	152
		E-W:	793			E-W:	880			E-W:	918			E-W:	920			E-W:	920
		SUM:	917			SUM:	1018			SUM:	1055			SUM:	1072			SUM:	1072
No. of Phases:			U				U				U				U				U
Volume / Capacity:			0.764				0.848				0.879				0.893				0.893
Level of Service:			C				D				D				D				D

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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CRITICAL MOVEMENT ANALYSIS

PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

I-5 SB Off Ramp/Avenue 21 @ Main Street
Peak Hour: PM
Annual Growth: 1.00%

N-S St: I-5 SB Off Ramp/Avenue 21
E-W St: Main Street
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA1
Counts by: Accutek

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	2	0	-	0	2	0	-	0	2	0	-	0	2	0	-	0	2	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	0	0	11	0	0	0	12	0	0	0	12	0	0	0	12	0	0	0	12
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	9	0	-	1	10	0	-	0	10	0	-	0	10	0	-	0	10	0	-
Comb. L-T-R -		1				1				1				1				1	
SB Left	118	1	118	13	131	1	131	0	131	1	131	5	136	1	136	0	136	1	136
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	2	0	-	0	2	0	-	0	2	0	-	0	2	0	-	0	2	0	-
Comb. T-R		1	118			1	131			1	131			1	131			1	131
SB Right	116	0	-	13	129	0	-	0	129	0	-	0	129	0	-	0	129	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	1025	1	516	113	1138	1	572	97	1235	1	621	5	1240	1	623	0	1240	1	623
Comb. T-R		1	516			1	572			1	621			1	623			1	623
EB Right	6	0	-	1	7	0	-	0	7	0	-	0	7	0	-	0	7	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	6	0	-	1	7	0	-	0	7	0	-	0	7	0	-	0	7	0	-
Comb. L-T		1	341			1	379			1	420			1	429			1	429
WB Thru	676	1	341	74	750	1	379	83	833	1	420	18	851	1	429	0	851	1	429
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	129			N-S:	143			N-S:	143			N-S:	148			N-S:	148
		E-W:	522			E-W:	579			E-W:	627			E-W:	630			E-W:	630
		SUM:	651			SUM:	722			SUM:	771			SUM:	778			SUM:	778
No. of Phases:			U				U				U				U				U
Volume / Capacity:			0.542				0.602				0.642				0.648				0.648
Level of Service:			A				B				B				B				B

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

CRITICAL MOVEMENT ANALYSIS

I-5 SB On/Off Ramps @ Mission Road
Peak Hour: AM
Annual Growth: 1.0%

N-S St: I-5 SB On/Off Ramps
E-W St: Mission Road
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA2
Counts by: Accutek

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	619	1	433	68	687	1	481	51	738	1	517	74	812	1	568	0	812	1	568
Comb. L-T		0	-			0	-			0	-			0	-			1	244
SB Thru	0	0	362	0	0	0	401	0	0	0	417	0	0	0	439	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	176	0	-	19	195	0	-	0	195	0	-	0	195	0	-	0	195	1	195
Comb. L-T-R -		1				1				1				1				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	636	2	220	70	706	2	244	82	788	2	272	18	806	2	278	0	806	2	278
Comb. T-R		1	220			1	244			1	272			1	278			1	278
EB Right	24	0	-	3	27	0	-	0	27	0	-	0	27	0	-	0	27	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	474	2	261	52	526	2	289	12	538	2	296	14	552	2	304	0	552	2	304
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	1489	2	745	164	1653	2	826	70	1723	2	861	4	1727	2	863	0	1727	2	863
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	795			N-S:	882			N-S:	933			N-S:	1007			N-S:	568
		E-W:	745			E-W:	826			E-W:	861			E-W:	863			E-W:	863
		SUM:	1540			SUM:	1709			SUM:	1795			SUM:	1871			SUM:	1432
No. of Phases:			3				3				3				3				3
Volume / Capacity:		[1]	0.980			[1]	1.099			[1]	1.160			[1]	1.213			[1]	0.905
Level of Service:			E				F				F				F				E

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

CRITICAL MOVEMENT ANALYSIS

I-5 SB On/Off Ramps @ Mission Road
Peak Hour: PM
Annual Growth: 1.00%

N-S St: I-5 SB On/Off Ramps
E-W St: Mission Road
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA2
Counts by: Accutek

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	268	1	188	29	297	1	208	11	308	1	216	19	327	1	229	0	327	1	229
Comb. L-T		0	-			0	-			0	-			0	-			1	100
SB Thru	2	0	164	0	2	0	182	0	2	0	186	0	2	0	191	0	2	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	82	0	-	9	91	0	-	0	91	0	-	0	91	0	-	0	91	1	91
Comb. L-T-R -		1				1				1				1				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	1512	2	526	166	1678	2	584	114	1792	2	622	5	1797	2	624	0	1797	2	624
Comb. T-R		1	526			1	584			1	622			1	624			1	624
EB Right	67	0	-	7	74	0	-	0	74	0	-	0	74	0	-	0	74	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	448	2	246	49	497	2	274	54	551	2	303	61	612	2	337	0	612	2	337
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	740	2	370	81	821	2	411	90	911	2	456	18	929	2	465	0	929	2	465
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	352			N-S:	391			N-S:	402			N-S:	421			N-S:	229
		E-W:	773			E-W:	858			E-W:	925			E-W:	961			E-W:	961
		SUM:	1125			SUM:	1248			SUM:	1327			SUM:	1381			SUM:	1190
No. of Phases:			3				3				3				3				3
Volume / Capacity:		[1]	0.689			[1]	0.776			[1]	0.831			[1]	0.869			[1]	0.735
Level of Service:			B				C				D				D				C

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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CRITICAL MOVEMENT ANALYSIS

PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

Daly Street @ I-5 NB Off Ramp
Peak Hour: AM
Annual Growth: 1.0%

N-S St: Daly Street
E-W St: I-5 NB Off Ramp
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA3
Counts by: Accutek

Date: 12/28/2004
Date of Count: 2003
Projection Year: 2015

	2003 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	374	2	187	45	419	2	209	43	462	2	231	3	465	2	232	0	465	2	232
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	610	2	305	73	683	2	342	106	789	2	395	12	801	2	401	0	801	2	401
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	146	1	146	18	164	1	164	0	164	1	164	0	164	1	164	0	164	1	164
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	397	1	397	48	445	1	445	0	445	1	445	86	531	1	531	0	531	1	531
Comb. L-T-R -		0				0				0				0				0	
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	305			N-S:	342			N-S:	395			N-S:	401			N-S:	401
		E-W:	397			E-W:	445			E-W:	445			E-W:	531			E-W:	531
		SUM:	702			SUM:	786			SUM:	839			SUM:	931			SUM:	931
No. of Phases:			U				U				U				U				2
Volume / Capacity:			0.585				0.655				0.699				0.776				0.621
Level of Service:			A				B				B				C				B

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

CRITICAL MOVEMENT ANALYSIS

Daly Street @ I-5 NB Off Ramp
Peak Hour: PM
Annual Growth: 1.00%

N-S St: Daly Street
E-W St: I-5 NB Off Ramp
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA3
Counts by: Accutek

Date: 12/28/2004
Date of Count: 2003
Projection Year: 2015

	2003 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	713	2	357	86	799	2	399	79	878	2	439	12	890	2	445	0	890	2	445
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	453	2	227	54	507	2	254	43	550	2	275	3	553	2	277	0	553	2	277
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	113	1	113	14	127	1	127	0	127	1	127	0	127	1	127	0	127	1	127
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	201	1	201	24	225	1	225	0	225	1	225	23	248	1	248	0	248	1	248
Comb. L-T-R -		0				0				0				0				0	
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	357			N-S:	399			N-S:	439			N-S:	445			N-S:	445
		E-W:	201			E-W:	225			E-W:	225			E-W:	248			E-W:	248
		SUM:	558			SUM:	624			SUM:	664			SUM:	693			SUM:	693
No. of Phases:			U				U				U				U				2
Volume / Capacity:			0.465				0.520				0.553				0.577				0.462
Level of Service:			A				A				A				A				A

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

CRITICAL MOVEMENT ANALYSIS

N-S St:	Daly Street	Daly Street @ Main Street	
E-W St:	Main Street	Peak Hour: AM	Date: 12/28/2004
Project:	USC Health Sciences Campus Project/1-023250-1	Annual Growth: 1.0%	Date of Count: 2004
File Name:	CMA4		Projection Year: 2015
Counts by:	Accutek		

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	119	1	119	13	132	1	132	16	148	1	148	0	148	1	148	0	148	1	148
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	198	1	104	22	220	1	115	44	264	1	140	0	264	1	140	0	264	1	140
Comb. T-R		1	104			1	115			1	140			1	140			1	140
NB Right	9	0	-	1	10	0	-	7	17	0	-	0	17	0	-	0	17	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	205	1	205	23	228	1	228	23	251	1	251	98	349	1	349	0	349	1	349
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	460	1	408	51	511	1	453	103	614	1	505	0	614	1	505	0	614	1	505
Comb. T-R		1	408			1	453			1	505			1	505			1	505
SB Right	356	0	-	39	395	0	-	1	396	0	-	0	396	0	-	0	396	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	50	0	-	6	56	0	-	1	57	0	-	0	57	0	-	0	57	0	-
Comb. L-T		1	316			1	351			1	382			1	400			1	400
EB Thru	375	0	-	41	416	0	-	37	453	0	-	37	490	0	-	0	490	0	-
Comb. T-R		1	316			1	351			1	382			1	400			1	400
EB Right	207	0	-	23	230	0	-	24	254	0	-	0	254	0	-	0	254	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	100	0	-	11	111	0	-	7	118	0	-	0	118	0	-	0	118	0	-
Comb. L-T		1	631			1	700			1	734			1	738			1	738
WB Thru	1072	0	-	118	1190	0	-	54	1244	0	-	4	1248	0	-	0	1248	0	-
Comb. T-R		1	631			1	700			1	734			1	738			1	738
WB Right	90	0	-	10	100	0	-	7	107	0	-	3	110	0	-	0	110	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	527			N-S:	585			N-S:	653			N-S:	653			N-S:	653
		E-W:	681			E-W:	756			E-W:	791			E-W:	794			E-W:	794
		SUM:	1208			SUM:	1341			SUM:	1444			SUM:	1447			SUM:	1447
No. of Phases:			2				2				2				2				2
Volume / Capacity:		[1]	0.705			[1]	0.794			[1]	0.863			[1]	0.865			[1]	0.865
Level of Service:			C				C				D				D				D

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.
[1] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.

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PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

CRITICAL MOVEMENT ANALYSIS

Daly Street @ Main Street
Peak Hour: PM
Annual Growth: 1.00%

N-S St: Daly Street
E-W St: Main Street
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA4
Counts by: Accutek

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	124	1	124	14	138	1	138	27	165	1	165	0	165	1	165	0	165	1	165
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	426	1	238	47	473	1	264	65	538	1	298	0	538	1	298	0	538	1	298
Comb. T-R		1	238			1	264			1	298			1	298			1	298
NB Right	50	0	-	6	56	0	-	2	58	0	-	0	58	0	-	0	58	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	164	1	164	18	182	1	182	11	193	1	193	26	219	1	219	0	219	1	219
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	312	1	243	34	346	1	269	38	384	1	289	0	384	1	289	0	384	1	289
Comb. T-R		1	243			1	269			1	289			1	289			1	289
SB Right	173	0	-	19	192	0	-	2	194	0	-	0	194	0	-	0	194	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	77	0	-	8	85	0	-	2	87	0	-	0	87	0	-	0	87	0	-
Comb. L-T		1	579			1	643			1	692			1	697			1	697
EB Thru	828	0	-	91	919	0	-	77	996	0	-	10	1006	0	-	0	1006	0	-
Comb. T-R		1	579			1	643			1	692			1	697			1	697
EB Right	253	0	-	28	281	0	-	20	301	0	-	0	301	0	-	0	301	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	58	0	-	6	64	0	-	2	66	0	-	0	66	0	-	0	66	0	-
Comb. L-T		1	299			1	332			1	370			1	385			1	385
WB Thru	371	0	-	41	412	0	-	49	461	0	-	18	479	0	-	0	479	0	-
Comb. T-R		1	299			1	332			1	370			1	385			1	385
WB Right	169	0	-	19	188	0	-	26	214	0	-	12	226	0	-	0	226	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	402			N-S:	446			N-S:	491			N-S:	517			N-S:	517
		E-W:	637			E-W:	707			E-W:	759			E-W:	764			E-W:	764
		SUM:	1039			SUM:	1153			SUM:	1249			SUM:	1280			SUM:	1280
No. of Phases:			2				2				2				2				2
Volume / Capacity:		[1]	0.593			[1]	0.669			[1]	0.733			[1]	0.754			[1]	0.754
Level of Service:			A				B				C				C				C

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.
[1] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.

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PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

CRITICAL MOVEMENT ANALYSIS

N-S St: Mission Road
E-W St: Daly Street/Marengo Street
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA5
Counts by: Accutek

Mission Road @ Daly Street/Marengo Street
Peak Hour: AM
Annual Growth: 1.0%

Date: 05/03/2005
Date of Count: 2005
Projection Year: 2015

	2005 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	**Volume**	**No. of Lanes**	**Lane Volume**	**Added Volume**	**Total Volume**	**No. of Lanes**	**Lane Volume**	**Added Volume**	**Total Volume**	**No. of Lanes**	**Lane Volume**	**Added Volume**	**Total Volume**	**No. of Lanes**	**Lane Volume**	**Added Volume**	**Total Volume**	**No. of Lanes**	**Lane Volume**
NB Left	77	1	77	8	85	1	85	14	99	1	99	0	99	1	99	0	99	1	99
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	762	2	381	76	838	2	419	100	938	2	469	92	1030	2	515	0	1030	2	515
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right [1]	368	1	368	37	405	1	405	15	420	1	420	0	420	1	420	0	420	1	420
Comb. L-T-R -		0				0				0				0				0	
SB Left	302	1	302	30	332	1	332	20	352	1	352	41	393	1	393	0	393	1	393
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	1446	2	723	145	1591	2	795	68	1659	2	829	18	1677	2	838	0	1677	2	838
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right [2]	23	1	23	2	25	1	25	5	30	1	30	0	30	1	30	0	30	1	30
Comb. L-T-R -		0				0				0				0				0	
EB Left	81	1	81	8	89	1	89	0	89	1	89	0	89	1	89	0	89	1	89
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	399	1	234	40	439	1	258	62	501	1	294	0	501	1	294	0	501	1	294
Comb. T-R		1	234			1	258			1	294			1	294			1	294
EB Right	233	1	163	23	256	1	179	31	287	1	201	0	287	1	201	0	287	1	201
Comb. L-T-R -		0				0				0				0				0	
WB Left	140	1	140	14	154	1	154	5	159	1	159	0	159	1	159	0	159	1	159
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	288	2	144	29	317	2	158	17	334	2	167	0	334	2	167	0	334	2	167
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right [3]	381	1	381	38	419	1	419	0	419	1	419	86	505	1	505	0	505	1	505
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	800			N-S:	880			N-S:	928			N-S:	937			N-S:	937
		E-W:	374			E-W:	412			E-W:	453			E-W:	453			E-W:	453
		SUM:	1174			SUM:	1292			SUM:	1381			SUM:	1390			SUM:	1390
No. of Phases:			4				4				4				4				4
Volume / Capacity:		*[4]*	0.754			*[4]*	0.840			*[4]*	0.904			*[4]*	0.911			*[4]*	0.911
Level of Service:			C				D				E				E				E

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] Northbound right-turn overlaps 100% with westbound phase.
[2] Southbound right-turn overlaps 100% with eastbound phase.
[3] Westbound right-turn overlaps 100% with southbound phase.
[4] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.

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PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

CRITICAL MOVEMENT ANALYSIS

Mission Road @ Daly Street/Marengo Street

N-S St: Mission Road
E-W St: Daly Street/Marengo Street
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA5
Counts by: Accutek

Peak Hour: PM
Annual Growth: 1.00%

Date: 05/03/2005
Date of Count: 2005
Projection Year: 2015

	2005 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	199	1	199	20	219	1	219	33	252	1	252	0	252	1	252	0	252	1	252
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	1171	2	586	117	1288	2	644	77	1365	2	683	24	1389	2	695	0	1389	2	695
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right [1]	329	1	329	33	362	1	362	10	372	1	372	0	372	1	372	0	372	1	372
Comb. L-T-R -		0				0				0				0				0	
SB Left	366	1	366	37	403	1	403	0	403	1	403	178	581	1	581	0	581	1	581
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	638	2	319	64	702	2	351	125	827	2	413	80	907	2	453	0	907	2	453
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right [2]	55	1	55	6	61	1	61	22	83	1	83	0	83	1	83	0	83	1	83
Comb. L-T-R -		0				0				0				0				0	
EB Left	26	1	26	3	29	1	29	0	29	1	29	0	29	1	29	0	29	1	29
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	418	1	242	42	460	1	267	13	473	1	276	0	473	1	276	0	473	1	276
Comb. T-R		1	242			1	267			1	276			1	276			1	276
EB Right	223	1	156	22	245	1	172	17	262	1	184	0	262	1	184	0	262	1	184
Comb. L-T-R -		0				0				0				0				0	
WB Left	111	1	111	11	122	1	122	10	132	1	132	0	132	1	132	0	132	1	132
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	453	2	227	45	498	2	249	33	531	2	266	0	531	2	266	0	531	2	266
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right [3]	230	1	230	23	253	1	253	0	253	1	253	23	276	1	276	0	276	1	276
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	952			N-S:	1047			N-S:	1085			N-S:	1275			N-S:	1275
		E-W:	353			E-W:	389			E-W:	408			E-W:	408			E-W:	408
		SUM:	1305			SUM:	1435			SUM:	1493			SUM:	1683			SUM:	1683
No. of Phases:			4				4				4				4				4
Volume / Capacity:		[4]	0.849			[4]	0.944			[4]	0.986			[4]	1.124			[4]	1.124
Level of Service:			D				E				E				F				F

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 1 of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] Northbound right-turn overlaps 100% with westbound phase.
[2] Southbound right-turn overlaps 100% with eastbound phase.
[3] Westbound right-turn overlaps 100% with southbound phase.
[4] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.

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PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

CRITICAL MOVEMENT ANALYSIS

I-5 NB On Ramp @ Marengo Street

N-S St:	I-5 NB On Ramp
E-W St:	Marengo Street
Project:	USC Health Sciences Campus Project/1-023250-1
File Name:	CMA6
Counts by:	Accutek
Peak Hour:	AM
Annual Growth:	1.0%
Date:	12/28/2004
Date of Count:	2004
Projection Year:	2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	798	1	481	88	886	1	533	103	989	1	585	20	1009	1	605	0	1009	2	504
Comb. T-R		1	481			1	533			1	585			1	605			0	-
EB Right	163	0	-	18	181	0	-	0	181	0	-	21	202	0	-	0	202	1	202
Comb. L-T-R -		0				0				0				0				0	
WB Left	268	1	268	29	297	1	297	0	297	1	297	0	297	1	297	0	297	1	297
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	701	2	351	77	778	2	389	40	818	2	409	86	904	2	452	0	904	2	452
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	0			N-S:	0			N-S:	0			N-S:	0			N-S:	0
		E-W:	749			E-W:	831			E-W:	882			E-W:	903			E-W:	802
		SUM:	749			SUM:	831			SUM:	882			SUM:	903			SUM:	802
No. of Phases:			U				U				U				U				U
Volume / Capacity:			0.624				0.692				0.735				0.752				0.668
Level of Service:			B				B				C				C				B

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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CRITICAL MOVEMENT ANALYSIS

PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

I-5 NB On Ramp @ Marengo Street
Peak Hour: PM
Annual Growth: 1.00%

N-S St: I-5 NB On Ramp
E-W St: Marengo Street
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA6
Counts by: Accutek

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	715	1	570	79	794	1	632	70	864	1	667	86	950	1	756	0	950	2	475
Comb. T-R		1	570			1	632			1	667			1	756			0	-
EB Right	424	0	-	47	471	0	-	0	471	0	-	92	563	0	-	0	563	1	563
Comb. L-T-R -		0				0				0				0				0	
WB Left	307	1	307	34	341	1	341	0	341	1	341	0	341	1	341	0	341	1	341
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	759	2	380	83	842	2	421	35	877	2	439	23	900	2	450	0	900	2	450
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	0			N-S:	0			N-S:	0			N-S:	0			N-S:	0
		E-W:	877			E-W:	973			E-W:	1008			E-W:	1097			E-W:	903
		SUM:	877			SUM:	973			SUM:	1008			SUM:	1097			SUM:	903
No. of Phases:			U				U				U				U				U
Volume / Capacity:			0.730				0.811				0.840				0.914				0.753
Level of Service:			C				D				D				E				C

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

CRITICAL MOVEMENT ANALYSIS

Mission Road @ Griffin Avenue/Zonal Avenue
Peak Hour: AM
Annual Growth: 1.0%

N-S St: Mission Road
E-W St: Griffin Avenue/Zonal Avenue
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA7
Counts by: Accutek

Date: 05/03/2005
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	71	1	71	8	79	1	79	7	86	1	86	0	86	1	86	0	86	1	86
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	561	2	257	62	623	2	286	110	733	2	322	0	733	2	366	0	733	2	366
Comb. T-R		1	257			1	286			1	322			1	412			1	412
NB Right	211	0	-	23	234	0	-	0	234	0	-	178	412	0	-	0	412	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	153	1	153	17	170	1	170	0	170	1	170	74	244	1	244	0	244	1	244
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	1336	2	668	147	1483	2	741	100	1583	2	791	0	1583	2	791	0	1583	2	791
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	11	1	11	1	12	1	12	0	12	1	12	0	12	1	12	0	12	1	12
Comb. L-T-R -		0				0				0				0				0	
EB Left	63	1	63	7	70	1	70	15	85	1	85	0	85	1	85	0	85	1	85
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	261	1	190	29	290	1	210	9	299	1	221	135	434	1	288	0	434	1	288
Comb. T-R		1	190			1	210			1	221			1	288			1	288
EB Right	118	0	-	13	131	0	-	12	143	0	-	0	143	0	-	0	143	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	123	1	123	14	137	1	137	0	137	1	137	59	196	1	196	0	196	1	196
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	93	1	65	10	103	1	72	2	105	1	73	7	112	1	85	0	112	1	85
Comb. T-R		1	65			1	72			1	73			1	85			1	85
WB Right	37	0	-	4	41	0	-	0	41	0	-	17	58	0	-	0	58	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	739			N-S:	820			N-S:	877			N-S:	877			N-S:	877
		E-W:	313			E-W:	347			E-W:	357			E-W:	484			E-W:	484
		SUM:	1052			SUM:	1167			SUM:	1235			SUM:	1361			SUM:	1361
No. of Phases:			2				2				2				2				2
Volume / Capacity:		[1]	0.601			[1]	0.678			[1]	0.723			[1]	0.807			[1]	0.807
Level of Service:			B				B				C				D				D

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

CRITICAL MOVEMENT ANALYSIS

Mission Road @ Griffin Avenue/Zonal Avenue
Peak Hour: PM
Annual Growth: 1.00%

N-S St: Mission Road
E-W St: Griffin Avenue/Zonal Avenue
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA7
Counts by: Accutek

Date: 05/03/2005
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	159	1	159	17	176	1	176	7	183	1	183	0	183	1	183	0	183	1	183
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	1447	2	535	159	1606	2	594	78	1684	2	612	0	1684	2	627	0	1684	2	627
Comb. T-R		1	535			1	594			1	612			1	627			1	627
NB Right	158	0	-	17	175	0	-	-25	150	0	-	47	197	0	-	0	197	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	44	1	44	5	49	1	49	-25	24	1	24	19	43	1	43	0	43	1	43
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	575	2	288	63	638	2	319	191	829	2	415	0	829	2	415	0	829	2	415
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	67	1	67	7	74	1	74	0	74	1	74	0	74	1	74	0	74	1	74
Comb. L-T-R -		0				0				0				0				0	
EB Left	34	1	34	4	38	1	38	6	44	1	44	0	44	1	44	0	44	1	44
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	90	1	90	10	100	1	100	-48	52	1	52	35	87	1	87	0	87	1	87
Comb. T-R		1	113			1	125			1	147			1	147			1	147
EB Right	113	0	-	12	125	0	-	22	147	0	-	0	147	0	-	0	147	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	218	1	218	24	242	1	242	0	242	1	242	257	499	1	499	0	499	1	499
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	295	1	246	32	327	1	273	9	336	1	278	31	367	1	330	0	367	1	330
Comb. T-R		1	246			1	273			1	278			1	330			1	330
WB Right	197	0	-	22	219	0	-	0	219	0	-	74	293	0	-	0	293	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	579			N-S:	643			N-S:	635			N-S:	670			N-S:	670
		E-W:	331			E-W:	367			E-W:	389			E-W:	646			E-W:	646
		SUM:	910			SUM:	1010			SUM:	1025			SUM:	1316			SUM:	1316
No. of Phases:			2				2				2				2				2
Volume / Capacity:		*[1]*	0.507			*[1]*	0.573			*[1]*	0.583			*[1]*	0.778			*[1]*	0.778
Level of Service:			A				A				A				C				C

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

CRITICAL MOVEMENT ANALYSIS

Mission Road @ Valley Boulevard
Peak Hour: AM
Annual Growth: 1.0%

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

N-S St: Mission Road
E-W St: Valley Boulevard
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA8
Counts by: Accutek

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	290	2	145	32	322	2	161	17	339	2	169	3	342	2	171	0	342	2	171
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right [1]	108	0	-	12	120	0	-	0	120	0	-	14	134	0	-	0	134	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	136	1	136	15	151	1	151	15	166	1	166	0	166	1	166	0	166	1	166
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	1519	2	760	167	1686	2	843	62	1748	2	874	74	1822	2	911	0	1822	2	911
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	198	1	139	22	220	1	154	3	223	1	156	0	223	1	156	0	223	1	156
Comb. L-T		1	273			1	303			1	336			1	336			1	336
EB Thru	429	0	-	47	476	0	-	64	540	0	-	0	540	0	-	0	540	0	-
Comb. T-R		1	273			1	303			1	336			1	336			1	336
EB Right	58	0	-	6	64	0	-	0	64	0	-	0	64	0	-	0	64	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	48	48	0	-	0	48	0	-	0	48	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	760			N-S:	843			N-S:	874			N-S:	911			N-S:	911
		E-W:	273			E-W:	303			E-W:	336			E-W:	336			E-W:	336
		SUM:	1033			SUM:	1146			SUM:	1210			SUM:	1247			SUM:	1247
No. of Phases:			2				2				2				2				2
Volume / Capacity:		[2]	0.588			[2]	0.664			[2]	0.706			[2]	0.731			[2]	0.731
Level of Service:			A				B				C				C				C

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] Northbound right-turn is a free-flow movement
[2] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

CRITICAL MOVEMENT ANALYSIS

Mission Road @ Valley Boulevard
Peak Hour: PM
Annual Growth: 1.00%

N-S St: Mission Road
E-W St: Valley Boulevard
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA8
Counts by: Accutek

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	1051	2	526	116	1167	2	583	50	1217	2	608	12	1229	2	614	0	1229	2	614
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right [1]	376	0	-	41	417	0	-	0	417	0	-	61	478	0	-	0	478	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	149	1	149	16	165	1	165	6	171	1	171	0	171	1	171	0	171	1	171
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	525	2	263	58	583	2	291	-24	559	2	279	19	578	2	289	0	578	2	289
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	329	1	230	36	365	1	256	3	368	1	258	0	368	1	258	0	368	1	258
Comb. L-T		1	433			1	481			1	493			1	493			1	493
EB Thru	737	0	-	81	818	0	-	24	842	0	-	0	842	0	-	0	842	0	-
Comb. T-R		1	433			1	481			1	493			1	493			1	493
EB Right	31	0	-	3	34	0	-	0	34	0	-	0	34	0	-	0	34	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	23	23	0	-	0	23	0	-	0	23	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	675			N-S:	749			N-S:	780			N-S:	786			N-S:	786
		E-W:	433			E-W:	481			E-W:	493			E-W:	493			E-W:	493
		SUM:	1108			SUM:	1230			SUM:	1273			SUM:	1279			SUM:	1279
No. of Phases:			2				2				2				2				2
Volume / Capacity:		[2]	0.639			[2]	0.720			[2]	0.749			[2]	0.753			[2]	0.753
Level of Service:			B				C				C				C				C

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] Northbound right-turn is a free-flow movement
[2] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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CRITICAL MOVEMENT ANALYSIS

PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

Mission Road @ Main Street

N-S St:	Mission Road	Peak Hour:	AM	Date:	12/28/2004
E-W St:	Main Street	Annual Growth:	1.0%	Date of Count:	2004
Project:	USC Health Sciences Campus Project/1-023250-1			Projection Year:	2015
File Name:	CMA9				
Counts by:	Accutek				

	2004 EXIST. TRAFFIC			**2015 W/ AMBIENT GROWTH**				**2015 W/ OTHER PROJECTS**				**2015 W/ PROPOSED PROJECT**				**2015 W/ MITIGATION**			
Movement	**Volume**	**No. of Lanes**	**Lane Volume**	**Added Volume**	**Total Volume**	**No. of Lanes**	**Lane Volume**	**Added Volume**	**Total Volume**	**No. of Lanes**	**Lane Volume**	**Added Volume**	**Total Volume**	**No. of Lanes**	**Lane Volume**	**Added Volume**	**Total Volume**	**No. of Lanes**	**Lane Volume**
NB Left	18	1	18	2	20	1	20	1	21	1	21	0	21	1	21	0	21	1	21
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	473	2	237	52	525	2	263	17	542	2	271	3	545	2	273	0	545	2	273
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	1285	2	643	141	1426	2	713	77	1503	2	752	12	1515	2	758	0	1515	2	758
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	444	1	444	49	493	1	493	2	495	1	495	0	495	1	495	0	495	1	495
Comb. L-T-R -		0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	0	0	-	0	0	0	-	12	12	0	-	0	12	0	-	0	12	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	354	1	248	39	393	1	275	0	393	1	275	61	454	1	318	0	454	1	318
Comb. L-T		1	528			1	586			1	595			1	604			1	604
WB Thru	949	1	528	104	1053	1	586	18	1071	1	595	0	1071	1	604	0	1071	1	604
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	117	1	117	13	130	1	130	0	130	1	130	0	130	1	130	0	130	1	130
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	661			N-S:	733			N-S:	773			N-S:	779			N-S:	779
		E-W:	528			E-W:	586			E-W:	595			E-W:	604			E-W:	604
		SUM:	1188			SUM:	1319			SUM:	1367			SUM:	1382			SUM:	1382
No. of Phases:			2				2				2				2				2
Volume / Capacity:		[1]	0.692			[1]	0.779			[1]	0.812			[1]	0.822			[1]	0.822
Level of Service:			B				C				D				D				D

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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CRITICAL MOVEMENT ANALYSIS

PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

Mission Road @ Main Street

N-S St:	Mission Road	Peak Hour:	PM	Date:	12/28/2004
E-W St:	Main Street	Annual Growth:	1.00%	Date of Count:	2004
Project:	USC Health Sciences Campus Project/1-023250-1			Projection Year:	2015
File Name:	CMA9				
Counts by:	Accutek				

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	61	1	61	7	68	1	68	1	69	1	69	0	69	1	69	0	69	1	69
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	1302	2	651	143	1445	2	723	50	1495	2	748	12	1507	2	754	0	1507	2	754
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	552	2	276	61	613	2	306	-18	595	2	297	3	598	2	299	0	598	2	299
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	145	1	145	16	161	1	161	2	163	1	163	0	163	1	163	0	163	1	163
Comb. L-T-R -		0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	0	0	-	0	0	0	-	69	69	0	-	0	69	0	-	0	69	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	146	1	102	16	162	1	113	0	162	1	113	16	178	1	125	0	178	1	125
Comb. L-T		1	313			1	348			1	373			1	376			1	376
WB Thru	583	1	313	64	647	1	348	51	698	1	373	0	698	1	376	0	698	1	376
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	130	1	130	14	144	1	144	0	144	1	144	0	144	1	144	0	144	1	144
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	651			N-S:	723			N-S:	748			N-S:	754			N-S:	754
		E-W:	313			E-W:	348			E-W:	373			E-W:	376			E-W:	376
		SUM:	964			SUM:	1070			SUM:	1121			SUM:	1129			SUM:	1129
No. of Phases:			2				2				2				2				2
Volume / Capacity:		[1]	0.543			[1]	0.614			[1]	0.647			[1]	0.653			[1]	0.653
Level of Service:			A				B				B				B				B

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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CRITICAL MOVEMENT ANALYSIS

PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

N-S St:	Biggy Street	Biggy Street @ Zonal Avenue		Date:	12/28/2004
E-W St:	Zonal Avenue	Peak Hour:	AM	Date of Count:	2004
Project:	USC Health Sciences Campus Project/1-023250-1	Annual Growth:	1.0%	Projection Year:	2015
File Name:	CMA10				
Counts by:	Accutek				

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	7	0	-	1	8	0	-	0	8	0	-	0	8	0	-	0	8	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	0	0	12	0	0	0	13	0	0	0	13	0	0	0	13	0	0	0	13
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	5	0	-	1	6	0	-	0	6	0	-	0	6	0	-	0	6	0	-
Comb. L-T-R -		1				1				1				1				1	
SB Left	7	0	-	1	8	0	-	1	9	0	-	0	9	0	-	0	9	0	-
Comb. L-T		0	-			0	-			0	-			0	-			1	9
SB Thru	0	0	130	0	0	0	144	0	0	0	145	0	0	0	145	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	123	0	-	14	137	0	-	0	137	0	-	0	137	0	-	0	137	1	137
Comb. L-T-R -		1				1				1				1				0	
EB Left	203	0	-	22	225	0	-	0	225	0	-	0	225	0	-	0	225	1	225
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	480	0	688	53	533	0	764	-49	484	0	715	57	541	0	772	0	541	0	546
Comb. T-R		0	-			0	-			0	-			0	-			1	546
EB Right	5	0	-	1	6	0	-	0	6	0	-	0	6	0	-	0	6	0	-
Comb. L-T-R -		1				1				1				1				1	
WB Left	1	0	-	0	1	0	-	0	1	0	-	0	1	0	-	0	1	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	384	0	520	42	426	0	577	-191	235	0	398	227	462	0	625	0	462	0	625
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	135	0	-	15	150	0	-	12	162	0	-	0	162	0	-	0	162	0	-
Comb. L-T-R -		1				1				1				1				1	
Crit. Volumes:		N-S:	137			N-S:	152			N-S:	153			N-S:	153			N-S:	32
		E-W:	723			E-W:	803			E-W:	716			E-W:	851			E-W:	851
		SUM:	860			SUM:	955			SUM:	869			SUM:	1004			SUM:	882
No. of Phases:			U				U				U				U				U
Volume / Capacity:			0.717				0.796				0.724				0.836				0.735
Level of Service:			C				C				C				D				C

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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CRITICAL MOVEMENT ANALYSIS

PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

Biggy Street @ Zonal Avenue
Peak Hour: PM
Annual Growth: 1.00%

N-S St: Biggy Street
E-W St: Zonal Avenue
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA10
Counts by: Accutek

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	10	0	-	1	11	0	-	0	11	0	-	0	11	0	-	0	11	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	1	0	15	0	1	0	17	0	1	0	17	0	1	0	17	0	1	0	17
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	4	0	-	0	4	0	-	0	4	0	-	0	4	0	-	0	4	0	-
Comb. L-T-R -		1				1				1				1				1	
SB Left	24	0	-	3	27	0	-	6	33	0	-	0	33	0	-	0	33	0	-
Comb. L-T		0	-			0	-			0	-			0	-			1	33
SB Thru	0	0	129	0	0	0	143	0	0	0	149	0	0	0	149	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	105	0	-	12	117	0	-	0	117	0	-	0	117	0	-	0	117	1	117
Comb. L-T-R -		1				1				1				1				0	
EB Left	105	0	-	12	117	0	-	0	117	0	-	0	117	0	-	0	117	1	117
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	364	0	472	40	404	0	524	-246	158	0	278	251	409	0	529	0	409	0	412
Comb. T-R		0	-			0	-			0	-			0	-			1	412
EB Right	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-
Comb. L-T-R -		1				1				1				1				1	
WB Left	7	0	-	1	8	0	-	0	8	0	-	0	8	0	-	0	8	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	509	0	594	56	565	0	659	-94	471	0	567	60	531	0	627	0	531	0	627
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	78	0	-	9	87	0	-	2	89	0	-	0	89	0	-	0	89	0	-
Comb. L-T-R -		1				1				1				1				1	
Crit. Volumes:		N-S:	139			N-S:	154			N-S:	160			N-S:	160			N-S:	69
		E-W:	699			E-W:	776			E-W:	684			E-W:	744			E-W:	744
		SUM:	838			SUM:	930			SUM:	844			SUM:	904			SUM:	813
No. of Phases:			U				U				U				U				U
Volume / Capacity:			0.698				0.775				0.703				0.753				0.678
Level of Service:			B				C				C				C				B

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

CRITICAL MOVEMENT ANALYSIS

San Pablo Street @ Valley Boulevard
Peak Hour: AM
Annual Growth: 1.0%

N-S St: San Pablo Street
E-W St: Valley Boulevard
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA11
Counts by: Accutek

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	43	1	43	5	48	1	48	15	63	1	63	0	63	1	63	0	63	1	63
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	23	2	13	3	26	2	14	-6	20	2	11	14	34	2	18	0	34	2	18
Comb. L-T-R -		0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	616	2	228	68	684	2	253	21	705	2	283	14	719	2	288	0	719	2	288
Comb. T-R		1	228			1	253			1	283			1	288			1	288
EB Right	68	0	-	7	75	0	-	69	144	0	-	0	144	0	-	0	144	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	150	1	150	17	167	1	167	30	197	1	197	61	258	1	258	0	258	1	258
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	1404	3	468	154	1558	3	519	58	1616	3	539	61	1677	3	559	0	1677	3	559
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	43			N-S:	48			N-S:	63			N-S:	63			N-S:	63
		E-W:	468			E-W:	519			E-W:	539			E-W:	559			E-W:	559
		SUM:	511			SUM:	567			SUM:	602			SUM:	622			SUM:	622
No. of Phases:			2				2				2				2				2
Volume / Capacity:		[1]	0.241			[1]	0.278			[1]	0.301			[1]	0.315			[1]	0.315
Level of Service:			A				A				A				A				A

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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CRITICAL MOVEMENT ANALYSIS

ALL PKG AT DEV. SITE C (LOT 71)

N-S St: San Pablo Street
E-W St: Valley Boulevard
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA11
Counts by: Accutek

San Pablo Street @ Valley Boulevard
Peak Hour: PM
Annual Growth: 1.00%

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	17	1	17	2	19	1	19	72	91	1	91	0	91	1	91	0	91	1	91
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	21	2	12	2	23	2	13	40	63	2	35	61	124	2	68	0	124	2	68
Comb. L-T-R -		0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	1242	2	418	137	1379	2	464	80	1459	2	497	61	1520	2	517	0	1520	2	517
Comb. T-R		1	418			1	464			1	497			1	517			1	517
EB Right	11	0	-	1	12	0	-	19	31	0	-	0	31	0	-	0	31	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	13	1	13	1	14	1	14	0	14	1	14	16	30	1	30	0	30	1	30
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	725	3	242	80	805	3	268	34	839	3	280	16	855	3	285	0	855	3	285
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	17			N-S:	19			N-S:	91			N-S:	91			N-S:	91
		E-W:	431			E-W:	478			E-W:	511			E-W:	547			E-W:	547
		SUM:	448			SUM:	497			SUM:	602			SUM:	638			SUM:	638
No. of Phases:			2				2				2				2				2
Volume / Capacity:		[1]	0.198			[1]	0.231			[1]	0.301			[1]	0.325			[1]	0.325
Level of Service:			A				A				A				A				A

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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CRITICAL MOVEMENT ANALYSIS

PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

N-S St: San Pablo Street
E-W St: Alcazar Street
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA12
Counts by: Accutek

San Pablo Street @ Alcazar Street
Peak Hour: AM
Annual Growth: 1.0%

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	19	1	19	2	21	1	21	4	25	1	25	0	25	1	25	0	25	1	25
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	45	1	45	5	50	1	50	21	71	1	71	14	85	1	85	0	85	1	85
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right [1]	149	1	149	16	165	1	165	9	174	1	174	7	181	1	181	0	181	1	181
Comb. L-T-R -		0				0				0				0				0	
SB Left	55	1	55	6	61	1	61	47	108	1	108	0	108	1	108	0	108	1	108
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	126	0	-	14	140	0	-	29	169	0	-	31	200	0	-	0	200	0	-
Comb. T-R		1	149			1	165			1	200			1	231			1	231
SB Right	23	0	-	3	26	0	-	6	32	0	-	0	32	0	-	0	32	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	24	1	24	3	27	1	27	28	55	1	55	0	55	1	55	0	55	1	55
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	130	0	-	14	144	0	-	31	175	0	-	0	175	0	-	0	175	0	-
Comb. T-R		1	144			1	160			1	206			1	206			1	206
EB Right	14	0	-	2	16	0	-	15	31	0	-	0	31	0	-	0	31	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	262	1	262	29	291	1	291	58	349	1	349	61	410	1	410	0	410	1	410
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	243	0	-	27	270	0	-	9	279	0	-	0	279	0	-	0	279	0	-
Comb. T-R		1	288			1	320			1	421			1	421			1	421
WB Right	45	0	-	5	50	0	-	92	142	0	-	0	142	0	-	0	142	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	168			N-S:	186			N-S:	225			N-S:	256			N-S:	256
		E-W:	406			E-W:	451			E-W:	555			E-W:	616			E-W:	616
		SUM:	574			SUM:	637			SUM:	780			SUM:	872			SUM:	872
No. of Phases:			U				U				U				U				2
Volume / Capacity:			0.478				0.531				0.650				0.727				0.581
Level of Service:			A				A				B				C				A

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] Northbound functional right-turn only lane has been assumed.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

CRITICAL MOVEMENT ANALYSIS

San Pablo Street @ Alcazar Street
Peak Hour: PM
Annual Growth: 1.00%

N-S St: San Pablo Street
E-W St: Alcazar Street
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA12
Counts by: Accutek

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	**Volume**	**No. of Lanes**	**Lane Volume**	**Added Volume**	**Total Volume**	**No. of Lanes**	**Lane Volume**	**Added Volume**	**Total Volume**	**No. of Lanes**	**Lane Volume**	**Added Volume**	**Total Volume**	**No. of Lanes**	**Lane Volume**	**Added Volume**	**Total Volume**	**No. of Lanes**	**Lane Volume**
NB Left	31	1	31	3	34	1	34	16	50	1	50	0	50	1	50	0	50	1	50
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	92	1	92	10	102	1	102	39	141	1	141	61	202	1	202	0	202	1	202
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right [1]	239	1	239	26	265	1	265	45	310	1	310	31	341	1	341	0	341	1	341
Comb. L-T-R -		0				0				0				0				0	
SB Left	96	1	96	11	107	1	107	95	202	1	202	0	202	1	202	0	202	1	202
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	53	0	-	6	59	0	-	-28	31	0	-	8	39	0	-	0	39	0	-
Comb. T-R		1	85			1	94			1	94			1	102			1	102
SB Right	32	0	-	4	36	0	-	28	64	0	-	0	64	0	-	0	64	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	20	1	20	2	22	1	22	5	27	1	27	0	27	1	27	0	27	1	27
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	208	0	-	23	231	0	-	14	245	0	-	0	245	0	-	0	245	0	-
Comb. T-R		1	222			1	246			1	266			1	266			1	266
EB Right	14	0	-	2	16	0	-	6	22	0	-	0	22	0	-	0	22	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	113	1	113	12	125	1	125	10	135	1	135	16	151	1	151	0	151	1	151
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	135	0	-	15	150	0	-	34	184	0	-	0	184	0	-	0	184	0	-
Comb. T-R		1	185			1	205			1	286			1	286			1	286
WB Right	50	0	-	6	56	0	-	47	103	0	-	0	103	0	-	0	103	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	279			N-S:	309			N-S:	444			N-S:	467			N-S:	467
		E-W:	335			E-W:	372			E-W:	402			E-W:	418			E-W:	418
		SUM:	614			SUM:	681			SUM:	846			SUM:	885			SUM:	885
No. of Phases:			U				U				U				U				2
Volume / Capacity:			0.511				0.567				0.705				0.737				0.590
Level of Service:			A				A				C				C				A

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] Northbound functional right-turn only lane has been assumed.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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CRITICAL MOVEMENT ANALYSIS

PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

San Pablo Street @ Eastlake Avenue/Norfolk Street

N-S St: San Pablo Street
E-W St: Eastlake Avenue/Norfolk Street
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA13
Counts by: Accutek

Peak Hour: AM
Annual Growth: 1.0%

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2012

	2004 EXIST. TRAFFIC			2012 W/ AMBIENT GROWTH				2012 W/ OTHER PROJECTS				2012 W/ PROPOSED PROJECT				2012 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	105	1	105	8	113	1	113	0	113	1	113	0	113	1	113	0	113	1	113
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	165	0	-	13	178	0	-	40	218	0	-	21	239	0	-	0	239	0	-
Comb. T-R		1	228			1	246			1	344			1	365			1	365
NB Right	63	0	-	5	68	0	-	58	126	0	-	0	126	0	-	0	126	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	15	1	15	1	16	1	16	0	16	1	16	0	16	1	16	0	16	1	16
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	202	0	-	16	218	0	-	-2	216	0	-	92	308	0	-	0	308	0	-
Comb. T-R		1	371			1	401			1	403			1	495			1	495
SB Right	169	0	-	14	183	0	-	4	187	0	-	0	187	0	-	0	187	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	44	1	44	4	48	1	48	0	48	1	48	0	48	1	48	0	48	1	48
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	17	0	-	1	18	0	-	15	33	0	-	0	33	0	-	0	33	0	-
Comb. T-R		1	52			1	56			1	71			1	71			1	71
EB Right	35	0	-	3	38	0	-	0	38	0	-	0	38	0	-	0	38	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	15	0	-	1	16	0	-	11	27	0	-	0	27	0	-	0	27	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	16	0	44	1	17	0	48	7	24	0	66	0	24	0	66	0	24	0	66
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	13	0	-	1	14	0	-	0	14	0	-	0	14	0	-	0	14	0	-
Comb. L-T-R -		1				1				1				1				1	
Crit. Volumes:		N-S:	476			N-S:	514			N-S:	516			N-S:	608			N-S:	608
		E-W:	88			E-W:	95			E-W:	113			E-W:	113			E-W:	113
		SUM:	564			SUM:	609			SUM:	629			SUM:	721			SUM:	721
No. of Phases:			U				U				U				U				U
Volume / Capacity:			0.470				0.508				0.524				0.601				0.601
Level of Service:			A				A				A				B				B

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

CRITICAL MOVEMENT ANALYSIS

San Pablo Street @ Eastlake Avenue/Norfolk Street

N-S St:	San Pablo Street	Peak Hour:	PM	Date:	12/28/2004
E-W St:	Eastlake Avenue/Norfolk Street	Annual Growth:	1.00%	Date of Count:	2004
Project:	USC Health Sciences Campus Project/1-023250-1			Projection Year:	2012
File Name:	CMA13				
Counts by:	Accutek				

	2004 EXIST. TRAFFIC			2012 W/ AMBIENT GROWTH				2012 W/ OTHER PROJECTS				2012 W/ PROPOSED PROJECT				2012 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	65	1	65	5	70	1	70	0	70	1	70	0	70	1	70	0	70	1	70
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	226	0	-	18	244	0	-	13	257	0	-	92	349	0	-	0	349	0	-
Comb. T-R		1	263			1	284			1	321			1	413			1	413
NB Right	37	0	-	3	40	0	-	24	64	0	-	0	64	0	-	0	64	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	14	1	14	1	15	1	15	0	15	1	15	0	15	1	15	0	15	1	15
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	150	0	-	12	162	0	-	-25	137	0	-	24	161	0	-	0	161	0	-
Comb. T-R		1	216			1	233			1	224			1	248			1	248
SB Right	66	0	-	5	71	0	-	16	87	0	-	0	87	0	-	0	87	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	99	1	99	8	107	1	107	0	107	1	107	0	107	1	107	0	107	1	107
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	26	0	-	2	28	0	-	6	34	0	-	0	34	0	-	0	34	0	-
Comb. T-R		1	118			1	127			1	133			1	133			1	133
EB Right	92	0	-	7	99	0	-	0	99	0	-	0	99	0	-	0	99	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	29	0	-	2	31	0	-	48	79	0	-	0	79	0	-	0	79	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	29	0	75	2	31	0	81	32	63	0	161	0	63	0	161	0	63	0	161
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	17	0	-	1	18	0	-	0	18	0	-	0	18	0	-	0	18	0	-
Comb. L-T-R -		1				1				1				1				1	
Crit. Volumes:		N-S:	281			N-S:	303			N-S:	336			N-S:	428			N-S:	428
		E-W:	174			E-W:	188			E-W:	268			E-W:	268			E-W:	268
		SUM:	455			SUM:	491			SUM:	604			SUM:	696			SUM:	696
No. of Phases:			U				U				U				U				U
Volume / Capacity:			0.379				0.410				0.503				0.580				0.580
Level of Service:			A				A				A				A				A

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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CRITICAL MOVEMENT ANALYSIS

PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

N-S St: San Pablo Street
E-W St: Zonal Avenue
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA14
Counts by: Accutek

San Pablo Street @ Zonal Avenue
Peak Hour: AM
Annual Growth: 1.0%

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS [1]				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	102	1	102	11	113	1	113	12	125	1	125	0	125	1	125	0	125	1	125
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	175	1	175	19	194	1	194	-3	191	1	191	92	283	1	283	0	283	1	283
Comb. L-T-R -		0				0				0				0				0	
EB Left	154	0	-	17	171	0	-	-6	165	0	-	21	186	0	-	0	186	0	-
Comb. L-T		1	529			1	587			1	538			1	595			1	595
EB Thru	375	0	-	41	416	0	-	-43	373	0	-	36	409	0	-	0	409	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	447	0	-	49	496	0	-	-177	319	1	319	135	454	1	454	0	454	1	454
Comb. T-R		1	682			1	757			0	-			0	-			0	-
WB Right	235	0	-	26	261	0	-	104	365	1	365	0	365	1	365	0	365	1	365
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	102			N-S:	113			N-S:	125			N-S:	190			N-S:	190
		E-W:	836			E-W:	928			E-W:	484			E-W:	640			E-W:	640
		SUM:	938			SUM:	1041			SUM:	609			SUM:	830			SUM:	830
No. of Phases:			U				U				U				U				2
Volume / Capacity:			0.782				0.868				0.508				0.692				0.554
Level of Service:			C				D				A				B				A

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] Westbound right-turn only has been assumed in the Future Pre-Project conditions due to the USC HCCII and New Acute Care Tower Hospital project's mitigation.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

CRITICAL MOVEMENT ANALYSIS

N-S St: San Pablo Street
E-W St: Zonal Avenue
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA14
Counts by: Accutek

San Pablo Street @ Zonal Avenue
Peak Hour: PM
Annual Growth: 1.00%

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS [1]				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	168	1	168	18	186	1	186	78	264	1	264	0	264	1	264	0	264	1	264
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	126	1	126	14	140	1	140	-56	84	1	84	24	108	1	108	0	108	1	108
Comb. L-T-R -		0				0				0				0				0	
EB Left	175	0	-	19	194	0	-	-3	191	0	-	92	283	0	-	0	283	0	-
Comb. L-T		1	615			1	683			1	442			1	693			1	693
EB Thru	440	0	-	48	488	0	-	-238	250	0	-	159	409	0	-	0	409	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	323	0	-	36	359	0	-	-37	322	1	322	35	357	1	357	0	357	1	357
Comb. T-R		1	428			1	475			0	-			0	-			0	-
WB Right	105	0	-	12	117	0	-	35	152	1	152	0	152	1	152	0	152	1	152
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	168			N-S:	186			N-S:	264			N-S:	264			N-S:	264
		E-W:	603			E-W:	669			E-W:	513			E-W:	640			E-W:	640
		SUM:	771			SUM:	856			SUM:	777			SUM:	904			SUM:	904
No. of Phases:			U				U				U				U				2
Volume / Capacity:			0.643				0.713				0.648				0.754				0.603
Level of Service:			B				C				B				C				B

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] Westbound right-turn only has been assumed in the Future Pre-Project conditions due to the USC HCCII and New Acute Care Tower Hospital project's mitigation.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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CRITICAL MOVEMENT ANALYSIS

PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

N-S St: Soto Street
E-W St: Alcazar Street
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA15
Counts by: Accutek

Soto Street @ Alcazar Street
Peak Hour: AM
Annual Growth: 1.0%

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS [2]				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	204	1	204	22	226	1	226	192	418	1	418	0	418	1	418	0	418	1	418
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	886	1	465	97	983	1	516	19	1002	1	526	0	1002	1	526	0	1002	1	526
Comb. T-R		1	465			1	516			1	526			1	526			1	526
NB Right	44	0	-	5	49	0	-	0	49	0	-	0	49	0	-	0	49	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	48	1	48	5	53	1	53	0	53	1	53	0	53	1	53	0	53	1	53
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	1151	1	783	127	1278	1	869	60	1338	2	622	0	1338	2	642	0	1338	2	642
Comb. T-R		1	783			1	869			1	622			1	642			1	642
SB Right	414	0	-	46	460	0	-	69	529	0	-	61	590	0	-	0	590	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	95	1	95	10	105	1	105	15	120	1	120	7	127	1	127	0	127	1	127
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	58	1	58	6	64	1	64	0	64	1	64	0	64	1	64	0	64	1	64
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right [1]	106	1	106	12	118	1	118	43	161	1	161	0	161	1	161	0	161	1	161
Comb. L-T-R -		0				0				0				0				0	
WB Left	55	0	-	6	61	0	-	0	61	0	-	0	61	0	-	0	61	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	125	0	251	14	139	0	279	0	139	0	279	0	139	0	279	0	139	0	279
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	71	0	-	8	79	0	-	0	79	0	-	0	79	0	-	0	79	0	-
Comb. L-T-R -		1				1				1				1				1	
Crit. Volumes:		N-S:	987			N-S:	1095			N-S:	1040			N-S:	1061			N-S:	1061
		E-W:	346			E-W:	384			E-W:	399			E-W:	406			E-W:	406
		SUM:	1333			SUM:	1479			SUM:	1440			SUM:	1467			SUM:	1467
No. of Phases:			2				2				2				2				2
Volume / Capacity:		[3]	0.788			[3]	0.886			[3]	0.860			[3]	0.878			[3]	0.878
Level of Service:			C				D				D				D				D

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 100% of overlapping left turn.
[1] Eastbound right-turn overlaps 100% with northbound phase.
[2] Improvements to the southbound approach reflect the USC HSC HNRT and HCCII and the Acute Care Tower Hospital conditions of approval.
[3] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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CRITICAL MOVEMENT ANALYSIS

PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

Soto Street @ Alcazar Street
Peak Hour: PM
Annual Growth: 1.00%

N-S St: Soto Street
E-W St: Alcazar Street
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA15
Counts by: Accutek

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS [2]				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	83	1	83	9	92	1	92	56	148	1	148	0	148	1	148	0	148	1	148
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	991	1	517	109	1100	1	573	119	1219	1	633	0	1219	1	633	0	1219	1	633
Comb. T-R		1	517			1	573			1	633			1	633			1	633
NB Right	42	0	-	5	47	0	-	0	47	0	-	0	47	0	-	0	47	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	28	1	28	3	31	1	31	0	31	1	31	0	31	1	31	0	31	1	31
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	545	1	300	60	605	1	333	43	648	2	243	0	648	2	248	0	648	2	248
Comb. T-R		1	300			1	333			1	243			1	248			1	248
SB Right	55	0	-	6	61	0	-	19	80	0	-	16	96	0	-	0	96	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	345	1	345	38	383	1	383	72	455	1	455	31	486	1	486	0	486	1	486
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	68	1	68	7	75	1	75	0	75	1	75	0	75	1	75	0	75	1	75
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right [1]	265	1	265	29	294	1	294	187	481	1	481	0	481	1	481	0	481	1	481
Comb. L-T-R -		0				0				0				0				0	
WB Left	58	0	-	6	64	0	-	0	64	0	-	0	64	0	-	0	64	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	35	0	125	4	39	0	139	0	39	0	139	0	39	0	139	0	39	0	139
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	32	0	-	4	36	0	-	0	36	0	-	0	36	0	-	0	36	0	-
Comb. L-T-R -		1				1				1				1				1	
Crit. Volumes:		N-S:	545			N-S:	604			N-S:	664			N-S:	664			N-S:	664
		E-W:	470			E-W:	522			E-W:	594			E-W:	625			E-W:	625
		SUM:	1015			SUM:	1126			SUM:	1258			SUM:	1289			SUM:	1289
No. of Phases:			2				2				2				2				2
Volume / Capacity:		[3]	0.576			[3]	0.651			[3]	0.738			[3]	0.759			[3]	0.759
Level of Service:			A				B				C				C				C

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 1 of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 100% of overlapping left turn.
[1] Eastbound right-turn overlaps 100% with northbound phase.
[2] Improvements to the southbound approach reflect the USC HSC HNRT and HCCII and the Acute Care Tower Hospital conditions of approval.
[3] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

CRITICAL MOVEMENT ANALYSIS

Soto Street @ Charlotte Street/I-10 WB On/Off Ramps

N-S St: Soto Street
E-W St: Charlotte Street/I-10 WB On/Off Ramps
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA16
Counts by: Accutek

Peak Hour: AM
Annual Growth: 1.0%

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	77	1	77	8	85	1	85	44	129	1	129	61	190	1	190	0	190	1	190
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	766	2	383	84	850	2	425	166	1016	2	508	0	1016	2	508	0	1016	2	508
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right [1]	181	1	181	20	201	1	201	0	201	1	201	0	201	1	201	0	201	1	201
Comb. L-T-R -		0				0				0				0				0	
SB Left	320	1	320	35	355	1	355	1	356	1	356	0	356	1	356	0	356	1	356
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	1119	1	588	123	1242	1	652	100	1342	1	702	0	1342	1	702	0	1342	1	702
Comb. T-R		1	588			1	652			1	702			1	702			1	702
SB Right	56	0	-	6	62	0	-	0	62	0	-	0	62	0	-	0	62	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	28	0	-	3	31	0	-	0	31	0	-	0	31	0	-	0	31	0	-
Comb. L-T		1	127			1	141			1	152			1	159			1	159
EB Thru	99	0	-	11	110	0	-	11	121	0	-	7	128	0	-	0	128	0	-
Comb. T-R		1	279			1	310			1	319			1	348			1	348
EB Right	279	0	-	31	310	0	-	9	319	0	-	29	348	0	-	0	348	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	388	1	371	43	431	1	411	0	431	1	431	0	431	1	431	0	431	1	301
Comb. L-T		0	-			0	-			0	-			0	-			1	626
WB Thru	315	0	371	35	350	0	411	73	423	0	470	74	497	0	519	0	497	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	409	1	371	45	454	1	411	43	497	1	450	0	497	1	475	0	497	2	273
Comb. L-T-R -		1				1				1				1				0	
Crit. Volumes:		N-S:	703			N-S:	780			N-S:	864			N-S:	893			N-S:	893
		E-W:	769			E-W:	854			E-W:	931			E-W:	981			E-W:	649
		SUM:	1472			SUM:	1634			SUM:	1796			SUM:	1873			SUM:	1542
No. of Phases:			4				4				4				4				4
Volume / Capacity:		[2]	0.971			[2]	1.089			[2]	1.206			[2]	1.262			[2],[3] *	1.069
Level of Service:			E				F				F				F				F

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] Northbound right-turn overlaps 100% with westbound phase.
[2] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
[3] The AM peak hour V/C ratio shown in the Future With Mitigation condition reflects a 0.193 reduction to account for the USC HSC HNRT improvement at this location (Source: "Traffic Impact Study, USC HNRT Project" dated March 19, 2003, by LLG Engineers). The V/C ratio reduction accounts for the "overmitigation" of the measure.

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CRITICAL MOVEMENT ANALYSIS

PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

Soto Street @ Charlotte Street/I-10 WB On/Off Ramps

N-S St:	Soto Street
E-W St:	Charlotte Street/I-10 WB On/Off Ramps
Project:	USC Health Sciences Campus Project/1-023250-1
File Name:	CMA16
Counts by:	Accutek

Peak Hour:	PM
Annual Growth:	1.00%

Date:	12/28/2004
Date of Count:	2004
Projection Year:	2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	51	1	51	6	57	1	57	15	72	1	72	16	88	1	88	0	88	1	88
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	909	2	455	100	1009	2	504	162	1171	2	585	0	1171	2	585	0	1171	2	585
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	154	1	154	17	171	1	171	0	171	1	171	0	171	1	171	0	171	1	171
Comb. L-T-R -		0				0				0				0				0	
SB Left	271	1	271	30	301	1	301	6	307	1	307	0	307	1	307	0	307	1	307
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	928	1	481	102	1030	1	534	222	1252	1	645	0	1252	1	645	0	1252	1	645
Comb. T-R		1	481			1	534			1	645			1	645			1	645
SB Right	34	0	-	4	38	0	-	0	38	0	-	0	38	0	-	0	38	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	24	0	-	3	27	0	-	0	27	0	-	0	27	0	-	0	27	0	-
Comb. L-T		1	162			1	180			1	76			1	107			1	107
EB Thru	138	0	-	15	153	0	-	-104	49	0	-	31	80	0	-	0	80	0	-
Comb. T-R		1	312			1	346			1	386			1	515			1	515
EB Right	312	0	-	34	346	0	-	40	386	0	-	129	515	0	-	0	515	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	291	1	276	32	323	1	306	0	323	1	303	0	323	1	310	0	323	1	226
Comb. L-T		0	-			0	-			0	-			0	-			1	398
WB Thru	272	0	287	30	302	0	319	-20	282	0	303	19	301	0	314	0	301	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	265	1	265	29	294	1	294	11	305	1	303	0	305	1	305	0	305	2	168
Comb. L-T-R -		1				1				1				1				0	
Crit. Volumes:		N-S:	726			N-S:	805			N-S:	892			N-S:	892			N-S:	892
		E-W:	588			E-W:	653			E-W:	690			E-W:	825			E-W:	741
		SUM:	1314			SUM:	1458			SUM:	1582			SUM:	1717			SUM:	1634
No. of Phases:			4				4				4				4				4
Volume / Capacity:		[2]	0.855			[2]	0.960			[2]	1.051			[2]	**1.149**			[2],[3] *	1.091
Level of Service:			D				E				F				F				F

Assumptions:

Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 1 of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] Northbound right-turn overlaps 100% with westbound phase.
[2] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
[3] The PM peak hour V/C ratio shown in the Future With Mitigation condition reflects a 0.058 reduction to account for the USC HSC HNRT improvement at this location (Source: "Traffic Impact Study, USC HNRT Project" dated March 19, 2003, by LLG Engineers). The V/C ratio reduction accounts for the "overmitigation" of the measure.

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PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

CRITICAL MOVEMENT ANALYSIS

Soto Street @ Marengo Street
Peak Hour: AM
Annual Growth: 1.0%

N-S St: Soto Street
E-W St: Marengo Street
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA17
Counts by: Accutek

Date: 05/03/2005
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	572	1	400	63	635	1	444	-20	615	1	430	0	615	1	430	0	615	1	430
Comb. L-T		1	384			1	426			1	491			1	511			1	511
NB Thru	816	1	384	90	906	1	426	201	1107	1	491	61	1168	1	511	0	1168	1	511
Comb. T-R		1	384			1	426			1	491			1	511			1	511
NB Right	163	0	-	18	181	0	-	0	181	0	-	0	181	0	-	0	181	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	616	1	431	68	684	1	479	26	710	1	497	22	732	1	512	0	732	1	512
Comb. L-T		1	446			1	496			1	532			1	539			1	539
SB Thru	708	1	446	78	786	1	496	65	851	1	532	7	858	1	539	0	858	1	539
Comb. T-R		1	491			1	545			1	560			1	560			1	560
SB Right	491	0	-	54	545	0	-	15	560	0	-	0	560	0	-	0	560	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	53	1	53	6	59	1	59	13	72	1	72	0	72	1	72	0	72	1	72
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	175	2	88	19	194	2	97	-10	184	2	92	0	184	2	92	0	184	2	92
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right [1]	134	1	134	15	149	1	149	-40	109	1	109	0	109	1	109	0	109	1	109
Comb. L-T-R -		0				0				0				0				0	
WB Left	33	1	33	4	37	1	37	0	37	1	37	0	37	1	37	0	37	1	37
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	345	1	234	38	383	1	259	20	403	1	273	0	403	1	273	0	403	1	273
Comb. T-R		1	234			1	259			1	273			1	273			1	273
WB Right	122	0	-	13	135	0	-	7	142	0	-	0	142	0	-	0	142	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	891			N-S:	989			N-S:	990			N-S:	1023			N-S:	1023
		E-W:	287			E-W:	318			E-W:	345			E-W:	345			E-W:	345
		SUM:	1178			SUM:	1307			SUM:	1335			SUM:	1368			SUM:	1368
No. of Phases:			3				3				3				3				3
Volume / Capacity:		[2]	0.727			[2]	0.818			[2]	0.837			[2]	0.860			[2]	0.860
Level of Service:			C				D				D				D				D

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] Eastbound right-turn overlaps 100% with northbound phase.
[2] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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CRITICAL MOVEMENT ANALYSIS

PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

Soto Street @ Marengo Street

N-S St: Soto Street
E-W St: Marengo Street
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA17
Counts by: Accutek

Peak Hour: PM
Annual Growth: 1.00%

Date: 05/03/2005
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	363	1	254	40	403	1	282	-5	398	1	279	0	398	1	279	0	398	1	279
Comb. L-T		1	424			1	471			1	508			1	513			1	513
NB Thru	919	1	424	101	1020	1	471	113	1133	1	508	16	1149	1	513	0	1149	1	513
Comb. T-R		1	424			1	471			1	508			1	513			1	513
NB Right	245	0	-	27	272	0	-	0	272	0	-	0	272	0	-	0	272	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	661	1	463	73	734	1	514	117	851	1	595	98	949	1	664	0	949	1	664
Comb. L-T		1	324			1	360			1	417			1	438			1	438
SB Thru	580	1	324	64	644	1	360	122	766	1	417	31	797	1	438	0	797	1	438
Comb. T-R		1	324			1	360			1	417			1	438			1	438
SB Right	194	0	-	21	215	0	-	16	231	0	-	0	231	0	-	0	231	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	215	1	215	24	239	1	239	21	260	1	260	0	260	1	260	0	260	1	260
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	369	2	185	41	410	2	205	48	458	2	229	0	458	2	229	0	458	2	229
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right [1]	240	1	240	26	266	1	266	0	266	1	266	0	266	1	266	0	266	1	266
Comb. L-T-R -		0				0				0				0				0	
WB Left	16	1	16	2	18	1	18	0	18	1	18	0	18	1	18	0	18	1	18
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	168	1	111	18	186	1	123	13	199	1	130	0	199	1	130	0	199	1	130
Comb. T-R		1	111			1	123			1	130			1	130			1	130
WB Right	53	0	-	6	59	0	-	2	61	0	-	0	61	0	-	0	61	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	887			N-S:	985			N-S:	1104			N-S:	1178			N-S:	1178
		E-W:	326			E-W:	361			E-W:	390			E-W:	390			E-W:	390
		SUM:	1213			SUM:	1346			SUM:	1493			SUM:	1567			SUM:	1567
No. of Phases:			3				3				3				3				3
Volume / Capacity:		[2]	0.751			[2]	0.844			[2]	0.948			[2]	1.000			[2]	1.000
Level of Service:			C				D				E				F				F

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] Eastbound right-turn overlaps 100% with northbound phase.
[2] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

CRITICAL MOVEMENT ANALYSIS

Soto Street @ I-10 EB Off Ramp/Wabash Avenue

N-S St:	Soto Street	Peak Hour:	AM
E-W St:	I-10 EB Off Ramp/Wabash Avenue	Annual Growth:	1.0%
Project:	USC Health Sciences Campus Project/1-023250-1		
File Name:	CMA18		
Counts by:	Accutek		

Date:	04/11/2005
Date of Count:	2004
Projection Year:	2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	701	2	351	77	778	2	389	58	836	2	418	31	867	2	434	0	867	2	310
Comb. T-R		0	-			0	-			0	-			0	-			1	310
NB Right [1]	51	1	51	6	57	1	57	5	62	1	62	0	62	1	62	0	62	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	118	1	118	13	131	1	131	7	138	1	138	0	138	1	138	0	138	1	138
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	776	2	388	85	861	2	431	18	879	2	440	7	886	2	443	0	886	2	443
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	572	1	315	63	635	1	349	101	736	1	405	31	767	1	422	0	767	1	422
Comb. L-T		1	357			1	397			1	442			1	456			1	456
EB Thru	100	0	-	11	111	0	-	0	111	0	-	0	111	0	-	0	111	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	40	1	40	4	44	1	44	0	44	1	44	0	44	1	44	0	44	1	44
Comb. L-T-R -		0				0				0				0				0	
WB Left	136	1	136	15	151	1	151	13	164	1	164	0	164	1	164	0	164	1	164
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	307	1	307	34	341	1	341	21	362	1	362	0	362	1	362	0	362	1	362
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	469			N-S:	520			N-S:	556			N-S:	572			N-S:	448
		E-W:	563			E-W:	624			E-W:	698			E-W:	715			E-W:	715
		SUM:	1031			SUM:	1145			SUM:	1254			SUM:	1286			SUM:	1162
No. of Phases:			3				3				3				3				3
Volume / Capacity:		[2]	0.624			[2]	0.703			[2]	0.780			[2]	0.803			[2]	0.716
Level of Service:			B				C				C				D				C

Assumptions:
Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 55% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] Northbound functional right-turn only lane has been assumed.
[2] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 1:
ALL PKG AT DEV. SITE C (LOT 71)

CRITICAL MOVEMENT ANALYSIS

Soto Street @ I-10 EB Off Ramp/Wabash Avenue
Peak Hour: PM
Annual Growth: 1.00%

N-S St: Soto Street
E-W St: I-10 EB Off Ramp/Wabash Avenue
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA18
Counts by: Accutek

Date: 04/11/2005
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	907	2	454	100	1007	2	503	70	1077	2	538	8	1085	2	542	0	1085	2	395
Comb. T-R		0	-			0	-			0	-			0	-			1	395
NB Right [1]	77	1	77	8	85	1	85	15	100	1	100	0	100	1	100	0	100	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	121	1	121	13	134	1	134	31	165	1	165	0	165	1	165	0	165	1	165
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	643	2	322	71	714	2	357	92	806	2	403	31	837	2	418	0	837	2	418
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	419	1	230	46	465	1	256	32	497	1	273	8	505	1	278	0	505	1	278
Comb. L-T		1	435			1	482			1	497			1	500			1	500
EB Thru	246	0	-	27	273	0	-	0	273	0	-	0	273	0	-	0	273	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	86	1	86	9	95	1	95	0	95	1	95	0	95	1	95	0	95	1	95
Comb. L-T-R -		0				0				0				0				0	
WB Left	100	1	100	11	111	1	111	7	118	1	118	0	118	1	118	0	118	1	118
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	236	1	236	26	262	1	262	7	269	1	269	0	269	1	269	0	269	1	269
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	575			N-S:	638			N-S:	704			N-S:	708			N-S:	560
		E-W:	406			E-W:	451			E-W:	460			E-W:	464			E-W:	464
		SUM:	980			SUM:	1088			SUM:	1163			SUM:	1172			SUM:	1024
No. of Phases:			3				3				3				3				3
Volume / Capacity:		[2]	0.588			[2]	0.664			[2]	0.716			[2]	0.722			[2]	0.619
Level of Service:			A				B				C				C				B

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 55% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] Northbound functional right-turn only lane has been assumed.
[2] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

APPENDIX D

PROJECT PARKING SCENARIO NO. 2
CMA AND LEVELS OF SERVICE EXPLANATION
PROPOSED PROJECT CMA DATA WORKSHEETS – AM AND PM PEAK COMMUTER HOURS

CRITICAL MOVEMENT ANALYSIS (CMA) DESCRIPTION

Level of Service is a term used to describe prevailing conditions and their effect on traffic. Broadly interpreted, the Level of Service concept denotes any one of a number of differing combinations of operating conditions which may take place as a roadway is accommodating various traffic volumes. Level of Service is a qualitative measure of the effect of such factors as travel speed, travel time, interruptions, freedom to maneuver, safety, driving comfort and convenience.

Six Levels of Service, A through F, have been defined in the 1965 *Highway Capacity Manual*. Level of Service A describes a condition of free flow, with low traffic volumes and relatively high speeds, while Level of Service F describes forced traffic flow at low speeds with jammed conditions and queues which cannot clear during the green phases.

Critical Movement Analysis (CMA) is a procedure which provides a capacity and level of service geometry and traffic signal operation and results in a level of service determination for the intersection as a whole operating unit.

The per lane volume for each movement in the intersection is determined and the per lane intersection capacity based on the Transportation Research Board (TRB) Report 212 (*Interim Materials on Highway Capacity*). The resulting CMA represents the ratio of the intersection's cumulative volume over its respective capacity (V/C ratio). Critical Movement Analysis takes into account lane widths, bus and truck operations, pedestrian activity and parking activity, as well as number of lanes and geometrics.

The Level of Service (abbreviated from the *Highway Capacity Manual*) are listed here with their corresponding CMA and Load Factor equivalents. Load Factor is that proportion of the signal cycles during the peak hour which are fully loaded; i.e. when all of the vehicles waiting at the beginning of green are not able to clear on that green phase.

Critical Movement Analysis Characteristics

Level of Service	Load Factor	Equivalent CMA
A (free flow)	0.0	0.00 - 0.60
B (rural design)	0.0 - 0.1	0.61 - 0.70
C (urban design)	0.1 - 0.3	0.71 - 0.80
D (maximum urban design)	0.3 - 0.7	0.81 - 0.90
E (capacity)	0.7 - 1.0	0.91 - 1.00
F (force flow)	Not Applicable	Not Applicable

SERVICE LEVEL A
There are no loaded cycles and few are even close to loaded at this service level. No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication.

SERVICE LEVEL B
This level represents stable operation where an occasional approach phase is fully utilized and a substantial number are approaching full use. Many drivers begin to feel restricted within platoons of vehicles.

SERVICE LEVEL C
At this level stable operation continues. Loading is still intermittent but more frequent than at Level B. Occasionally drivers may have to wait through more one red signal indication and backups may develop behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so.

SERVICE LEVEL D
This level encompasses a zone of increasing restriction approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak hour, but enough cycles with lower demand occur to permit periodic clearance of queues, thus preventing excessive backups. Drivers frequently have to wait through more than one red signal. This level is the lower limit of acceptable operation to most drivers.

SERVICE LEVEL E
This represents near capacity and capacity operation. At capacity (CMA = 1.0) it represents the most vehicles that the particular intersection can accommodate. However, full utilization of every signal cycle is seldom attained no matter how great the demand. At this level all drivers wait through more than one red signal, and frequently through several.

SERVICE LEVEL F
Jammed conditions. Traffic backed up from a downstream location on one of the street restricts or prevents movement of traffic through the intersection under consideration.

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PARKING SCENARIO NO. 2:
ALL PKG AT DEV. SITE E & F

CRITICAL MOVEMENT ANALYSIS

I-5 SB Off Ramp/Avenue 21 @ Main Street
Peak Hour: AM
Annual Growth: 1.0%

N-S St: I-5 SB Off Ramp/Avenue 21
E-W St: Main Street
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA1
Counts by: Accutek

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	5	0	-	1	6	0	-	0	6	0	-	0	6	0	-	0	6	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	0	0	8	0	0	0	9	0	0	0	9	0	0	0	9	0	0	0	9
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-
Comb. L-T-R -		1				1				1				1				1	
SB Left	113	1	113	12	125	1	125	0	125	1	125	18	143	1	143	0	143	1	143
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-
Comb. T-R		1	119			1	132			1	132			1	132			1	132
SB Right	116	0	-	13	129	0	-	0	129	0	-	0	129	0	-	0	129	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	511	1	257	56	567	1	285	71	638	1	321	18	656	1	330	0	656	1	330
Comb. T-R		1	257			1	285			1	321			1	330			1	330
EB Right	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	5	0	-	1	6	0	-	0	6	0	-	0	6	0	-	0	6	0	-
Comb. L-T		1	793			1	880			1	918			1	920			1	920
WB Thru	1581	1	793	174	1755	1	880	75	1830	1	918	4	1834	1	920	0	1834	1	920
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	124			N-S:	138			N-S:	138			N-S:	152			N-S:	152
		E-W:	793			E-W:	880			E-W:	918			E-W:	920			E-W:	920
		SUM:	917			SUM:	1018			SUM:	1055			SUM:	1072			SUM:	1072
No. of Phases:			U				U				U				U				U
Volume / Capacity:			0.764				0.848				0.879				0.893				0.893
Level of Service:			C				D				D				D				D

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 2:
ALL PKG AT DEV. SITE E & F

CRITICAL MOVEMENT ANALYSIS

I-5 SB Off Ramp/Avenue 21 @ Main Street

N-S St:	I-5 SB Off Ramp/Avenue 21	Peak Hour:	PM
E-W St:	Main Street	Annual Growth:	1.00%
Project:	USC Health Sciences Campus Project/1-023250-1		
File Name:	CMA1		
Counts by:	Accutek		

Date:	12/28/2004
Date of Count:	2004
Projection Year:	2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	2	0	-	0	2	0	-	0	2	0	-	0	2	0	-	0	2	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	0	0	11	0	0	0	12	0	0	0	12	0	0	0	12	0	0	0	12
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	9	0	-	1	10	0	-	0	10	0	-	0	10	0	-	0	10	0	-
Comb. L-T-R -		1				1				1				1				1	
SB Left	118	1	118	13	131	1	131	0	131	1	131	5	136	1	136	0	136	1	136
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	2	0	-	0	2	0	-	0	2	0	-	0	2	0	-	0	2	0	-
Comb. T-R		1	118			1	131			1	131			1	131			1	131
SB Right	116	0	-	13	129	0	-	0	129	0	-	0	129	0	-	0	129	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	1025	1	516	113	1138	1	572	97	1235	1	621	5	1240	1	623	0	1240	1	623
Comb. T-R		1	516			1	572			1	621			1	623			1	623
EB Right	6	0	-	1	7	0	-	0	7	0	-	0	7	0	-	0	7	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	6	0	-	1	7	0	-	0	7	0	-	0	7	0	-	0	7	0	-
Comb. L-T		1	341			1	379			1	420			1	429			1	429
WB Thru	676	1	341	74	750	1	379	83	833	1	420	18	851	1	429	0	851	1	429
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	129			N-S:	143			N-S:	143			N-S:	148			N-S:	148
		E-W:	522			E-W:	579			E-W:	627			E-W:	630			E-W:	630
		SUM:	651			SUM:	722			SUM:	771			SUM:	778			SUM:	778
No. of Phases:			U				U				U				U				U
Volume / Capacity:			0.542				0.602				0.642				0.648				0.648
Level of Service:			A				B				B				B				B

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 2:
ALL PKG NORTH OF ALCAZAR ST

CRITICAL MOVEMENT ANALYSIS

I-5 SB On/Off Ramps @ Mission Road

N-S St:	I-5 SB On/Off Ramps	Peak Hour:	AM	Date:	12/28/2004
E-W St:	Mission Road	Annual Growth:	1.0%	Date of Count:	2004
Project:	USC Health Sciences Campus Project/1-023250-1			Projection Year:	2015
File Name:	CMA2				
Counts by:	Accutek				

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	619	1	433	68	687	1	481	51	738	1	517	74	812	1	568	0	812	1	568
Comb. L-T		0	-			0	-			0	-			0	-			1	244
SB Thru	0	0	362	0	0	0	401	0	0	0	417	0	0	0	439	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	176	0	-	19	195	0	-	0	195	0	-	0	195	0	-	0	195	1	195
Comb. L-T-R -		1				1				1				1				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	636	2	220	70	706	2	244	82	788	2	272	18	806	2	278	0	806	2	278
Comb. T-R		1	220			1	244			1	272			1	278			1	278
EB Right	24	0	-	3	27	0	-	0	27	0	-	0	27	0	-	0	27	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	474	2	261	52	526	2	289	12	538	2	296	14	552	2	304	0	552	2	304
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	1489	2	745	164	1653	2	826	70	1723	2	861	4	1727	2	863	0	1727	2	863
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	795			N-S:	882			N-S:	933			N-S:	1007			N-S:	568
		E-W:	745			E-W:	826			E-W:	861			E-W:	863			E-W:	863
		SUM:	1540			SUM:	1709			SUM:	1795			SUM:	1871			SUM:	1432
No. of Phases:			3				3				3				3				3
Volume / Capacity:		[1]	0.980			[1]	1.099			[1]	1.160			[1]	1.213			[1]	0.905
Level of Service:			E				F				F				F				E

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 2:
ALL PKG NORTH OF ALCAZAR ST

CRITICAL MOVEMENT ANALYSIS

I-5 SB On/Off Ramps @ Mission Road
Peak Hour: PM
Annual Growth: 1.00%

N-S St: I-5 SB On/Off Ramps
E-W St: Mission Road
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA2
Counts by: Accutek

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	268	1	188	29	297	1	208	11	308	1	216	19	327	1	229	0	327	1	229
Comb. L-T		0	-			0	-			0	-			0	-			1	100
SB Thru	2	0	164	0	2	0	182	0	2	0	186	0	2	0	191	0	2	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	82	0	-	9	91	0	-	0	91	0	-	0	91	0	-	0	91	1	91
Comb. L-T-R -		1				1				1				1				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	1512	2	526	166	1678	2	584	114	1792	2	622	5	1797	2	624	0	1797	2	624
Comb. T-R		1	526			1	584			1	622			1	624			1	624
EB Right	67	0	-	7	74	0	-	0	74	0	-	0	74	0	-	0	74	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	448	2	246	49	497	2	274	54	551	2	303	61	612	2	337	0	612	2	337
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	740	2	370	81	821	2	411	90	911	2	456	18	929	2	465	0	929	2	465
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	352			N-S:	391			N-S:	402			N-S:	421			N-S:	229
		E-W:	773			E-W:	858			E-W:	925			E-W:	961			E-W:	961
		SUM:	1125			SUM:	1248			SUM:	1327			SUM:	1381			SUM:	1190
No. of Phases:			3				3				3				3				3
Volume / Capacity:		[1]	0.689			[1]	0.776			[1]	0.831			[1]	0.869			[1]	0.735
Level of Service:		B				C				D				D				C	

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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CRITICAL MOVEMENT ANALYSIS

PARKING SCENARIO NO. 2:
ALL PKG NORTH OF ALCAZAR ST

N-S St:	Daly Street	Daly Street @ I-5 NB Off Ramp			
		Peak Hour:	AM	Date:	12/28/2004
E-W St:	I-5 NB Off Ramp	Annual Growth:	1.0%	Date of Count:	2003
Project:	USC Health Sciences Campus Project/1-023250-1			Projection Year:	2015
File Name:	CMA3				
Counts by:	Accutek				

	2003 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	374	2	187	45	419	2	209	43	462	2	231	3	465	2	232	0	465	2	232
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	610	2	305	73	683	2	342	106	789	2	395	12	801	2	401	0	801	2	401
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	146	1	146	18	164	1	164	0	164	1	164	0	164	1	164	0	164	1	164
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	397	1	397	48	445	1	445	0	445	1	445	61	506	1	506	0	506	1	506
Comb. L-T-R -		0				0				0				0				0	
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	305			N-S:	342			N-S:	395			N-S:	401			N-S:	401
		E-W:	397			E-W:	445			E-W:	445			E-W:	506			E-W:	506
		SUM:	702			SUM:	786			SUM:	839			SUM:	906			SUM:	906
No. of Phases:			U				U				U				U				2
Volume / Capacity:			0.585				0.655				0.699				0.755				0.604
Level of Service:			A				B				B				C				B

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 2:
ALL PKG NORTH OF ALCAZAR ST

CRITICAL MOVEMENT ANALYSIS

Daly Street @ I-5 NB Off Ramp
Peak Hour: PM
Annual Growth: 1.00%

Date: 12/28/2004
Date of Count: 2003
Projection Year: 2015

N-S St: Daly Street
E-W St: I-5 NB Off Ramp
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA3
Counts by: Accutek

	2003 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	713	2	357	86	799	2	399	79	878	2	439	12	890	2	445	0	890	2	445
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	453	2	227	54	507	2	254	43	550	2	275	3	553	2	277	0	553	2	277
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	113	1	113	14	127	1	127	0	127	1	127	0	127	1	127	0	127	1	127
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	201	1	201	24	225	1	225	0	225	1	225	16	241	1	241	0	241	1	241
Comb. L-T-R -		0				0				0				0				0	
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	357			N-S:	399			N-S:	439			N-S:	445			N-S:	445
		E-W:	201			E-W:	225			E-W:	225			E-W:	241			E-W:	241
		SUM:	558			SUM:	624			SUM:	664			SUM:	686			SUM:	686
No. of Phases:			U				U				U				U				2
Volume / Capacity:			0.465				0.520				0.553				0.572				0.457
Level of Service:			A				A				A				A				A

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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CRITICAL MOVEMENT ANALYSIS

PARKING SCENARIO NO. 2:
ALL PKG NORTH OF ALCAZAR ST

N-S St: Daly Street
E-W St: Main Street
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA4
Counts by: Accutek

Daly Street @ Main Street
Peak Hour: AM
Annual Growth: 1.0%

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

Movement	2004 EXIST. TRAFFIC Volume	No. of Lanes	Lane Volume	2015 W/ AMBIENT GROWTH Added Volume	Total Volume	No. of Lanes	Lane Volume	2015 W/ OTHER PROJECTS Added Volume	Total Volume	No. of Lanes	Lane Volume	2015 W/ PROPOSED PROJECT Added Volume	Total Volume	No. of Lanes	Lane Volume	2015 W/ MITIGATION Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	119	1	119	13	132	1	132	16	148	1	148	0	148	1	148	0	148	1	148
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	198	1	104	22	220	1	115	44	264	1	140	0	264	1	140	0	264	1	140
Comb. T-R		1	104			1	115			1	140			1	140			1	140
NB Right	9	0	-	1	10	0	-	7	17	0	-	0	17	0	-	0	17	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	205	1	205	23	228	1	228	23	251	1	251	74	325	1	325	0	325	1	325
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	460	1	408	51	511	1	453	103	614	1	505	0	614	1	505	0	614	1	505
Comb. T-R		1	408			1	453			1	505			1	505			1	505
SB Right	356	0	-	39	395	0	-	1	396	0	-	0	396	0	-	0	396	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	50	0	-	6	56	0	-	1	57	0	-	0	57	0	-	0	57	0	-
Comb. L-T		1	316			1	351			1	382			1	400			1	400
EB Thru	375	0	-	41	416	0	-	37	453	0	-	37	490	0	-	0	490	0	-
Comb. T-R		1	316			1	351			1	382			1	400			1	400
EB Right	207	0	-	23	230	0	-	24	254	0	-	0	254	0	-	0	254	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	100	0	-	11	111	0	-	7	118	0	-	0	118	0	-	0	118	0	-
Comb. L-T		1	631			1	700			1	734			1	738			1	738
WB Thru	1072	0	-	118	1190	0	-	54	1244	0	-	4	1248	0	-	0	1248	0	-
Comb. T-R		1	631			1	700			1	734			1	738			1	738
WB Right	90	0	-	10	100	0	-	7	107	0	-	3	110	0	-	0	110	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	527			N-S:	585			N-S:	653			N-S:	653			N-S:	653
		E-W:	681			E-W:	756			E-W:	791			E-W:	794			E-W:	794
		SUM:	1208			SUM:	1341			SUM:	1444			SUM:	1447			SUM:	1447
No. of Phases:			2				2				2				2				2
Volume / Capacity:		[1]	0.705			[1]	0.794			[1]	0.863			[1]	0.865			[1]	0.865
Level of Service:			C				C				D				D				D

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.
[1] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.

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PARKING SCENARIO NO. 2:
ALL PKG NORTH OF ALCAZAR ST

CRITICAL MOVEMENT ANALYSIS

N-S St: Daly Street
E-W St: Main Street
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA4
Counts by: Accutek

Daly Street @ Main Street
Peak Hour: PM
Annual Growth: 1.00%

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	124	1	124	14	138	1	138	27	165	1	165	0	165	1	165	0	165	1	165
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	426	1	238	47	473	1	264	65	538	1	298	0	538	1	298	0	538	1	298
Comb. T-R		1	238			1	264			1	298			1	298			1	298
NB Right	50	0	-	6	56	0	-	2	58	0	-	0	58	0	-	0	58	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	164	1	164	18	182	1	182	11	193	1	193	19	212	1	212	0	212	1	212
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	312	1	243	34	346	1	269	38	384	1	289	0	384	1	289	0	384	1	289
Comb. T-R		1	243			1	269			1	289			1	289			1	289
SB Right	173	0	-	19	192	0	-	2	194	0	-	0	194	0	-	0	194	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	77	0	-	8	85	0	-	2	87	0	-	0	87	0	-	0	87	0	-
Comb. L-T		1	579			1	643			1	692			1	697			1	697
EB Thru	828	0	-	91	919	0	-	77	996	0	-	10	1006	0	-	0	1006	0	-
Comb. T-R		1	579			1	643			1	692			1	697			1	697
EB Right	253	0	-	28	281	0	-	20	301	0	-	0	301	0	-	0	301	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	58	0	-	6	64	0	-	2	66	0	-	0	66	0	-	0	66	0	-
Comb. L-T		1	299			1	332			1	370			1	385			1	385
WB Thru	371	0	-	41	412	0	-	49	461	0	-	18	479	0	-	0	479	0	-
Comb. T-R		1	299			1	332			1	370			1	385			1	385
WB Right	169	0	-	19	188	0	-	26	214	0	-	12	226	0	-	0	226	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	402			N-S:	446			N-S:	491			N-S:	510			N-S:	510
		E-W:	637			E-W:	707			E-W:	759			E-W:	764			E-W:	764
		SUM:	1039			SUM:	1153			SUM:	1249			SUM:	1273			SUM:	1273
No. of Phases:			2				2				2				2				2
Volume / Capacity:		[1]	0.593			[1]	0.669			[1]	0.733			[1]	0.749			[1]	0.749
Level of Service:			A				B				C				C				C

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.
[1] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.

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PARKING SCENARIO NO. 2:
ALL PKG AT DEV. SITE E & F

CRITICAL MOVEMENT ANALYSIS

Mission Road @ Daly Street/Marengo Street
Peak Hour: AM
Annual Growth: 1.0%

N-S St: Mission Road
E-W St: Daly Street/Marengo Street
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA5
Counts by: Accutek

Date: 05/03/2005
Date of Count: 2005
Projection Year: 2015

	2005 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	77	1	77	8	85	1	85	14	99	1	99	0	99	1	99	0	99	1	99
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	762	2	381	76	838	2	419	100	938	2	469	92	1030	2	515	0	1030	2	515
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right [1]	368	1	368	37	405	1	405	15	420	1	420	0	420	1	420	0	420	1	420
Comb. L-T-R -		0				0				0				0				0	
SB Left	302	1	302	30	332	1	332	20	352	1	352	14	366	1	366	0	366	1	366
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	1446	2	723	145	1591	2	795	68	1659	2	829	18	1677	2	838	0	1677	2	838
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right [2]	23	1	23	2	25	1	25	5	30	1	30	0	30	1	30	0	30	1	30
Comb. L-T-R -		0				0				0				0				0	
EB Left	81	1	81	8	89	1	89	0	89	1	89	0	89	1	89	0	89	1	89
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	399	1	234	40	439	1	258	62	501	1	294	0	501	1	294	0	501	1	294
Comb. T-R		1	234			1	258			1	294			1	294			1	294
EB Right	233	1	163	23	256	1	179	31	287	1	201	0	287	1	201	0	287	1	201
Comb. L-T-R -		0				0				0				0				0	
WB Left	140	1	140	14	154	1	154	5	159	1	159	0	159	1	159	0	159	1	159
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	288	2	144	29	317	2	158	17	334	2	167	0	334	2	167	0	334	2	167
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right [3]	381	1	381	38	419	1	419	0	419	1	419	0	419	1	419	0	419	1	419
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	800			N-S:	880			N-S:	928			N-S:	937			N-S:	937
		E-W:	374			E-W:	412			E-W:	453			E-W:	453			E-W:	453
		SUM:	1174			SUM:	1292			SUM:	1381			SUM:	1390			SUM:	1390
No. of Phases:			4				4				4				4				4
Volume / Capacity:		*[4]*	0.754			*[4]*	0.840			*[4]*	0.904			*[4]*	0.911			*[4]*	0.911
Level of Service:			C				D				E				E				E

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] Northbound right-turn overlaps 100% with westbound phase.
[2] Southbound right-turn overlaps 100% with eastbound phase.
[3] Westbound right-turn overlaps 100% with southbound phase.
[4] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.

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PARKING SCENARIO NO. 2:
ALL PKG AT DEV. SITE E & F

CRITICAL MOVEMENT ANALYSIS

N-S St: Mission Road
E-W St: Daly Street/Marengo Street
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA5
Counts by: Accutek

Mission Road @ Daly Street/Marengo Street
Peak Hour: PM
Annual Growth: 1.00%

Date: 05/03/2005
Date of Count: 2005
Projection Year: 2015

	2005 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	199	1	199	20	219	1	219	33	252	1	252	0	252	1	252	0	252	1	252
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	1171	2	586	117	1288	2	644	77	1365	2	683	24	1389	2	695	0	1389	2	695
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right [1]	329	1	329	33	362	1	362	10	372	1	372	0	372	1	372	0	372	1	372
Comb. L-T-R -		0				0				0				0				0	
SB Left	366	1	366	37	403	1	403	0	403	1	403	61	464	1	464	0	464	1	464
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	638	2	319	64	702	2	351	125	827	2	413	80	907	2	453	0	907	2	453
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right [2]	55	1	55	6	61	1	61	22	83	1	83	0	83	1	83	0	83	1	83
Comb. L-T-R -		0				0				0				0				0	
EB Left	26	1	26	3	29	1	29	0	29	1	29	0	29	1	29	0	29	1	29
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	418	1	242	42	460	1	267	13	473	1	276	0	473	1	276	0	473	1	276
Comb. T-R		1	242			1	267			1	276			1	276			1	276
EB Right	223	1	156	22	245	1	172	17	262	1	184	0	262	1	184	0	262	1	184
Comb. L-T-R -		0				0				0				0				0	
WB Left	111	1	111	11	122	1	122	10	132	1	132	0	132	1	132	0	132	1	132
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	453	2	227	45	498	2	249	33	531	2	266	0	531	2	266	0	531	2	266
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right [3]	230	1	230	23	253	1	253	0	253	1	253	0	253	1	253	0	253	1	253
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	952			N-S:	1047			N-S:	1085			N-S:	1158			N-S:	1158
		E-W:	353			E-W:	389			E-W:	408			E-W:	408			E-W:	408
		SUM:	1305			SUM:	1435			SUM:	1493			SUM:	1566			SUM:	1566
No. of Phases:			4				4				4				4				4
Volume / Capacity:		[4]	0.849			[4]	0.944			[4]	0.986			[4]	1.039			[4]	1.039
Level of Service:			D				E				E				F				F

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 1 of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] Northbound right-turn overlaps 100% with westbound phase.
[2] Southbound right-turn overlaps 100% with eastbound phase.
[3] Westbound right-turn overlaps 100% with southbound phase.
[4] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.

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PARKING SCENARIO NO. 2:
ALL PKG NORTH OF ALCAZAR ST

CRITICAL MOVEMENT ANALYSIS

N-S St: I-5 NB On Ramp
E-W St: Marengo Street
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA6
Counts by: Accutek

I-5 NB On Ramp @ Marengo Street
Peak Hour: AM
Annual Growth: 1.0%

Date: 05/05/2005
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	798	1	481	88	886	1	533	103	989	1	585	0	989	1	592	0	989	2	494
Comb. T-R		1	481			1	533			1	585			1	592			0	-
EB Right	163	0	-	18	181	0	-	0	181	0	-	14	195	0	-	0	195	1	195
Comb. L-T-R -		0				0				0				0				0	
WB Left	268	1	268	29	297	1	297	0	297	1	297	7	304	1	304	0	304	1	304
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	701	2	351	77	778	2	389	40	818	2	409	0	818	2	409	0	818	2	409
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	0			N-S:	0			N-S:	0			N-S:	0			N-S:	0
		E-W:	749			E-W:	831			E-W:	882			E-W:	896			E-W:	799
		SUM:	749			SUM:	831			SUM:	882			SUM:	896			SUM:	799
No. of Phases:			U				U				U				U				U
Volume / Capacity:			0.624				0.692				0.735				0.747				0.666
Level of Service:			B				B				C				C				B

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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CRITICAL MOVEMENT ANALYSIS

PARKING SCENARIO NO. 2:
ALL PKG NORTH OF ALCAZAR ST

N-S St: I-5 NB On Ramp
E-W St: Marengo Street
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA6
Counts by: Accutek

I-5 NB On Ramp @ Marengo Street
Peak Hour: PM
Annual Growth: 1.00%

Date: 05/05/2005
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	715	1	570	79	794	1	632	70	864	1	667	0	864	1	698	0	864	2	432
Comb. T-R		1	570			1	632			1	667			1	698			0	-
EB Right	424	0	-	47	471	0	-	0	471	0	-	61	532	0	-	0	532	1	532
Comb. L-T-R -		0				0				0				0				0	
WB Left	307	1	307	34	341	1	341	0	341	1	341	31	372	1	372	0	372	1	372
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	759	2	380	83	842	2	421	35	877	2	439	0	877	2	439	0	877	2	439
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	0			N-S:	0			N-S:	0			N-S:	0			N-S:	0
		E-W:	877			E-W:	973			E-W:	1008			E-W:	1069			E-W:	903
		SUM:	877			SUM:	973			SUM:	1008			SUM:	1069			SUM:	903
No. of Phases:			U				U				U				U				U
Volume / Capacity:			0.730				0.811				0.840				0.891				0.753
Level of Service:			C				D				D				D				C

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 2:
ALL PKG NORTH OF ALCAZAR ST

CRITICAL MOVEMENT ANALYSIS

N-S St:	Mission Road	Mission Road @ Griffin Avenue/Zonal Avenue	
E-W St:	Griffin Avenue/Zonal Avenue	Peak Hour: AM	Date: 05/03/2005
Project:	USC Health Sciences Campus Project/1-023250-1	Annual Growth: 1.0%	Date of Count: 2004
File Name:	CMA7		Projection Year: 2015
Counts by:	Accutek		

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	71	1	71	8	79	1	79	7	86	1	86	0	86	1	86	0	86	1	86
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	561	2	257	62	623	2	286	110	733	2	322	92	825	2	353	0	825	2	353
Comb. T-R		1	257			1	286			1	322			1	353			1	353
NB Right	211	0	-	23	234	0	-	0	234	0	-	0	234	0	-	0	234	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	153	1	153	17	170	1	170	0	170	1	170	0	170	1	170	0	170	1	170
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	1336	2	668	147	1483	2	741	100	1583	2	791	32	1615	2	807	0	1615	2	807
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	11	1	11	1	12	1	12	0	12	1	12	0	12	1	12	0	12	1	12
Comb. L-T-R -		0				0				0				0				0	
EB Left	63	1	63	7	70	1	70	15	85	1	85	0	85	1	85	0	85	1	85
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	261	1	190	29	290	1	210	9	299	1	221	0	299	1	221	0	299	1	221
Comb. T-R		1	190			1	210			1	221			1	221			1	221
EB Right	118	0	-	13	131	0	-	12	143	0	-	0	143	0	-	0	143	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	123	1	123	14	137	1	137	0	137	1	137	0	137	1	137	0	137	1	137
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	93	1	65	10	103	1	72	2	105	1	73	0	105	1	73	0	105	1	73
Comb. T-R		1	65			1	72			1	73			1	73			1	73
WB Right	37	0	-	4	41	0	-	0	41	0	-	0	41	0	-	0	41	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	739			N-S:	820			N-S:	877			N-S:	893			N-S:	893
		E-W:	313			E-W:	347			E-W:	357			E-W:	357			E-W:	357
		SUM:	1052			SUM:	1167			SUM:	1235			SUM:	1251			SUM:	1251
No. of Phases:			2				2				2				2				2
Volume / Capacity:		[1]	0.601			[1]	0.678			[1]	0.723			[1]	0.734			[1]	0.734
Level of Service:			B				B				C				C				C

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 2:
ALL PKG NORTH OF ALCAZAR ST

CRITICAL MOVEMENT ANALYSIS

Mission Road @ Griffin Avenue/Zonal Avenue
Peak Hour: PM
Annual Growth: 1.00%

N-S St: Mission Road
E-W St: Griffin Avenue/Zonal Avenue
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA7
Counts by: Accutek

Date: 05/03/2005
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	159	1	159	17	176	1	176	7	183	1	183	0	183	1	183	0	183	1	183
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	1447	2	535	159	1606	2	594	78	1684	2	612	24	1708	2	620	0	1708	2	620
Comb. T-R		1	535			1	594			1	612			1	620			1	620
NB Right	158	0	-	17	175	0	-	-25	150	0	-	0	150	0	-	0	150	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	44	1	44	5	49	1	49	-25	24	1	24	0	24	1	24	0	24	1	24
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	575	2	288	63	638	2	319	191	829	2	415	141	970	2	485	0	970	2	485
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	67	1	67	7	74	1	74	0	74	1	74	0	74	1	74	0	74	1	74
Comb. L-T-R -		0				0				0				0				0	
EB Left	34	1	34	4	38	1	38	6	44	1	44	0	44	1	44	0	44	1	44
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	90	1	90	10	100	1	100	-48	52	1	52	0	52	1	52	0	52	1	52
Comb. T-R		1	113			1	125			1	147			1	147			1	147
EB Right	113	0	-	12	125	0	-	22	147	0	-	0	147	0	-	0	147	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	218	1	218	24	242	1	242	0	242	1	242	0	242	1	242	0	242	1	242
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	295	1	246	32	327	1	273	9	336	1	278	0	336	1	278	0	336	1	278
Comb. T-R		1	246			1	273			1	278			1	278			1	278
WB Right	197	0	-	22	219	0	-	0	219	0	-	0	219	0	-	0	219	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	579			N-S:	643			N-S:	635			N-S:	669			N-S:	669
		E-W:	331			E-W:	367			E-W:	389			E-W:	389			E-W:	389
		SUM:	910			SUM:	1010			SUM:	1025			SUM:	1058			SUM:	1058
No. of Phases:			2				2				2				2				2
Volume / Capacity:		[1]	0.507			[1]	0.573			[1]	0.583			[1]	0.605			[1]	0.605
Level of Service:			A				A				A				B				B

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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CRITICAL MOVEMENT ANALYSIS

PARKING SCENARIO NO. 2:
ALL PKG NORTH OF ALCAZAR ST

Mission Road @ Valley Boulevard

N-S St:	Mission Road	Peak Hour:	AM	Date:	12/28/2004
E-W St:	Valley Boulevard	Annual Growth:	1.0%	Date of Count:	2004
Project:	USC Health Sciences Campus Project/1-023250-1			Projection Year:	2015
File Name:	CMA8				
Counts by:	Accutek				

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	290	2	145	32	322	2	161	17	339	2	169	0	339	2	169	0	339	2	169
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right [1]	108	0	-	12	120	0	-	0	120	0	-	0	120	0	-	0	120	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	136	1	136	15	151	1	151	15	166	1	166	12	178	1	178	0	178	1	178
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	1519	2	760	167	1686	2	843	62	1748	2	874	18	1766	2	883	0	1766	2	883
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	198	1	139	22	220	1	154	3	223	1	156	0	223	1	156	0	223	1	156
Comb. L-T		1	273			1	303			1	336			1	391			1	391
EB Thru	429	0	-	47	476	0	-	64	540	0	-	110	650	0	-	0	650	0	-
Comb. T-R		1	273			1	303			1	336			1	391			1	391
EB Right	58	0	-	6	64	0	-	0	64	0	-	0	64	0	-	0	64	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	48	48	0	-	0	48	0	-	0	48	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	760			N-S:	843			N-S:	874			N-S:	883			N-S:	883
		E-W:	273			E-W:	303			E-W:	336			E-W:	391			E-W:	391
		SUM:	1033			SUM:	1146			SUM:	1210			SUM:	1274			SUM:	1274
No. of Phases:			2				2				2				2				2
Volume / Capacity:		[2]	0.588			[2]	0.664			[2]	0.706			[2]	0.749			[2]	0.749
Level of Service:			A				B				C				C				C

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] Northbound right-turn is a free-flow movement
[2] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 2:
ALL PKG NORTH OF ALCAZAR ST

N-S St: Mission Road
E-W St: Valley Boulevard
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA8
Counts by: Accutek

CRITICAL MOVEMENT ANALYSIS

Mission Road @ Valley Boulevard
Peak Hour: PM
Annual Growth: 1.00%

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	1051	2	526	116	1167	2	583	50	1217	2	608	0	1217	2	608	0	1217	2	608
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right [1]	376	0	-	41	417	0	-	0	417	0	-	0	417	0	-	0	417	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	149	1	149	16	165	1	165	6	171	1	171	3	174	1	174	0	174	1	174
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	525	2	263	58	583	2	291	-24	559	2	279	80	639	2	319	0	639	2	319
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	329	1	230	36	365	1	256	3	368	1	258	0	368	1	258	0	368	1	258
Comb. L-T		1	433			1	481			1	493			1	508			1	508
EB Thru	737	0	-	81	818	0	-	24	842	0	-	29	871	0	-	0	871	0	-
Comb. T-R		1	433			1	481			1	493			1	508			1	508
EB Right	31	0	-	3	34	0	-	0	34	0	-	0	34	0	-	0	34	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	23	23	0	-	0	23	0	-	0	23	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	675			N-S:	749			N-S:	780			N-S:	783			N-S:	783
		E-W:	433			E-W:	481			E-W:	493			E-W:	508			E-W:	508
		SUM:	1108			SUM:	1230			SUM:	1273			SUM:	1291			SUM:	1291
No. of Phases:			2				2				2				2				2
Volume / Capacity:		[2]	0.639			[2]	0.720			[2]	0.749			[2]	0.760			[2]	0.760
Level of Service:			B				C				C				C				C

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] Northbound right-turn is a free-flow movement
[2] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 2:
ALL PKG NORTH OF ALCAZAR ST

CRITICAL MOVEMENT ANALYSIS

N-S St: Mission Road
E-W St: Main Street
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA9
Counts by: Accutek

Mission Road @ Main Street
Peak Hour: AM
Annual Growth: 1.0%

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	18	1	18	2	20	1	20	1	21	1	21	0	21	1	21	0	21	1	21
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	473	2	237	52	525	2	263	17	542	2	271	0	542	2	271	0	542	2	271
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	1285	2	643	141	1426	2	713	77	1503	2	752	12	1515	2	758	0	1515	2	758
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	444	1	444	49	493	1	493	2	495	1	495	0	495	1	495	0	495	1	495
Comb. L-T-R -		0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	0	0	-	0	0	0	-	12	12	0	-	0	12	0	-	0	12	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	354	1	248	39	393	1	275	0	393	1	275	18	411	1	288	0	411	1	288
Comb. L-T		1	528			1	586			1	595			1	601			1	601
WB Thru	949	1	528	104	1053	1	586	18	1071	1	595	7	1078	1	601	0	1078	1	601
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	117	1	117	13	130	1	130	0	130	1	130	3	133	1	133	0	133	1	133
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	661			N-S:	733			N-S:	773			N-S:	779			N-S:	779
		E-W:	528			E-W:	586			E-W:	595			E-W:	601			E-W:	601
		SUM:	1188			SUM:	1319			SUM:	1367			SUM:	1379			SUM:	1379
No. of Phases:			2				2				2				2				2
Volume / Capacity:		[1]	0.692			[1]	0.779			[1]	0.812			[1]	0.820			[1]	0.820
Level of Service:			B				C				D				D				D

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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CRITICAL MOVEMENT ANALYSIS

PARKING SCENARIO NO. 2:
ALL PKG NORTH OF ALCAZAR ST

N-S St: Mission Road
E-W St: Main Street
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA9
Counts by: Accutek

Mission Road @ Main Street
Peak Hour: PM
Annual Growth: 1.00%

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	61	1	61	7	68	1	68	1	69	1	69	0	69	1	69	0	69	1	69
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	1302	2	651	143	1445	2	723	50	1495	2	748	0	1495	2	748	0	1495	2	748
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	552	2	276	61	613	2	306	-18	595	2	297	3	598	2	299	0	598	2	299
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	145	1	145	16	161	1	161	2	163	1	163	0	163	1	163	0	163	1	163
Comb. L-T-R -		0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	0	0	-	0	0	0	-	69	69	0	-	0	69	0	-	0	69	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	146	1	102	16	162	1	113	0	162	1	113	80	242	1	169	0	242	1	169
Comb. L-T		1	313			1	348			1	373			1	401			1	401
WB Thru	583	1	313	64	647	1	348	51	698	1	373	31	729	1	401	0	729	1	401
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	130	1	130	14	144	1	144	0	144	1	144	12	156	1	156	0	156	1	156
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	651			N-S:	723			N-S:	748			N-S:	748			N-S:	748
		E-W:	313			E-W:	348			E-W:	373			E-W:	401			E-W:	401
		SUM:	964			SUM:	1070			SUM:	1121			SUM:	1148			SUM:	1148
No. of Phases:			2				2				2				2				2
Volume / Capacity:		[1]	0.543			[1]	0.614			[1]	0.647			[1]	0.666			[1]	0.666
Level of Service:			A				B				B				B				B

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 2:
ALL PKG AT DEV. SITE E & F

CRITICAL MOVEMENT ANALYSIS

Biggy Street @ Zonal Avenue
Peak Hour: AM
Annual Growth: 1.0%

N-S St: Biggy Street
E-W St: Zonal Avenue
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA10
Counts by: Accutek

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	7	0	-	1	8	0	-	0	8	0	-	0	8	0	-	0	8	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	0	0	12	0	0	0	13	0	0	0	13	0	0	0	13	0	0	0	13
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	5	0	-	1	6	0	-	0	6	0	-	0	6	0	-	0	6	0	-
Comb. L-T-R -		1				1				1				1				1	
SB Left	7	0	-	1	8	0	-	1	9	0	-	0	9	0	-	0	9	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	0	0	130	0	0	0	144	0	0	0	145	0	0	0	145	0	0	0	145
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	123	0	-	14	137	0	-	0	137	0	-	0	137	0	-	0	137	0	-
Comb. L-T-R -		1				1				1				1				1	
EB Left	203	0	-	22	225	0	-	0	225	0	-	0	225	0	-	0	225	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	480	0	688	53	533	0	764	-49	484	0	715	0	484	0	715	0	484	0	715
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	5	0	-	1	6	0	-	0	6	0	-	0	6	0	-	0	6	0	-
Comb. L-T-R -		1				1				1				1				1	
WB Left	1	0	-	0	1	0	-	0	1	0	-	0	1	0	-	0	1	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	384	0	520	42	426	0	577	-191	235	0	398	0	235	0	398	0	235	0	398
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	135	0	-	15	150	0	-	12	162	0	-	0	162	0	-	0	162	0	-
Comb. L-T-R -		1				1				1				1				1	
Crit. Volumes:		N-S:	137			N-S:	152			N-S:	153			N-S:	153			N-S:	153
		E-W:	723			E-W:	803			E-W:	716			E-W:	716			E-W:	716
		SUM:	860			SUM:	955			SUM:	869			SUM:	869			SUM:	869
No. of Phases:			U				U				U				U				U
Volume / Capacity:			0.717				0.796				0.724				0.724				0.724
Level of Service:			C				C				C				C				C

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 2:
ALL PKG AT DEV. SITE E & F

CRITICAL MOVEMENT ANALYSIS

N-S St:	Biggy Street	Biggy Street @ Zonal Avenue	
E-W St:	Zonal Avenue	Peak Hour:	PM
Project:	USC Health Sciences Campus Project/1-023250-1	Annual Growth:	1.00%
File Name:	CMA10		
Counts by:	Accutek		

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	**Volume**	**No. of Lanes**	**Lane Volume**	**Added Volume**	**Total Volume**	**No. of Lanes**	**Lane Volume**	**Added Volume**	**Total Volume**	**No. of Lanes**	**Lane Volume**	**Added Volume**	**Total Volume**	**No. of Lanes**	**Lane Volume**	**Added Volume**	**Total Volume**	**No. of Lanes**	**Lane Volume**
NB Left	10	0	-	1	11	0	-	0	11	0	-	0	11	0	-	0	11	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	1	0	15	0	1	0	17	0	1	0	17	0	1	0	17	0	1	0	17
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	4	0	-	0	4	0	-	0	4	0	-	0	4	0	-	0	4	0	-
Comb. L-T-R -		1				1				1				1				1	
SB Left	24	0	-	3	27	0	-	6	33	0	-	0	33	0	-	0	33	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	0	0	129	0	0	0	143	0	0	0	149	0	0	0	149	0	0	0	149
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	105	0	-	12	117	0	-	0	117	0	-	0	117	0	-	0	117	0	-
Comb. L-T-R -		1				1				1				1				1	
EB Left	105	0	-	12	117	0	-	0	117	0	-	0	117	0	-	0	117	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	364	0	472	40	404	0	524	-246	158	0	278	0	158	0	278	0	158	0	278
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-
Comb. L-T-R -		1				1				1				1				1	
WB Left	7	0	-	1	8	0	-	0	8	0	-	0	8	0	-	0	8	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	509	0	594	56	565	0	659	-94	471	0	567	0	471	0	567	0	471	0	567
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	78	0	-	9	87	0	-	2	89	0	-	0	89	0	-	0	89	0	-
Comb. L-T-R -		1				1				1				1				1	
Crit. Volumes:		N-S:	139			N-S:	154			N-S:	160			N-S:	160			N-S:	160
		E-W:	699			E-W:	776			E-W:	684			E-W:	684			E-W:	684
		SUM:	838			SUM:	930			SUM:	844			SUM:	844			SUM:	844
No. of Phases:			U				U				U				U				U
Volume / Capacity:			0.698				0.775				0.703				0.703				0.703
Level of Service:			B				C				C				C				C

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 2:
ALL PKG AT DEV. SITE E & F

CRITICAL MOVEMENT ANALYSIS

San Pablo Street @ Valley Boulevard

N-S St:	San Pablo Street	Peak Hour:	AM	Date:	12/28/2004
E-W St:	Valley Boulevard	Annual Growth:	1.0%	Date of Count:	2004
Project:	USC Health Sciences Campus Project/1-023250-1			Projection Year:	2015
File Name:	CMA11				
Counts by:	Accutek				

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	43	1	43	5	48	1	48	15	63	1	63	28	91	1	91	0	91	1	91
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	23	2	13	3	26	2	14	-6	20	2	11	14	34	2	18	0	34	2	18
Comb. L-T-R -		0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	616	2	228	68	684	2	253	21	705	2	283	0	705	2	334	0	705	2	334
Comb. T-R		1	228			1	253			1	283			1	334			1	334
EB Right	68	0	-	7	75	0	-	69	144	0	-	153	297	0	-	0	297	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	150	1	150	17	167	1	167	30	197	1	197	61	258	1	258	0	258	1	258
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	1404	3	468	154	1558	3	519	58	1616	3	539	0	1616	3	539	0	1616	3	539
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	43			N-S:	48			N-S:	63			N-S:	91			N-S:	91
		E-W:	468			E-W:	519			E-W:	539			E-W:	592			E-W:	592
		SUM:	511			SUM:	567			SUM:	602			SUM:	682			SUM:	682
No. of Phases:			2				2				2				2				2
Volume / Capacity:		[1]	0.241			[1]	0.278			[1]	0.301			[1]	0.355			[1]	0.355
Level of Service:			A				A				A				A				A

Assumptions:

Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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CRITICAL MOVEMENT ANALYSIS

ALL PKG AT DEV. SITE E & F

N-S St: San Pablo Street
E-W St: Valley Boulevard
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA11
Counts by: Accutek

San Pablo Street @ Valley Boulevard
Peak Hour: PM
Annual Growth: 1.00%

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	17	1	17	2	19	1	19	72	91	1	91	123	214	1	214	0	214	1	214
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	21	2	12	2	23	2	13	40	63	2	35	61	124	2	68	0	124	2	68
Comb. L-T-R -		0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	1242	2	418	137	1379	2	464	80	1459	2	497	0	1459	2	510	0	1459	2	510
Comb. T-R		1	418			1	464			1	497			1	510			1	510
EB Right	11	0	-	1	12	0	-	19	31	0	-	40	71	0	-	0	71	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	13	1	13	1	14	1	14	0	14	1	14	16	30	1	30	0	30	1	30
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	725	3	242	80	805	3	268	34	839	3	280	0	839	3	280	0	839	3	280
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	17			N-S:	19			N-S:	91			N-S:	214			N-S:	214
		E-W:	431			E-W:	478			E-W:	511			E-W:	540			E-W:	540
		SUM:	448			SUM:	497			SUM:	602			SUM:	754			SUM:	754
No. of Phases:			2				2				2				2				2
Volume / Capacity:		[1]	0.198			[1]	0.231			[1]	0.301			[1]	0.403			[1]	0.403
Level of Service:			A				A				A				A				A

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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CRITICAL MOVEMENT ANALYSIS

PARKING SCENARIO NO. 2:
ALL PKG AT DEV. SITE E & F

N-S St:	San Pablo Street	San Pablo Street @ Alcazar Street			
E-W St:	Alcazar Street	Peak Hour:	AM	Date:	12/28/2004
Project:	USC Health Sciences Campus Project/1-023250-1	Annual Growth:	1.0%	Date of Count:	2004
File Name:	CMA12			Projection Year:	2015
Counts by:	Accutek				

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	19	1	19	2	21	1	21	4	25	1	25	0	25	1	25	0	25	1	25
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	45	1	45	5	50	1	50	21	71	1	71	61	132	1	132	0	132	1	132
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right [1]	149	1	149	16	165	1	165	9	174	1	174	0	174	1	174	0	174	1	174
Comb. L-T-R -		0				0				0				0				0	
SB Left	55	1	55	6	61	1	61	47	108	1	108	35	143	1	143	0	143	1	143
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	126	0	-	14	140	0	-	29	169	0	-	21	190	0	-	0	190	0	-
Comb. T-R		1	149			1	165			1	200			1	235			1	235
SB Right	23	0	-	3	26	0	-	6	32	0	-	14	46	0	-	0	46	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	24	1	24	3	27	1	27	28	55	1	55	61	116	1	116	0	116	1	116
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	130	0	-	14	144	0	-	31	175	0	-	0	175	0	-	0	175	0	-
Comb. T-R		1	144			1	160			1	206			1	206			1	206
EB Right	14	0	-	2	16	0	-	15	31	0	-	0	31	0	-	0	31	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	262	1	262	29	291	1	291	58	349	1	349	0	349	1	349	0	349	1	349
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	243	0	-	27	270	0	-	9	279	0	-	0	279	0	-	0	279	0	-
Comb. T-R		1	288			1	320			1	421			1	574			1	574
WB Right	45	0	-	5	50	0	-	92	142	0	-	153	295	0	-	0	295	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	168			N-S:	186			N-S:	225			N-S:	275			N-S:	275
		E-W:	406			E-W:	451			E-W:	555			E-W:	689			E-W:	689
		SUM:	574			SUM:	637			SUM:	780			SUM:	964			SUM:	964
No. of Phases:			U				U				U				U				2
Volume / Capacity:			0.478				0.531				0.650				0.804				0.643
Level of Service:			A				A				B				D				B

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] Northbound functional right-turn only lane has been assumed.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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CRITICAL MOVEMENT ANALYSIS

PARKING SCENARIO NO. 2:
ALL PKG AT DEV. SITE E & F

San Pablo Street @ Alcazar Street

N-S St: San Pablo Street
E-W St: Alcazar Street
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA12
Counts by: Accutek

Peak Hour: PM
Annual Growth: 1.00%

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	31	1	31	3	34	1	34	16	50	1	50	0	50	1	50	0	50	1	50
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	92	1	92	10	102	1	102	39	141	1	141	16	157	1	157	0	157	1	157
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right [1]	239	1	239	26	265	1	265	45	310	1	310	0	310	1	310	0	310	1	310
Comb. L-T-R -		0				0				0				0				0	
SB Left	96	1	96	11	107	1	107	95	202	1	202	153	355	1	355	0	355	1	355
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	53	0	-	6	59	0	-	-28	31	0	-	92	123	0	-	0	123	0	-
Comb. T-R		1	85			1	94			1	94			1	247			1	247
SB Right	32	0	-	4	36	0	-	28	64	0	-	61	125	0	-	0	125	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	20	1	20	2	22	1	22	5	27	1	27	16	43	1	43	0	43	1	43
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	208	0	-	23	231	0	-	14	245	0	-	0	245	0	-	0	245	0	-
Comb. T-R		1	222			1	246			1	266			1	266			1	266
EB Right	14	0	-	2	16	0	-	6	22	0	-	0	22	0	-	0	22	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	113	1	113	12	125	1	125	10	135	1	135	0	135	1	135	0	135	1	135
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	135	0	-	15	150	0	-	34	184	0	-	0	184	0	-	0	184	0	-
Comb. T-R		1	185			1	205			1	286			1	326			1	326
WB Right	50	0	-	6	56	0	-	47	103	0	-	40	143	0	-	0	143	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	279			N-S:	309			N-S:	444			N-S:	597			N-S:	597
		E-W:	335			E-W:	372			E-W:	402			E-W:	402			E-W:	402
		SUM:	614			SUM:	681			SUM:	846			SUM:	999			SUM:	999
No. of Phases:			U				U				U				U				2
Volume / Capacity:			0.511				0.567				0.705				0.832				0.666
Level of Service:			A				A				C				D				B

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] Northbound functional right-turn only lane has been assumed.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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CRITICAL MOVEMENT ANALYSIS

PARKING SCENARIO NO. 2:
ALL PKG AT DEV. SITE E & F

San Pablo Street @ Eastlake Avenue/Norfolk Street

N-S St:	San Pablo Street	Peak Hour:	AM		Date:	12/28/2004
E-W St:	Eastlake Avenue/Norfolk Street	Annual Growth:	1.0%		Date of Count:	2004
Project:	USC Health Sciences Campus Project/1-023250-1				Projection Year:	2012
File Name:	CMA13					
Counts by:	Accutek					

	2004 EXIST. TRAFFIC			2012 W/ AMBIENT GROWTH				2012 W/ OTHER PROJECTS				2012 W/ PROPOSED PROJECT				2012 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	105	1	105	8	113	1	113	0	113	1	113	0	113	1	113	0	113	1	113
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	165	0	-	13	178	0	-	40	218	0	-	61	279	0	-	0	279	0	-
Comb. T-R		1	228			1	246			1	344			1	405			1	405
NB Right	63	0	-	5	68	0	-	58	126	0	-	0	126	0	-	0	126	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	15	1	15	1	16	1	16	0	16	1	16	0	16	1	16	0	16	1	16
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	202	0	-	16	218	0	-	-2	216	0	-	21	237	0	-	0	237	0	-
Comb. T-R		1	371			1	401			1	403			1	424			1	424
SB Right	169	0	-	14	183	0	-	4	187	0	-	0	187	0	-	0	187	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	44	1	44	4	48	1	48	0	48	1	48	0	48	1	48	0	48	1	48
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	17	0	-	1	18	0	-	15	33	0	-	0	33	0	-	0	33	0	-
Comb. T-R		1	52			1	56			1	71			1	71			1	71
EB Right	35	0	-	3	38	0	-	0	38	0	-	0	38	0	-	0	38	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	15	0	-	1	16	0	-	11	27	0	-	0	27	0	-	0	27	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	16	0	44	1	17	0	48	7	24	0	66	0	24	0	66	0	24	0	66
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	13	0	-	1	14	0	-	0	14	0	-	0	14	0	-	0	14	0	-
Comb. L-T-R -		1				1				1				1				1	
Crit. Volumes:		N-S:	476			N-S:	514			N-S:	516			N-S:	537			N-S:	537
		E-W:	88			E-W:	95			E-W:	113			E-W:	113			E-W:	113
		SUM:	564			SUM:	609			SUM:	629			SUM:	650			SUM:	650
No. of Phases:			U				U				U				U				U
Volume / Capacity:			0.470				0.508				0.524				0.542				0.542
Level of Service:			A				A				A				A				A

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 2:
ALL PKG AT DEV. SITE E & F

CRITICAL MOVEMENT ANALYSIS

San Pablo Street @ Eastlake Avenue/Norfolk Street
Peak Hour: PM
Annual Growth: 1.00%

N-S St: San Pablo Street
E-W St: Eastlake Avenue/Norfolk Street
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA13
Counts by: Accutek

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2012

	2004 EXIST. TRAFFIC			2012 W/ AMBIENT GROWTH				2012 W/ OTHER PROJECTS				2012 W/ PROPOSED PROJECT				2012 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	65	1	65	5	70	1	70	0	70	1	70	0	70	1	70	0	70	1	70
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	226	0	-	18	244	0	-	13	257	0	-	16	273	0	-	0	273	0	-
Comb. T-R		1	263			1	284			1	321			1	337			1	337
NB Right	37	0	-	3	40	0	-	24	64	0	-	0	64	0	-	0	64	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	14	1	14	1	15	1	15	0	15	1	15	0	15	1	15	0	15	1	15
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	150	0	-	12	162	0	-	-25	137	0	-	92	229	0	-	0	229	0	-
Comb. T-R		1	216			1	233			1	224			1	316			1	316
SB Right	66	0	-	5	71	0	-	16	87	0	-	0	87	0	-	0	87	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	99	1	99	8	107	1	107	0	107	1	107	0	107	1	107	0	107	1	107
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	26	0	-	2	28	0	-	6	34	0	-	0	34	0	-	0	34	0	-
Comb. T-R		1	118			1	127			1	133			1	133			1	133
EB Right	92	0	-	7	99	0	-	0	99	0	-	0	99	0	-	0	99	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	29	0	-	2	31	0	-	48	79	0	-	0	79	0	-	0	79	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	29	0	75	2	31	0	81	32	63	0	161	0	63	0	161	0	63	0	161
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	17	0	-	1	18	0	-	0	18	0	-	0	18	0	-	0	18	0	-
Comb. L-T-R -		1				1				1				1				1	
Crit. Volumes:		N-S:	281			N-S:	303			N-S:	336			N-S:	386			N-S:	386
		E-W:	174			E-W:	188			E-W:	268			E-W:	268			E-W:	268
		SUM:	455			SUM:	491			SUM:	604			SUM:	654			SUM:	654
No. of Phases:			U				U				U				U				U
Volume / Capacity:			0.379				0.410				0.503				0.545				0.545
Level of Service:			A				A				A				A				A

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 2:
ALL PKG AT DEV. SITE E & F

CRITICAL MOVEMENT ANALYSIS

N-S St: San Pablo Street
E-W St: Zonal Avenue
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA14
Counts by: Accutek

San Pablo Street @ Zonal Avenue
Peak Hour: AM
Annual Growth: 1.0%

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS [1]				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	102	1	102	11	113	1	113	12	125	1	125	21	146	1	146	0	146	1	146
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	175	1	175	19	194	1	194	-3	191	1	191	0	191	1	191	0	191	1	191
Comb. L-T-R -		0				0				0				0				0	
EB Left	154	0	-	17	171	0	-	-6	165	0	-	0	165	0	-	0	165	0	-
Comb. L-T		1	529			1	587			1	538			1	538			1	538
EB Thru	375	0	-	41	416	0	-	-43	373	0	-	0	373	0	-	0	373	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	447	0	-	49	496	0	-	-177	319	1	319	0	319	1	319	0	319	1	319
Comb. T-R		1	682			1	757			0	-			0	-			0	-
WB Right	235	0	-	26	261	0	-	104	365	1	365	61	426	1	426	0	426	1	426
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	102			N-S:	113			N-S:	125			N-S:	146			N-S:	146
		E-W:	836			E-W:	928			E-W:	484			E-W:	518			E-W:	518
		SUM:	938			SUM:	1041			SUM:	609			SUM:	664			SUM:	664
No. of Phases:			U				U				U				U				2
Volume / Capacity:			0.782				0.868				0.508				0.553				0.443
Level of Service:			C				D				A				A				A

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] Westbound right-turn only has been assumed in the Future Pre-Project conditions due to the USC HCCII and New Acute Care Tower Hospital project's mitigation.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 2:
ALL PKG AT DEV. SITE E & F

CRITICAL MOVEMENT ANALYSIS

San Pablo Street @ Zonal Avenue
Peak Hour: PM
Annual Growth: 1.00%

N-S St: San Pablo Street
E-W St: Zonal Avenue
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA14
Counts by: Accutek

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS [1]				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	168	1	168	18	186	1	186	78	264	1	264	92	356	1	356	0	356	1	356
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	126	1	126	14	140	1	140	-56	84	1	84	0	84	1	84	0	84	1	84
Comb. L-T-R -		0				0				0				0				0	
EB Left	175	0	-	19	194	0	-	-3	191	0	-	0	191	0	-	0	191	0	-
Comb. L-T		1	615			1	683			1	442			1	442			1	442
EB Thru	440	0	-	48	488	0	-	-238	250	0	-	0	250	0	-	0	250	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	323	0	-	36	359	0	-	-37	322	1	322	0	322	1	322	0	322	1	322
Comb. T-R		1	428			1	475			0	-			0	-			0	-
WB Right	105	0	-	12	117	0	-	35	152	1	152	16	168	1	168	0	168	1	168
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	168			N-S:	186			N-S:	264			N-S:	356			N-S:	356
		E-W:	603			E-W:	669			E-W:	513			E-W:	513			E-W:	513
		SUM:	771			SUM:	856			SUM:	777			SUM:	869			SUM:	869
No. of Phases:			U				U				U				U				2
Volume / Capacity:			0.643				0.713				0.648				0.724				0.580
Level of Service:			B				C				B				C				A

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] Westbound right-turn only has been assumed in the Future Pre-Project conditions due to the USC HCCII and New Acute Care Tower Hospital project's mitigation.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 2:
ALL PKG AT DEV. SITE E & F

CRITICAL MOVEMENT ANALYSIS

Soto Street @ Alcazar Street
Peak Hour: AM
Annual Growth: 1.0%

N-S St: Soto Street
E-W St: Alcazar Street
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA15
Counts by: Accutek

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS [2]				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	204	1	204	22	226	1	226	192	418	1	418	184	602	1	602	0	602	2	331
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	886	1	465	97	983	1	516	19	1002	1	526	0	1002	1	526	0	1002	1	526
Comb. T-R		1	465			1	516			1	526			1	526			1	526
NB Right	44	0	-	5	49	0	-	0	49	0	-	0	49	0	-	0	49	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	48	1	48	5	53	1	53	0	53	1	53	0	53	1	53	0	53	1	53
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	1151	1	783	127	1278	1	869	60	1338	2	622	0	1338	2	653	0	1338	2	653
Comb. T-R		1	783			1	869			1	622			1	653			1	653
SB Right	414	0	-	46	460	0	-	69	529	0	-	92	621	0	-	0	621	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	95	1	95	10	105	1	105	15	120	1	120	21	141	1	141	0	141	1	99
Comb. L-T		0	-			0	-			0	-			0	-			1	107
EB Thru	58	1	58	6	64	1	64	0	64	1	64	0	64	1	64	0	64	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right [1]	106	1	106	12	118	1	118	43	161	1	161	42	203	1	203	0	203	2	111
Comb. L-T-R -		0				0				0				0				0	
WB Left	55	0	-	6	61	0	-	0	61	0	-	0	61	0	-	0	61	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	125	0	251	14	139	0	279	0	139	0	279	0	139	0	279	0	139	0	279
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	71	0	-	8	79	0	-	0	79	0	-	0	79	0	-	0	79	0	-
Comb. L-T-R -		1				1				1				1				1	
Crit. Volumes:		N-S:	987			N-S:	1095			N-S:	1040			N-S:	1255			N-S:	984
		E-W:	346			E-W:	384			E-W:	399			E-W:	420			E-W:	378
		SUM:	1333			SUM:	1479			SUM:	1440			SUM:	1675			SUM:	1362
No. of Phases:			2				2				2				2				3
Volume / Capacity:		[3]	0.788			[3]	0.886			[3]	0.860			[3]	1.017			[3]	0.856
Level of Service:			C				D				D				F				D

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 100% of overlapping left turn.
[1] Eastbound right-turn overlaps 100% with northbound phase.
[2] Improvements to the southbound approach reflect the USC HSC HNRT and HCCII and the Acute Care Tower Hospital conditions of approval.
[3] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 2:
ALL PKG AT DEV. SITE E & F

CRITICAL MOVEMENT ANALYSIS

Soto Street @ Alcazar Street
Peak Hour: PM
Annual Growth: 1.00%

N-S St: Soto Street
E-W St: Alcazar Street
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA15
Counts by: Accutek

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS [2]				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	83	1	83	9	92	1	92	56	148	1	148	48	196	1	196	0	196	2	108
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	991	1	517	109	1100	1	573	119	1219	1	633	0	1219	1	633	0	1219	1	633
Comb. T-R		1	517			1	573			1	633			1	633			1	633
NB Right	42	0	-	5	47	0	-	0	47	0	-	0	47	0	-	0	47	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	28	1	28	3	31	1	31	0	31	1	31	0	31	1	31	0	31	1	31
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	545	1	300	60	605	1	333	43	648	2	243	0	648	2	251	0	648	2	251
Comb. T-R		1	300			1	333			1	243			1	251			1	251
SB Right	55	0	-	6	61	0	-	19	80	0	-	24	104	0	-	0	104	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	345	1	345	38	383	1	383	72	455	1	455	92	547	1	547	0	547	1	383
Comb. L-T		0	-			0	-			0	-			0	-			1	240
EB Thru	68	1	68	7	75	1	75	0	75	1	75	0	75	1	75	0	75	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right [1]	265	1	265	29	294	1	294	187	481	1	481	184	665	1	665	0	665	2	366
Comb. L-T-R -		0				0				0				0				0	
WB Left	58	0	-	6	64	0	-	0	64	0	-	0	64	0	-	0	64	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	35	0	125	4	39	0	139	0	39	0	139	0	39	0	139	0	39	0	139
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	32	0	-	4	36	0	-	0	36	0	-	0	36	0	-	0	36	0	-
Comb. L-T-R -		1				1				1				1				1	
Crit. Volumes:		N-S:	545			N-S:	604			N-S:	664			N-S:	664			N-S:	664
		E-W:	470			E-W:	522			E-W:	594			E-W:	686			E-W:	522
		SUM:	1015			SUM:	1126			SUM:	1258			SUM:	1350			SUM:	1186
No. of Phases:			2				2				2				2				3
Volume / Capacity:		[3]	0.576			[3]	0.651			[3]	0.738			[3]	0.800			[3]	0.732
Level of Service:			A				B				C				C				C

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 1 of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 100% of overlapping left turn.
[1] Eastbound right-turn overlaps 100% with northbound phase.
[2] Improvements to the southbound approach reflect the USC HSC HNRT and HCCII and the Acute Care Tower Hospital conditions of approval.
[3] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 2:
ALL PKG AT DEV. SITE E & F

CRITICAL MOVEMENT ANALYSIS

Soto Street @ Charlotte Street/I-10 WB On/Off Ramps

N-S St:	Soto Street	Peak Hour:	AM	Date:	12/28/2004
E-W St:	Charlotte Street/I-10 WB On/Off Ramps	Annual Growth:	1.0%	Date of Count:	2004
Project:	USC Health Sciences Campus Project/1-023250-1			Projection Year:	2015
File Name:	CMA16				
Counts by:	Accutek				

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	77	1	77	8	85	1	85	44	129	1	129	31	160	1	160	0	160	1	160
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	766	2	383	84	850	2	425	166	1016	2	508	92	1108	2	554	0	1108	2	554
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right [1]	181	1	181	20	201	1	201	0	201	1	201	0	201	1	201	0	201	1	201
Comb. L-T-R -		0				0				0				0				0	
SB Left	320	1	320	35	355	1	355	1	356	1	356	0	356	1	356	0	356	1	356
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	1119	1	588	123	1242	1	652	100	1342	1	702	42	1384	1	723	0	1384	1	723
Comb. T-R		1	588			1	652			1	702			1	723			1	723
SB Right	56	0	-	6	62	0	-	0	62	0	-	0	62	0	-	0	62	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	28	0	-	3	31	0	-	0	31	0	-	0	31	0	-	0	31	0	-
Comb. L-T		1	127			1	141			1	152			1	152			1	152
EB Thru	99	0	-	11	110	0	-	11	121	0	-	0	121	0	-	0	121	0	-
Comb. T-R		1	279			1	310			1	319			1	333			1	333
EB Right	279	0	-	31	310	0	-	9	319	0	-	14	333	0	-	0	333	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	388	1	371	43	431	1	411	0	431	1	431	0	431	1	431	0	431	1	301
Comb. L-T		0	-			0	-			0	-			0	-			1	583
WB Thru	315	0	371	35	350	0	411	73	423	0	470	31	454	0	552	0	454	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	409	1	371	45	454	1	411	43	497	1	450	92	589	1	491	0	589	2	324
Comb. L-T-R -		1				1				1				1				0	
Crit. Volumes:		N-S:	703			N-S:	780			N-S:	864			N-S:	910			N-S:	910
		E-W:	769			E-W:	854			E-W:	931			E-W:	1013			E-W:	634
		SUM:	1472			SUM:	1634			SUM:	1796			SUM:	1924			SUM:	1544
No. of Phases:			4				4				4				4				4
Volume / Capacity:		[2]	0.971			[2]	1.089			[2]	1.206			[2]	1.299			[2],[3] *	1.106
Level of Service:		E				F				F				F				F	

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] Northbound right-turn overlaps 100% with westbound phase.
[2] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
[3] The AM peak hour V/C ratio shown in the Future With Mitigation condition reflects a 0.193 reduction to account for the USC HSC HNRT improvement at this location (Source: "Traffic Impact Study, USC HNRT Project" dated March 19, 2003, by LLG Engineers). The V/C ratio reduction accounts for the "overmitigation" of the measure.

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CRITICAL MOVEMENT ANALYSIS

PARKING SCENARIO NO. 2:
ALL PKG AT DEV. SITE E & F

Soto Street @ Charlotte Street/I-10 WB On/Off Ramps

N-S St: Soto Street
E-W St: Charlotte Street/I-10 WB On/Off Ramps
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA16
Counts by: Accutek

Peak Hour: PM
Annual Growth: 1.00%

Date: 12/28/2004
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	51	1	51	6	57	1	57	15	72	1	72	8	80	1	80	0	80	1	80
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	909	2	455	100	1009	2	504	162	1171	2	585	24	1195	2	597	0	1195	2	597
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	154	1	154	17	171	1	171	0	171	1	171	0	171	1	171	0	171	1	171
Comb. L-T-R -		0				0				0				0				0	
SB Left	271	1	271	30	301	1	301	6	307	1	307	0	307	1	307	0	307	1	307
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	928	1	481	102	1030	1	534	222	1252	1	645	184	1436	1	737	0	1436	1	737
Comb. T-R		1	481			1	534			1	645			1	737			1	737
SB Right	34	0	-	4	38	0	-	0	38	0	-	0	38	0	-	0	38	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	24	0	-	3	27	0	-	0	27	0	-	0	27	0	-	0	27	0	-
Comb. L-T		1	162			1	180			1	76			1	76			1	76
EB Thru	138	0	-	15	153	0	-	-104	49	0	-	0	49	0	-	0	49	0	-
Comb. T-R		1	312			1	346			1	386			1	447			1	447
EB Right	312	0	-	34	346	0	-	40	386	0	-	61	447	0	-	0	447	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	291	1	276	32	323	1	306	0	323	1	303	0	323	1	314	0	323	1	226
Comb. L-T		0	-			0	-			0	-			0	-			1	387
WB Thru	272	0	287	30	302	0	319	-20	282	0	303	8	290	0	314	0	290	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	265	1	265	29	294	1	294	11	305	1	303	24	329	1	314	0	329	2	181
Comb. L-T-R -		1				1				1				1				0	
Crit. Volumes:		N-S:	726			N-S:	805			N-S:	892			N-S:	904			N-S:	904
		E-W:	588			E-W:	653			E-W:	690			E-W:	761			E-W:	673
		SUM:	1314			SUM:	1458			SUM:	1582			SUM:	1666			SUM:	1578
No. of Phases:			4				4				4				4				4
Volume / Capacity:		[2]	0.855			[2]	0.960			[2]	1.051			[2]	1.111			[2],[3] *	1.053
Level of Service:			D				E				F				F				F

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 1 of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] Northbound right-turn overlaps 100% with westbound phase.
[2] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
[3] The PM peak hour V/C ratio shown in the Future With Mitigation condition reflects a 0.058 reduction to account for the USC HSC HNRT improvement at this location (Source: "Traffic Impact Study, USC HNRT Project" dated March 19, 2003, by LLG Engineers). The V/C ratio reduction accounts for the "overmitigation" of the measure.

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PARKING SCENARIO NO. 2:
ALL PKG AT DEV. SITE E & F

CRITICAL MOVEMENT ANALYSIS

Soto Street @ Marengo Street

N-S St:	Soto Street	Peak Hour:	AM	Date:	05/03/2005
E-W St:	Marengo Street	Annual Growth:	1.0%	Date of Count:	2004
Project:	USC Health Sciences Campus Project/1-023250-1			Projection Year:	2015
File Name:	CMA17				
Counts by:	Accutek				

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	572	1	400	63	635	1	444	-20	615	1	430	0	615	1	430	0	615	1	430
Comb. L-T		1	384			1	426			1	491			1	532			1	532
NB Thru	816	1	384	90	906	1	426	201	1107	1	491	123	1230	1	532	0	1230	1	532
Comb. T-R		1	384			1	426			1	491			1	532			1	532
NB Right	163	0	-	18	181	0	-	0	181	0	-	0	181	0	-	0	181	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	616	1	431	68	684	1	479	26	710	1	497	28	738	1	516	0	738	1	516
Comb. L-T		1	446			1	496			1	532			1	540			1	540
SB Thru	708	1	446	78	786	1	496	65	851	1	532	7	858	1	540	0	858	1	540
Comb. T-R		1	491			1	545			1	560			1	581			1	581
SB Right	491	0	-	54	545	0	-	15	560	0	-	21	581	0	-	0	581	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	53	1	53	6	59	1	59	13	72	1	72	0	72	1	72	0	72	1	72
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	175	2	88	19	194	2	97	-10	184	2	92	0	184	2	92	0	184	2	92
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right [1]	134	1	134	15	149	1	149	-40	109	1	109	0	109	1	109	0	109	1	109
Comb. L-T-R -		0				0				0				0				0	
WB Left	33	1	33	4	37	1	37	0	37	1	37	0	37	1	37	0	37	1	37
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	345	1	234	38	383	1	259	20	403	1	273	0	403	1	273	0	403	1	273
Comb. T-R		1	234			1	259			1	273			1	273			1	273
WB Right	122	0	-	13	135	0	-	7	142	0	-	0	142	0	-	0	142	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	891			N-S:	989			N-S:	990			N-S:	1048			N-S:	1048
		E-W:	287			E-W:	318			E-W:	345			E-W:	345			E-W:	345
		SUM:	1178			SUM:	1307			SUM:	1335			SUM:	1393			SUM:	1393
No. of Phases:			3				3				3				3				3
Volume / Capacity:		[2]	0.727			[2]	0.818			[2]	0.837			[2]	0.877			[2]	0.877
Level of Service:			C				D				D				D				D

Assumptions:
Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] Eastbound right-turn overlaps 100% with northbound phase.
[2] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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CRITICAL MOVEMENT ANALYSIS

PARKING SCENARIO NO. 2:
ALL PKG AT DEV. SITE E & F

Soto Street @ Marengo Street

N-S St:	Soto Street	Peak Hour:	PM	Date:	05/03/2005
E-W St:	Marengo Street	Annual Growth:	1.00%	Date of Count:	2004
Project:	USC Health Sciences Campus Project/1-023250-1			Projection Year:	2015
File Name:	CMA17				
Counts by:	Accutek				

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	363	1	254	40	403	1	282	-5	398	1	279	0	398	1	279	0	398	1	279
Comb. L-T		1	424			1	471			1	508			1	519			1	519
NB Thru	919	1	424	101	1020	1	471	113	1133	1	508	32	1165	1	519	0	1165	1	519
Comb. T-R		1	424			1	471			1	508			1	519			1	519
NB Right	245	0	-	27	272	0	-	0	272	0	-	0	272	0	-	0	272	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	661	1	463	73	734	1	514	117	851	1	595	123	974	1	682	0	974	1	682
Comb. L-T		1	324			1	360			1	417			1	471			1	471
SB Thru	580	1	324	64	644	1	360	122	766	1	417	31	797	1	471	0	797	1	471
Comb. T-R		1	324			1	360			1	417			1	471			1	471
SB Right	194	0	-	21	215	0	-	16	231	0	-	92	323	0	-	0	323	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	215	1	215	24	239	1	239	21	260	1	260	0	260	1	260	0	260	1	260
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	369	2	185	41	410	2	205	48	458	2	229	0	458	2	229	0	458	2	229
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right [1]	240	1	240	26	266	1	266	0	266	1	266	0	266	1	266	0	266	1	266
Comb. L-T-R -		0				0				0				0				0	
WB Left	16	1	16	2	18	1	18	0	18	1	18	0	18	1	18	0	18	1	18
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	168	1	111	18	186	1	123	13	199	1	130	0	199	1	130	0	199	1	130
Comb. T-R		1	111			1	123			1	130			1	130			1	130
WB Right	53	0	-	6	59	0	-	2	61	0	-	0	61	0	-	0	61	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	887			N-S:	985			N-S:	1104			N-S:	1200			N-S:	1200
		E-W:	326			E-W:	361			E-W:	390			E-W:	390			E-W:	390
		SUM:	1213			SUM:	1346			SUM:	1493			SUM:	1590			SUM:	1590
No. of Phases:			3				3				3				3				3
Volume / Capacity:		[2]	0.751			[2]	0.844			[2]	0.948			[2]	1.016			[2]	1.016
Level of Service:			C				D				E				F				F

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] Eastbound right-turn overlaps 100% with northbound phase.
[2] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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PARKING SCENARIO NO. 2:
ALL PKG AT DEV. SITE E & F

CRITICAL MOVEMENT ANALYSIS

Soto Street @ I-10 EB Off Ramp/Wabash Avenue

N-S St:	Soto Street	Peak Hour:	AM	Date:	04/11/2005
E-W St:	I-10 EB Off Ramp/Wabash Avenue	Annual Growth:	1.0%	Date of Count:	2004
Project:	USC Health Sciences Campus Project/1-023250-1			Projection Year:	2015
File Name:	CMA18				
Counts by:	Accutek				

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	701	2	351	77	778	2	389	58	836	2	418	31	867	2	434	0	867	2	310
Comb. T-R		0	-			0	-			0	-			0	-			1	310
NB Right [1]	51	1	51	6	57	1	57	5	62	1	62	0	62	1	62	0	62	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	118	1	118	13	131	1	131	7	138	1	138	0	138	1	138	0	138	1	138
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	776	2	388	85	861	2	431	18	879	2	440	7	886	2	443	0	886	2	443
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	572	1	315	63	635	1	349	101	736	1	405	92	828	1	455	0	828	1	455
Comb. L-T		1	357			1	397			1	442			1	484			1	484
EB Thru	100	0	-	11	111	0	-	0	111	0	-	0	111	0	-	0	111	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	40	1	40	4	44	1	44	0	44	1	44	0	44	1	44	0	44	1	44
Comb. L-T-R -		0				0				0				0				0	
WB Left	136	1	136	15	151	1	151	13	164	1	164	0	164	1	164	0	164	1	164
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	307	1	307	34	341	1	341	21	362	1	362	0	362	1	362	0	362	1	362
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	469			N-S:	520			N-S:	556			N-S:	572			N-S:	448
		E-W:	563			E-W:	624			E-W:	698			E-W:	748			E-W:	748
		SUM:	1031			SUM:	1145			SUM:	1254			SUM:	1320			SUM:	1196
No. of Phases:			3				3				3				3				3
Volume / Capacity:		[2]	0.624			[2]	0.703			[2]	0.780			[2]	0.826			[2]	0.739
Level of Service:			B				C				C				D				C

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 55% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] Northbound functional right-turn only lane has been assumed.
[2] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

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CRITICAL MOVEMENT ANALYSIS

PARKING SCENARIO NO. 2:
ALL PKG AT DEV. SITE E & F

Soto Street @ I-10 EB Off Ramp/Wabash Avenue

N-S St: Soto Street
E-W St: I-10 EB Off Ramp/Wabash Avenue
Project: USC Health Sciences Campus Project/1-023250-1
File Name: CMA18
Counts by: Accutek

Peak Hour: PM
Annual Growth: 1.00%

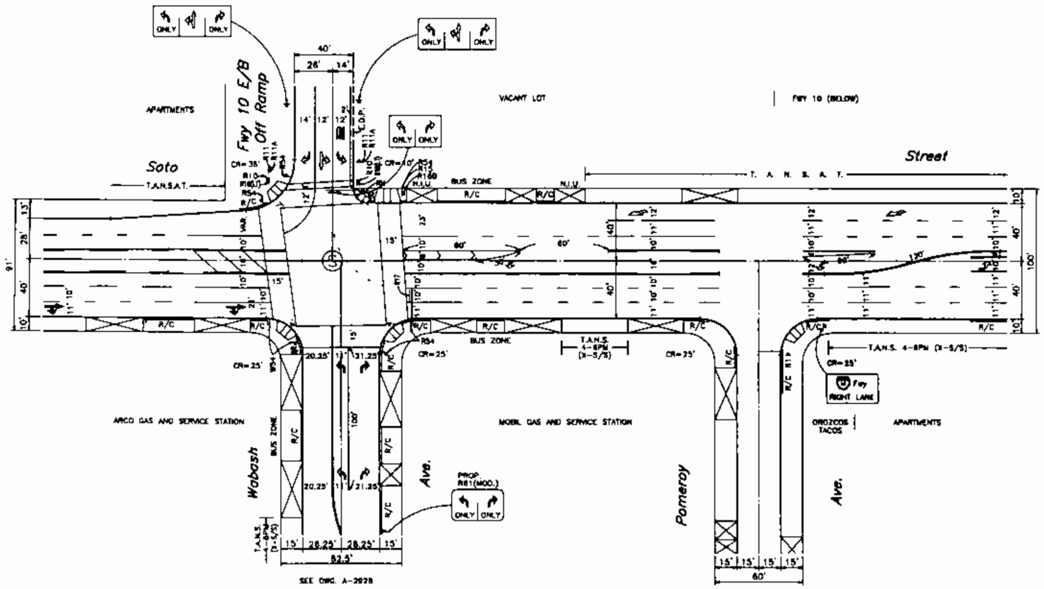
Date: 04/11/2005
Date of Count: 2004
Projection Year: 2015

	2004 EXIST. TRAFFIC			2015 W/ AMBIENT GROWTH				2015 W/ OTHER PROJECTS				2015 W/ PROPOSED PROJECT				2015 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	907	2	454	100	1007	2	503	70	1077	2	538	8	1085	2	542	0	1085	2	395
Comb. T-R		0	-			0	-			0	-			0	-			1	395
NB Right [1]	77	1	77	8	85	1	85	15	100	1	100	0	100	1	100	0	100	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	121	1	121	13	134	1	134	31	165	1	165	0	165	1	165	0	165	1	165
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	643	2	322	71	714	2	357	92	806	2	403	31	837	2	418	0	837	2	418
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	419	1	230	46	465	1	256	32	497	1	273	24	521	1	287	0	521	1	287
Comb. L-T		1	435			1	482			1	497			1	508			1	508
EB Thru	246	0	-	27	273	0	-	0	273	0	-	0	273	0	-	0	273	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	86	1	86	9	95	1	95	0	95	1	95	0	95	1	95	0	95	1	95
Comb. L-T-R -		0				0				0				0				0	
WB Left	100	1	100	11	111	1	111	7	118	1	118	0	118	1	118	0	118	1	118
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	236	1	236	26	262	1	262	7	269	1	269	0	269	1	269	0	269	1	269
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	575			N-S:	638			N-S:	704			N-S:	708			N-S:	560
		E-W:	406			E-W:	451			E-W:	460			E-W:	473			E-W:	473
		SUM:	980			SUM:	1088			SUM:	1163			SUM:	1181			SUM:	1033
No. of Phases:			3				3				3				3				3
Volume / Capacity:		[2]	0.588			[2]	0.664			[2]	0.716			[2]	0.728			[2]	0.625
Level of Service:			A				B				C				C				B

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 55% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.
[1] Northbound functional right-turn only lane has been assumed.
[2] V/C ratio includes a 0.10 reduction due to the installation of ATSAC/ATCS as part of the Boyle Heights System No. 14.
Note: The year 2002 existing traffic volumes were adjusted by two percent (1.0%) to reflect year 2004 existing conditions.

APPENDIX E

CONCEPTUAL ROADWAY IMPROVEMENT PLANS



LEGEND

1. EXISTING STRIPING & MARKINGS TO REMAIN
EXISTING STRIPING & MARKINGS TO BE REMOVED
PROPOSED STRIPING & MARKINGS
2. EXISTING SIGNS • PROPOSED SIGNS
3. (S) SIGNALIZED INTERSECTION
4. R/C EXISTING RED CURB
R/C PROPOSED RED CURB

REVIEWED ________ 20 ___
Transportation Engineer

ACCEPTED ________ 20 ___
Senior Transportation Engineer

INSTALLATION DATES
MARKOUT BEGAN: ________
MARKOUT COMPLETED: ________
STRIPING COMPLETED: ________
References:

CITY OF LOS ANGELES
DEPARTMENT OF TRANSPORTATION
WAYNE K. TANDA, General Manager

SOTO STREET
AT WABASH AVE.
10 FWY. E/B OFF RAMP

Thomas Guide	District	PROJECT NO.	DRAWING NO.	
–	–	–	–	1 / 1

LINSCOTT LAW & GREENSPAN ENGINEERS

LINSCOTT, LAW & GREENSPAN, ENGINEERS
TRANSPORTATION PLANNING · TRAFFIC ENGINEERING · PARKING

PLAN PREPARED BY:
REGISTERED TRAFFIC ENGINEER
DATE: ________

PLAN RECOMMENDED BY:
REGISTERED CIVIL ENGINEER
DATE: ________

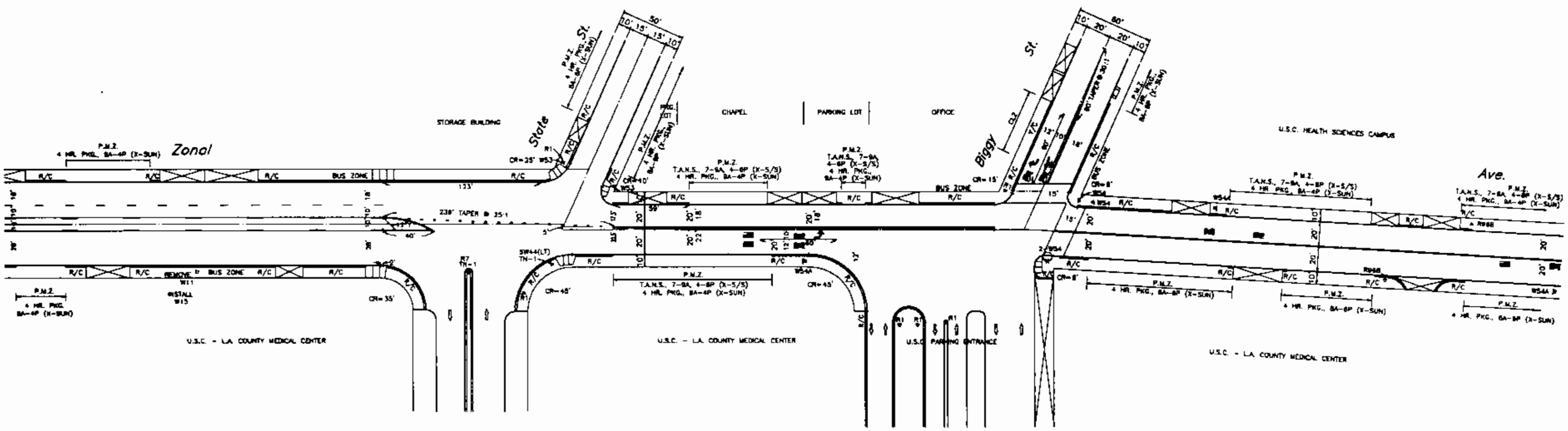
SCALE: 1"=40'

SCALES | HORIZ. 1"= | VERT. 1"=

SHEET

INDEX NUMBER

CITY OF LOS ANGELES
VITALY B. TROYAN, P.E. CITY ENGINEER



LEGEND

1. EXISTING STRIPING & MARKINGS TO REMAIN
   EXISTING STRIPING & MARKINGS TO BE REMOVED
   PROPOSED STRIPING & MARKINGS
2. EXISTING SIGNS
3. SIGNALIZED INTERSECTION
4. EXISTING RED CURB
   PROPOSED RED CURB

CONCEPTUAL MITIGATION

LINSCOTT LAW & GREENSPAN ENGINEERS

LINSCOTT, LAW & GREENSPAN, ENGINEERS
TRANSPORTATION PLANNING · TRAFFIC ENGINEERING · PARKING

PLAN PREPARED BY: REGISTERED TRAFFIC ENGINEER DATE:

PLAN RECOMMENDED BY: REGISTERED CIVIL ENGINEER DATE:

SCALE: 1"=40'

INSTALLATION DATES

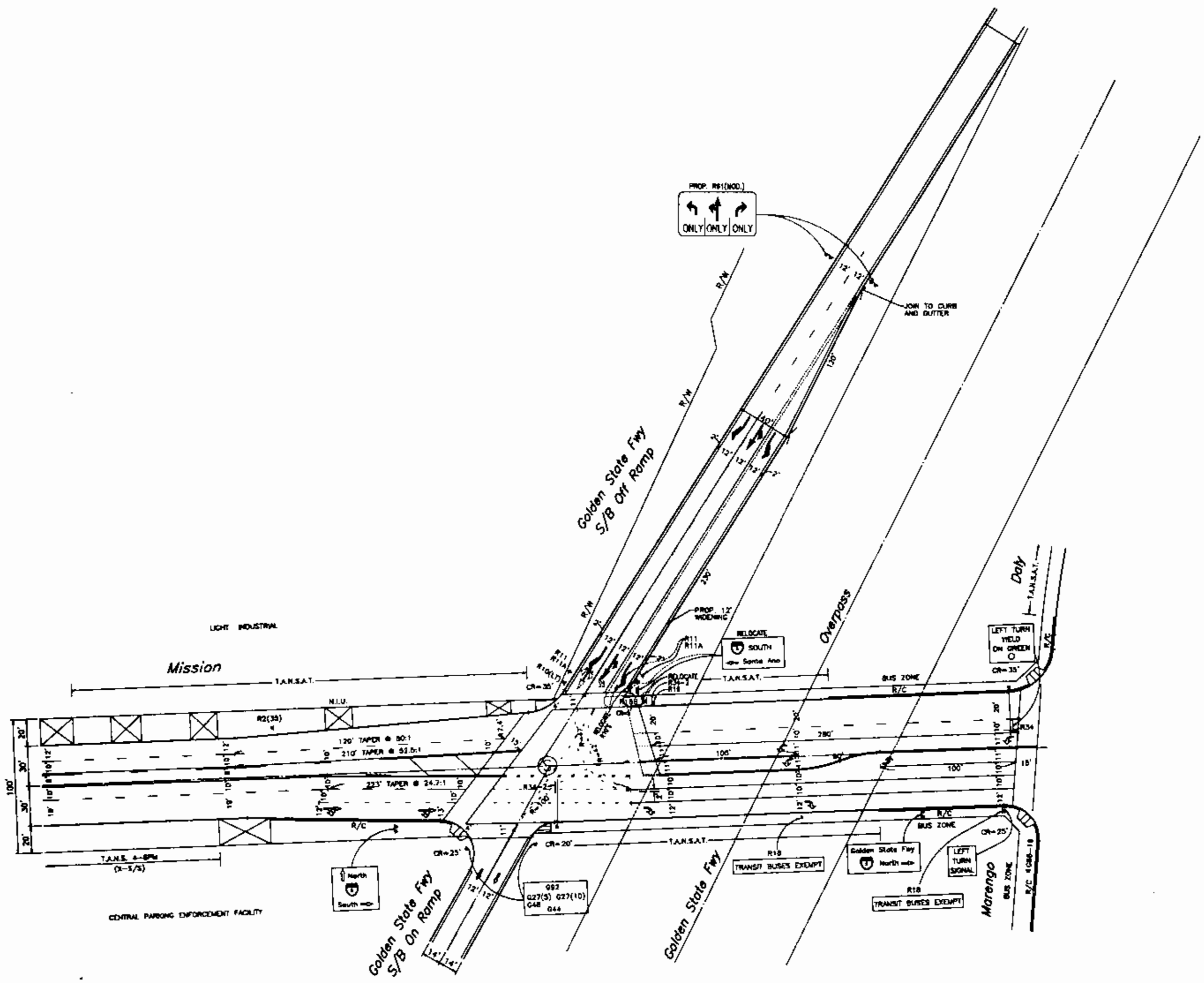
CITY OF LOS ANGELES
DEPARTMENT OF TRANSPORTATION
WAYNE K. TANDA, General Manager

ZONAL AVENUE
State St. to Biggy St.

PROJECT NO. 00000 DRAWING NO. A-00000 1/1

SCALES SHEET INDEX NUMBER

CITY OF LOS ANGELES
VITALY B. TROYAN, P.E. CITY ENGINEER



LEGEND

1. EXISTING STRIPING & MARKINGS TO REMAIN
EXISTING STRIPING & MARKINGS TO BE REMOVED
PROPOSED STRIPING & MARKINGS
2. EXISTING SIGNS ▸ PROPOSED SIGNS ▸ REMOVE SIGNS
3. Ⓢ SIGNALIZED INTERSECTION
4. R/C EXISTING RED CURB
R/C PROPOSED RED CURB

REVIEWED ______________ 20 ___
Transportation Engineer

ACCEPTED ______________ 20 ___
Senior Transportation Engineer

INSTALLATION DATES
LAYOUT BEGAN: ______
LAYOUT COMPLETED: ______
STRIPING COMPLETED: ______
References:

CITY OF LOS ANGELES
DEPARTMENT OF TRANSPORTATION
WAYNE K. TANDA, General Manager

MISSION ROAD
GOLDEN STATE FWY. S/B OFF RAMP

Thomas Guide	District	PROJECT NO.	DRAWING NO.	
635,A3-A2	C.	—	—	1 / 1

SCALE: 1"=40'

LINSCOTT LAW & GREENSPAN ENGINEERS

LINSCOTT, LAW & GREENSPAN, ENGINEERS
TRANSPORTATION PLANNING · TRAFFIC ENGINEERING · PARKING

PLAN PREPARED BY:
REGISTERED TRAFFIC ENGINEER
DATE: ______

PLAN RECOMMENDED BY:
REGISTERED CIVIL ENGINEER
DATE: ______

CONSULTANT BUSINESS TAX REGISTRATION NUMBER : 741883-66

1"=20' ORIGINAL MAP SCALE 1"=40'

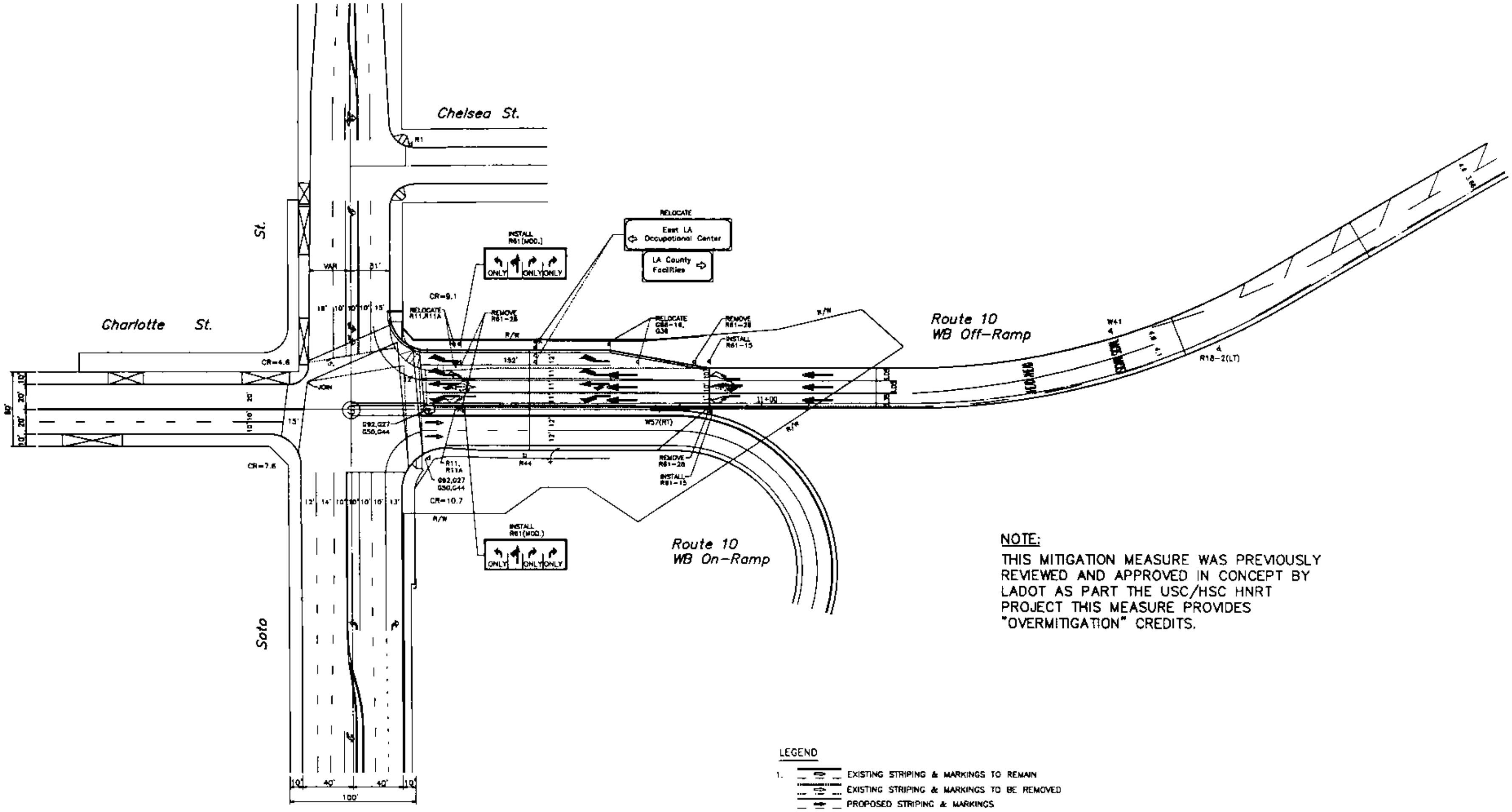
SCALES HORZ. 1"= VERT. 1"=

SHEET

INDEX NUMBER

CITY OF LOS ANGELES
VITALY B. TROYAN, P.E. CITY ENGINEER
DATE ______ 20 ___
DIV./DIST. ENGR. R.E. NO.

NO. | REVISION DESCRIPTION (NON CADD PLANS ONLY) | I.E. | SR. I.E. | PR. TRANS. ENGR. | DATE



NOTE:
THIS MITIGATION MEASURE WAS PREVIOUSLY REVIEWED AND APPROVED IN CONCEPT BY LADOT AS PART THE USC/HSC HNRT PROJECT THIS MEASURE PROVIDES "OVERMITIGATION" CREDITS.

LEGEND

1. EXISTING STRIPING & MARKINGS TO REMAIN
EXISTING STRIPING & MARKINGS TO BE REMOVED
PROPOSED STRIPING & MARKINGS
2. EXISTING SIGNS • PROPOSED SIGNS ▫ REMOVE SIGNS
3. Ⓢ SIGNALIZED INTERSECTION
4. EXISTING RED CURB
PROPOSED RED CURB

LINSCOTT, LAW & GREENSPAN, ENGINEERS
TRANSPORTATION PLANNING · TRAFFIC ENGINEERING · PARKING

PLAN PREPARED BY:
REGISTERED TRAFFIC ENGINEER
DATE:

PLAN RECOMMENDED BY:
REGISTERED CIVIL ENGINEER
DATE:

SCALE: 1"=40'

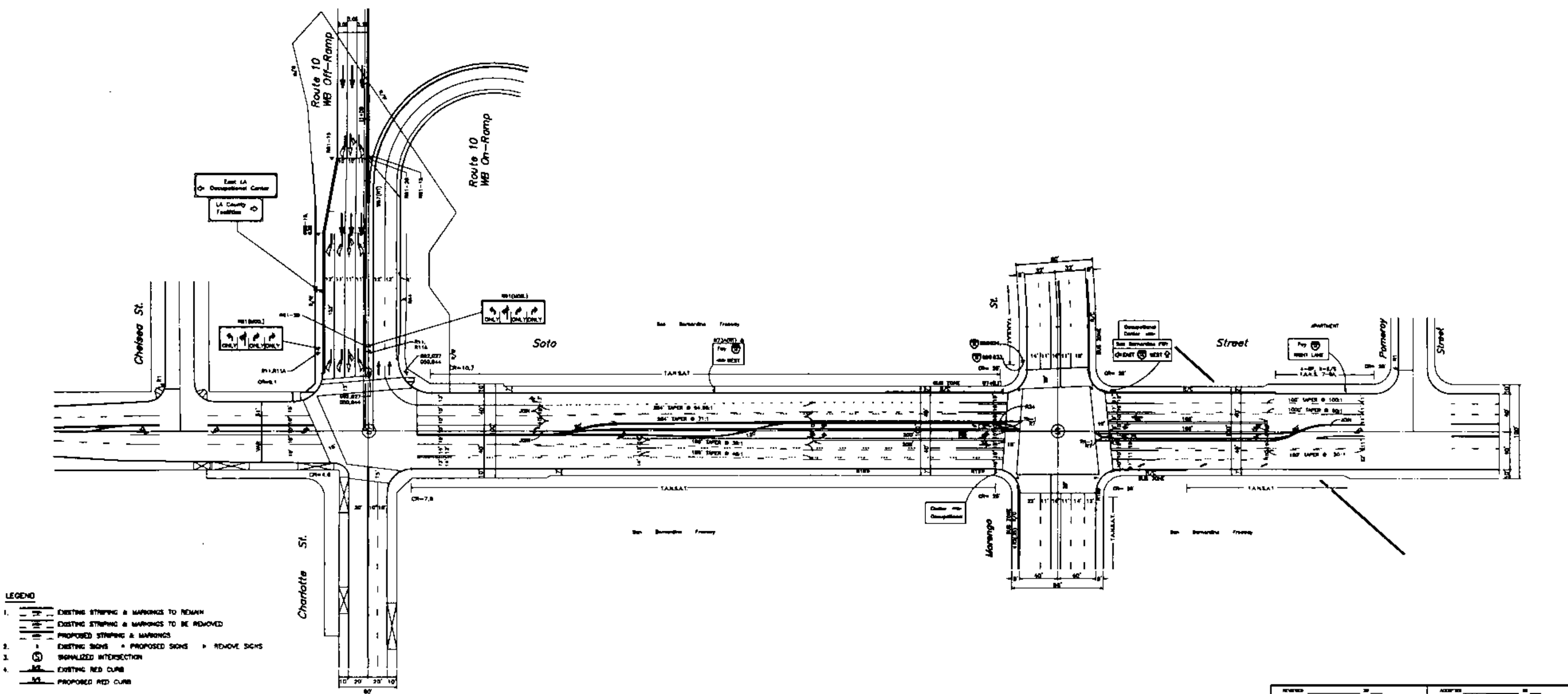
INSTALLATION DATES

CITY OF LOS ANGELES
DEPARTMENT OF TRANSPORTATION
WAYNE K. TANDA, General Manager

SOTO STREET
10 FWY. W/B ON-WB OFF RAMP

SCALES
SHEET
INDEX NUMBER

CITY OF LOS ANGELES
VITALY B. TROYAN, P.E. CITY ENGINEER



LINSCOTT LAW & GREENSPAN ENGINEERS

LINSCOTT, LAW & GREENSPAN, ENGINEERS
TRANSPORTATION PLANNING · TRAFFIC ENGINEERING · PARKING

PLAN PREPARED BY:

DATE:

INSTALLATION DATES

CITY OF LOS ANGELES
DEPARTMENT OF TRANSPORTATION
WAYNE K. TANDA, General Manager

SOTO STREET
MARENGO STREET

1 / 1

SCALES

SHEET

INDEX NUMBER

CITY OF LOS ANGELES
VITALY B. TROYAN, P.E. CITY ENGINEER

APPENDIX F

INTERSECTION MITIGATION SENSITIVITY ANALYSIS

Appendix Table F1
INTERSECTION MITIGATION SENSITIVITY ANALYSIS
ASSUMES PARKING SCENARIO NO 1: ALL PARKING PROVIDED AT DEV. SITE C (LOT 71)
USC Health Sciences Campus Project

05-May-2005

NO.	INTERSECTION	MITIGATION MEASURE	RESEARCH & DEV. EQUIVALENT SQUARE FEET
16	Soto Street/ I-10 Freeway WB Ramps-Charlotte Street	Partial mitigation for this intersection consists of the previously City reviewed and approved mitigation measure associated with the USC HNRT project. The previously reviewed and approved mitigation measure involves the widening of the I-10 Freeway WB off-ramp to provide an additional right-turn only lane. The PEER document is currently in preparation and will be submitted to Caltrans for review.	62,000 SF [1]
2	I-5 Freeway SB Ramps/ Mission Road	Mitigation for this intersection consists of widening the SB off-ramp to provide an additional lane. The off-ramp would provide one left-turn only lane, one combination left-turn/through lane and one right-turn only lane. A traffic signal modification would also be required.	118,000 SF
17	Soto Street/ Marengo Street	Mitigation for this intersection consists of the removal of the raised median islands on Soto Street, north and south of Marengo Street, restriping the NB and SB approaches to provide dual left-turn lanes, two through lanes, and one combination through/right-turn lane, as well as a traffic signal modification.	126,000 SF
6	I-5 Freeway NB On-Ramp/ Marengo Street	Mitigation for this intersection consists of the installation of an EB right-turn only lane. This measure will involve a lengthening of the red curb along the south side of Marengo Street west of the on-ramp.	187,000 SF
5	Mission Road/ Daly Street-Marengo Street	Due to limited right-of-way, no mitigation measures are recommended at this time.	250,000 SF
7	Mission Road/ Griffin Avenue-Zonal Avenue	Due to limited right-of-way, no mitigation measures are recommended at this time.	361,000 SF
3	I-5 Freeway NB Off-Ramp/ Daly Street-Main Street	Mitigation for this intersection consists of the installation of a traffic signal.	372,000 SF
14	San Pablo Street/ Zonal Avenue	Mitigation for this intersection consists of the installation of a traffic signal.	445,000 SF
10	Biggy Street/ Zonal Avenue	Mitigation for this intersection consists of restriping the SB approach to provide one combination left-turn/through lane and one right-turn only lane, and restriping the WB approach to provide one combination left-turn/through lane and one right-turn only lane.	465,000 SF
12	San Pablo Street/ Alcazar Street	Mitigation for this intersection consists of the installation of a traffic signal.	488,000 SF
18	Soto Street/ I-10 Freeway EB Off-Ramp-Wabash Avenue	Mitigation consists of restriping Soto Avenue, south of Wabash Avenue to provide an additional through lane.	680,000 SF

[1] Although 62,000 square feet of R&D square footage triggers a significant impact, no additional feasible mitigation measures have been identified.

Appendix Table F2
INTERSECTION MITIGATION SENSITIVITY ANALYSIS
ASSUMES PARKING SCENARIO NO 2: ALL PARKING PROVIDED AT DEV. SITES E AND F
USC Health Sciences Campus Project

05-May-2005

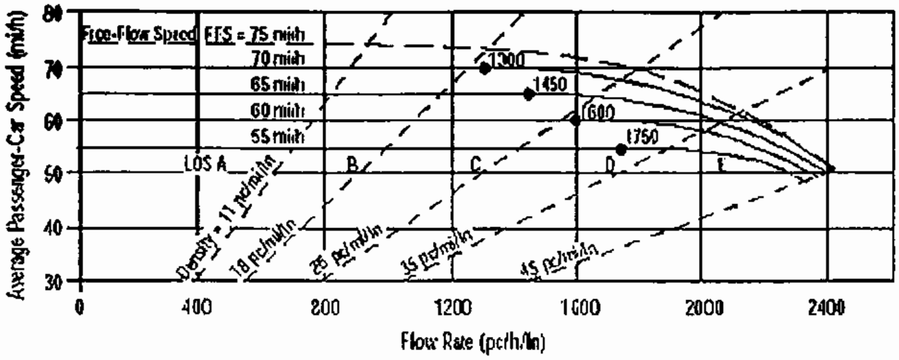
NO.	INTERSECTION	MITIGATION MEASURE	RESEARCH & DEV. EQUIVALENT SQUARE FEET
16	Soto Street/ I-10 Freeway WB Ramps-Charlotte Street	Partial mitigation for this intersection consists of the previously City reviewed and approved mitigation measure associated with the USC HNRT project. The previously reviewed and approved mitigation measure involves the widening of the I-10 Freeway WB off-ramp to provide an additional right-turn only lane. The PEER document is currently in preparation and will be submitted to Caltrans for review.	61,000 SF [1]
15	Soto Street/ Alcazar Street	Mitigation for this intersection includes the installation of a second NB left-turn lane and widening along the south side of Alcazar Street, west of Soto Street, to provide a fourth EB approach lane (i.e., EB approach would provide one left-turn lane, one combination left-through lane and two right-turn only lanes). A traffic signal modification at this location would also be required.	79,000 SF
17	Soto Street/ Marengo Street	Mitigation for this intersection consists of the removal of the raised median islands on Soto Street, north and south of Marengo Street, restriping the NB and SB approaches to provide dual left-turn lanes, two through lanes, and one combination through/right-turn lane, as well as a traffic signal modification.	90,000 SF
2	I-5 Freeway SB Ramps/ Mission Road	Mitigation for this intersection consists of widening the SB off-ramp to provide an additional lane. The off-ramp would provide one left-turn only lane, one combination left-turn/through lane and one right-turn only lane. A traffic signal modification would also be required.	118,000 SF
12	San Pablo Street/ Alcazar Street	Mitigation for this intersection consists of the installation of a traffic signal.	229,000 SF
5	Mission Road/ Daly Street-Marengo Street	Due to limited right-of-way, no mitigation measures are recommended at this time.	250,000 SF
6	I-5 Freeway NB On-Ramp/ Marengo Street	Mitigation for this intersection consists of the installation of an EB right-turn only lane. This measure will involve a lengthening of the red curb along the south side of Marengo Street west of the on-ramp.	296,000 SF
18	Soto Street/ I-10 Freeway EB Off-Ramp-Wabash Avenue	Mitigation consists of restriping Soto Avenue, south of Wabash Avenue to provide an additional through lane.	310,000 SF
14	San Pablo Street/ Zonal Avenue	Mitigation for this intersection consists of the installation of a traffic signal.	426,000 SF
3	I-5 Freeway NB Off-Ramp/ Daly Street-Main Street	Mitigation for this intersection consists of the installation of a traffic signal.	530,000 SF
8	Mission Road/ Valley Boulevard	Due to limited right-of-way and the sensitivity of any on-street parking removals, no mitigation measures are recommended at this time.	741,000 SF

[1] Although 61,000 square feet of R&D square footage triggers a significant impact, no additional feasible mitigation measures have been identified.

APPENDIX G

CALTRANS FREEWAY SEGMENT ANALYSIS
DATA WORKSHEETS

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	KCJ	Highway/Direction of Travel	I-5 Freeway Northbound
Agency or Company	LLG Engineers	From/To	at North Broadway
Date Performed	12/13/2004	Jurisdiction	City of Los Angeles
Analysis Time Period	AM Peak Hour	Analysis Year	Year 2004 Existing Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	7560 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs / Calc Speed Adj and FFS

Lane Width	12.0	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	6.0	ft	f_{LC}		mi/h
Interchange Density	0.50	I/mi	f_{ID}		mi/h
Number of Lanes, N	5		f_N		mi/h
FFS (measured)	65.0	mi/h	FFS	65.0	mi/h
Base free-flow Speed, BFFS		mi/h			

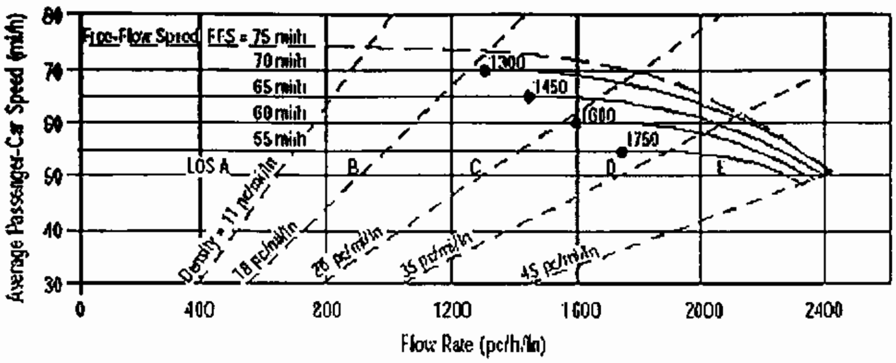
LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1700	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	64.5	mi/h	S	mi/h
D = v_p / S	26.3	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	D		Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/13/2004
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-5 Freeway Southbound
From/To	at North Broadway
Jurisdiction	City of Los Angeles
Analysis Year	Year 2004 Existing Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	8880 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	5	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1997	pc/h/ln
S	61.5	mi/h
D = v_p / S	32.5	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

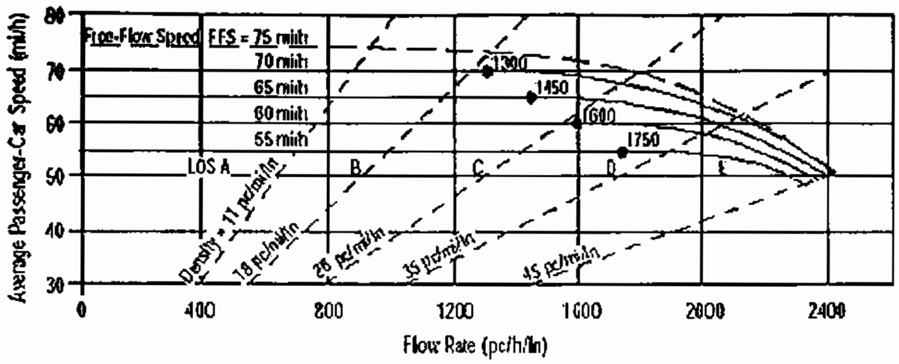
Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
DDHV - Directional design hour volume
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10
E_T - Exhibits 23-8, 23-10, 23-11
f_p - Page 23-12
LOS, S, FFS, v_p - Exhibits 23-2, 23-3
f_{LW} - Exhibit 23-4
f_{LC} - Exhibit 23-5
f_N - Exhibit 23-6
f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/13/2004
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-5 Freeway Northbound
From/To	at North Broadway
Jurisdiction	City of Los Angeles
Analysis Year	Year 2004 Existing Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	8520 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	5	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1916	pc/h/ln
S	62.7	mi/h
D = v_p / S	30.6	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

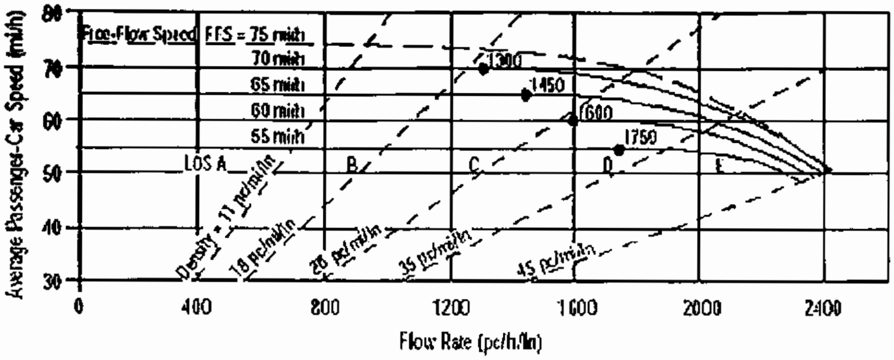
Glossary

N - Number of lanes
S - Speed
V - Hourly volume
D - Density
v_p - Flow rate
FFS - Free-flow speed
LOS - Level of service
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits23-8, 23-10
f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11
f_{LC} - Exhibit 23-5
f_p - Page 23-12
f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3
f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/13/2004
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-5 Freeway Southbound
From/To	at North Broadway
Jurisdiction	City of Los Angeles
Analysis Year	Year 2004 Existing Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	7940 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	5	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1786	pc/h/ln
S	64.0	mi/h
D = v_p / S	27.9	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

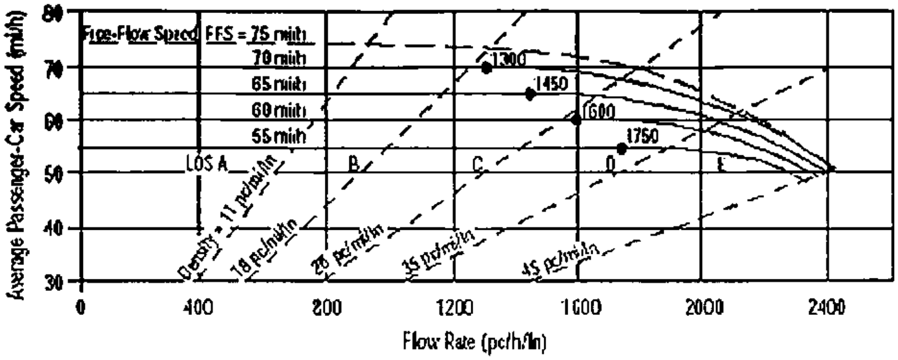
Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
DDHV - Directional design hour volume
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10
E_T - Exhibits 23-8, 23-10, 23-11
f_p - Page 23-12
LOS, S, FFS, v_p - Exhibits 23-2, 23-3
f_{LW} - Exhibit 23-4
f_{LC} - Exhibit 23-5
f_N - Exhibit 23-6
f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/13/2004
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-5 Freeway Northbound
From/To	at Indiana Street
Jurisdiction	City of Los Angeles
Analysis Year	Year 2004 Existing Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	9130 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	5	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2053	pc/h/ln
S	60.5	mi/h
D = v_p / S	33.9	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

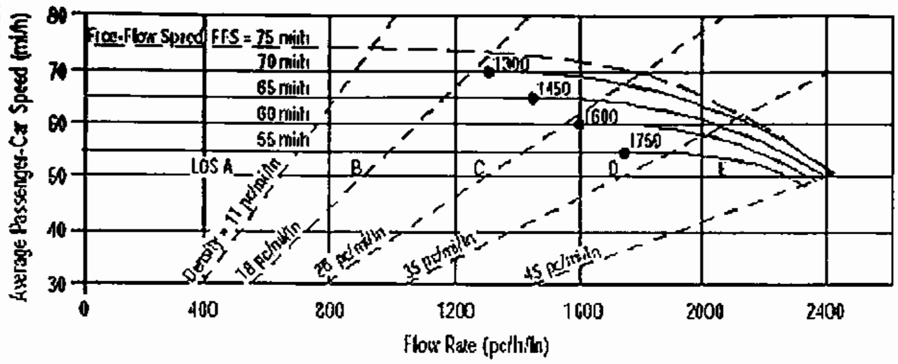
Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
DDHV - Directional design hour volume
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10
E_T - Exhibits 23-8, 23-10, 23-11
f_p - Page 23-12
LOS, S, FFS, v_p - Exhibits 23-2, 23-3
f_{LW} - Exhibit 23-4
f_{LC} - Exhibit 23-5
f_N - Exhibit 23-6
f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ	Highway/Direction of Travel	I-5 Freeway Southbound
Agency or Company	LLG Engineers	From/To	at Indiana Street
Date Performed	12/13/2004	Jurisdiction	City of Los Angeles
Analysis Time Period	AM Peak Hour	Analysis Year	Year 2004 Existing Conditions

Site Information

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	7280 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	5	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1637	pc/h/ln
S	64.8	mi/h
D = v_p / S	25.3	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

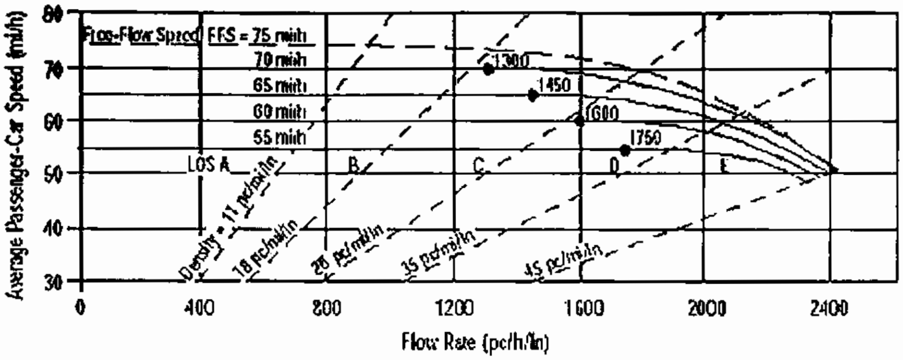
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/13/2004
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-5 Freeway Northbound
From/To	at Indiana Street
Jurisdiction	City of Los Angeles
Analysis Year	Year 2004 Existing Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	7820 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	5	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1759	pc/h/ln
S	64.2	mi/h
D = v_p / S	27.4	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

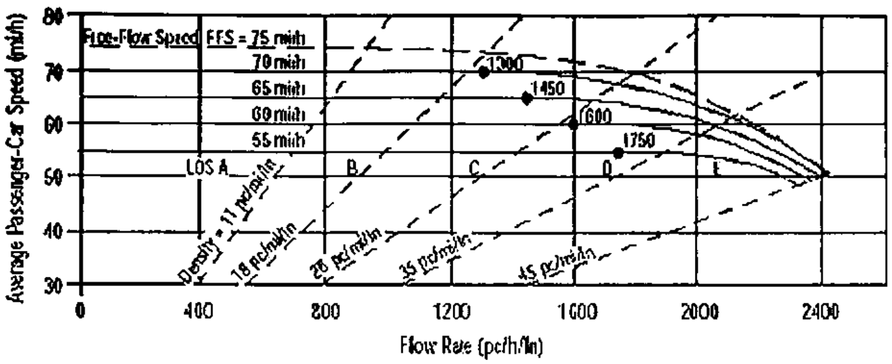
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/13/2004
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-5 Freeway Southbound
From/To	at Indiana Street
Jurisdiction	City of Los Angeles
Analysis Year	Year 2004 Existing Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	8640 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	5	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1943	pc/h/ln
S	62.3	mi/h
D = v_p / S	31.2	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

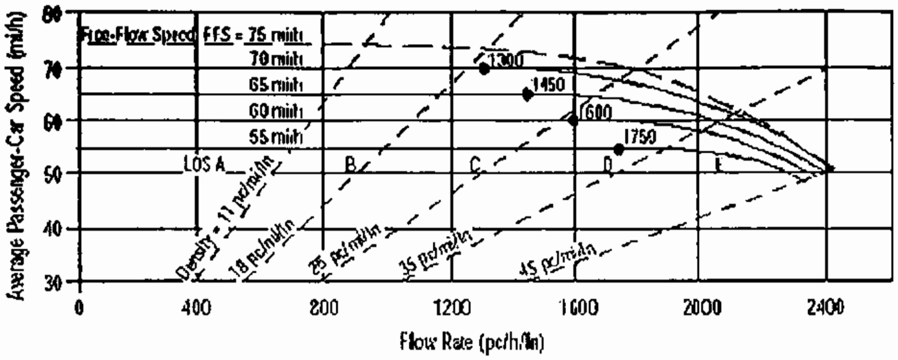
Glossary

N - Number of lanes
S - Speed
V - Hourly volume
D - Density
v_p - Flow rate
FFS - Free-flow speed
LOS - Level of service
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits23-8, 23-10
f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11
f_{LC} - Exhibit 23-5
f_p - Page 23-12
f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3
f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	KCJ	Highway/Direction of Travel	I-10 Freeway Eastbound
Agency or Company	LLG Engineers	From/To	at Sante Fe Avenue
Date Performed	12/13/2004	Jurisdiction	City of Los Angeles
Analysis Time Period	AM Peak Hour	Analysis Year	Year 2004 Existing Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	9680 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs / Calc Speed Adj and FFS

Lane Width	12.0	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	6.0	ft	f_{LC}		mi/h
Interchange Density	0.50	I/mi	f_{ID}		mi/h
Number of Lanes, N	6		f_N		mi/h
FFS (measured)	65.0	mi/h	FFS	65.0	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1814	pc/h/ln
S	63.8	mi/h
D = v_p / S	28.4	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

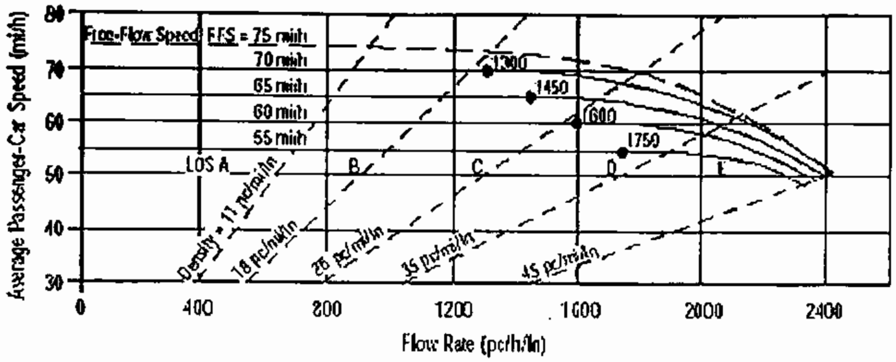
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/13/2004
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-10 Freeway Westbound
From/To	at Sante Fe Avenue
Jurisdiction	City of Los Angeles
Analysis Year	Year 2004 Existing Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	7400 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	6	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1387	pc/h/ln
S	65.0	mi/h
D = v_p / S	21.3	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

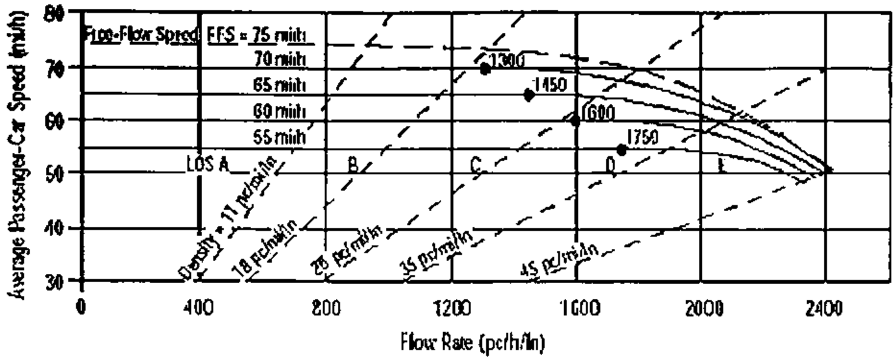
Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
DDHV - Directional design hour volume
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10
E_T - Exhibits 23-8, 23-10, 23-11
f_p - Page 23-12
LOS, S, FFS, v_p - Exhibits 23-2, 23-3
f_{LW} - Exhibit 23-4
f_{LC} - Exhibit 23-5
f_N - Exhibit 23-6
f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/13/2004
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-10 Freeway Eastbound
From/To	at Sante Fe Avenue
Jurisdiction	City of Los Angeles
Analysis Year	Year 2004 Existing Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	7980 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	6	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1496	pc/h/ln
S	65.0	mi/h
D = v_p / S	23.0	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

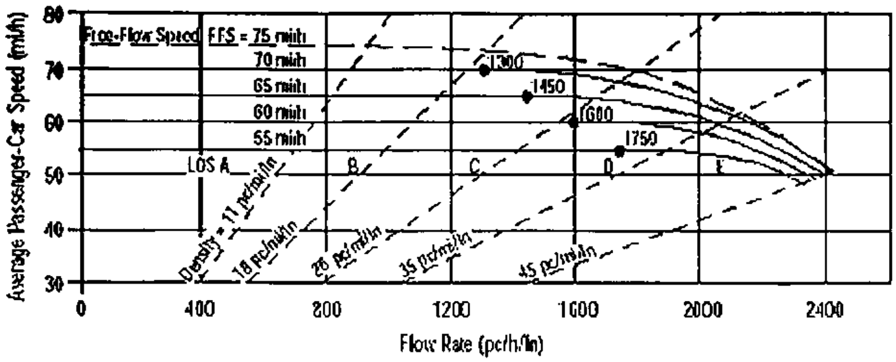
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/13/2004
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-10 Freeway Westbound
From/To	at Sante Fe Avenue
Jurisdiction	City of Los Angeles
Analysis Year	Year 2004 Existing Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	10330 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	6	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1936	pc/h/ln
S	62.4	mi/h
D = v_p / S	31.0	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

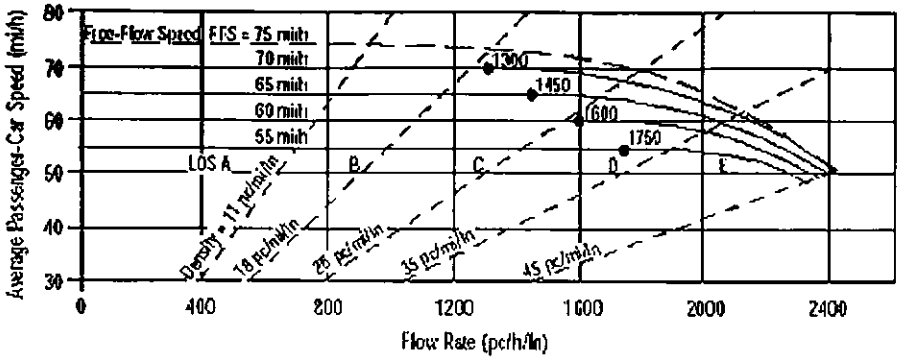
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/13/2004
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-10 Freeway Eastbound
From/To	at East LA City Limit
Jurisdiction	City of Los Angeles
Analysis Year	Year 2004 Existing Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6430 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	6	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1205	pc/h/ln
S	65.0	mi/h
D = v_p / S	18.5	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

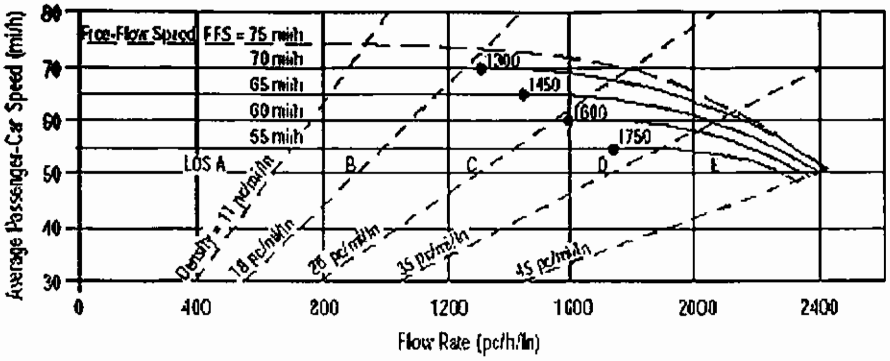
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/13/2004
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-10 Freeway Westbound
From/To	at East LA City Limit
Jurisdiction	City of Los Angeles
Analysis Year	Year 2004 Existing Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	10400 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	6	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1949	pc/h/ln
S	62.2	mi/h
D = v_p / S	31.3	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

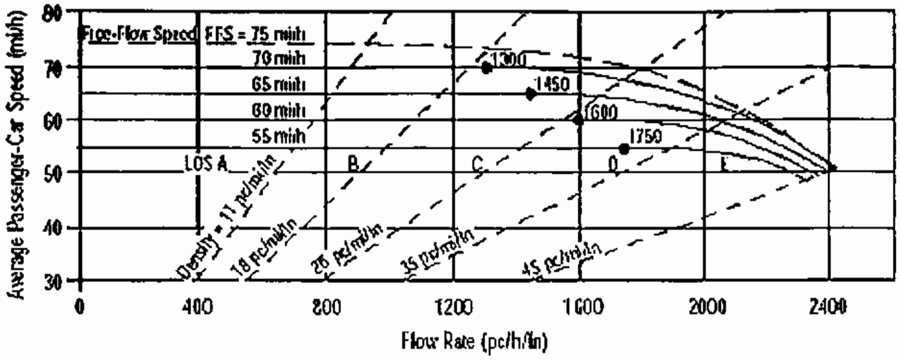
Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
DDHV - Directional design hour volume
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10
E_T - Exhibits 23-8, 23-10, 23-11
f_p - Page 23-12
LOS, S, FFS, v_p - Exhibits 23-2, 23-3
f_{LW} - Exhibit 23-4
f_{LC} - Exhibit 23-5
f_N - Exhibit 23-6
f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		Site Information	
Analyst	KCJ	Highway/Direction of Travel	I-10 Freeway Eastbound
Agency or Company	LLG Engineers	From/To	at East LA City Limit
Date Performed	12/13/2004	Jurisdiction	City of Los Angeles
Analysis Time Period	PM Peak Hour	Analysis Year	Year 2004 Existing Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	10400 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs			Calc Speed Adj and FFS		
Lane Width	12.0	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	6.0	ft	f_{LC}		mi/h
Interchange Density	0.50	I/mi	f_{ID}		mi/h
Number of Lanes, N	6		f_N		mi/h
FFS (measured)	65.0	mi/h	FFS	65.0	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1949	pc/h/ln
S	62.2	mi/h
D = v_p / S	31.3	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

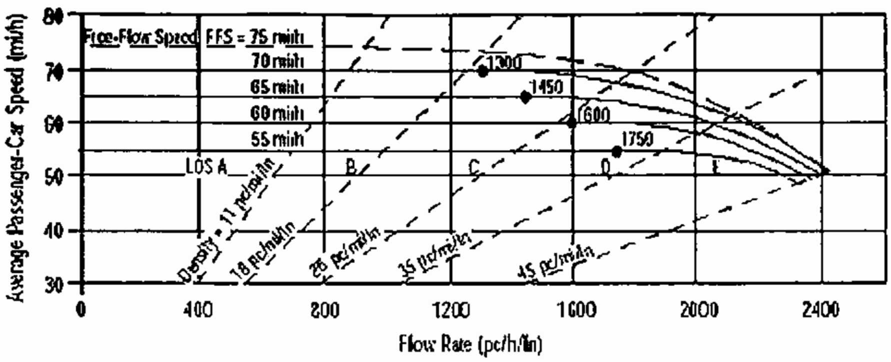
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/13/2004
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-10 Freeway Westbound
From/To	at East LA City Limit
Jurisdiction	City of Los Angeles
Analysis Year	Year 2004 Existing Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	7840 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	6	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1469	pc/h/ln
S	65.0	mi/h
D = v_p / S	22.6	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

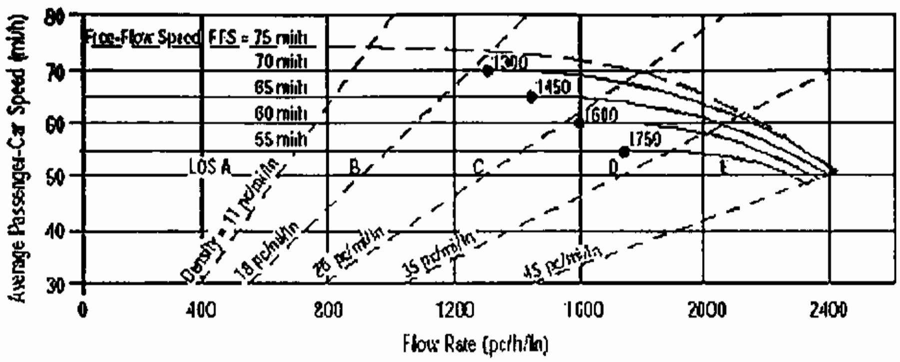
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/13/2004
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-5 Freeway Northbound
From/To	at North Broadway
Jurisdiction	City of Los Angeles
Analysis Year	Future Pre-Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	8390 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	5	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1887	pc/h/ln
S	63.0	mi/h
D = v_p / S	29.9	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

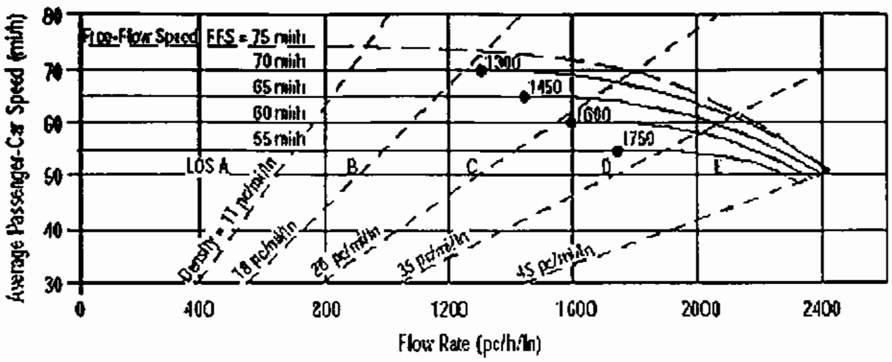
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/13/2004
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-5 Freeway Southbound
From/To	at North Broadway
Jurisdiction	City of Los Angeles
Analysis Year	Future Pre-Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	9860 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	5	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2217	pc/h/ln
S	56.6	mi/h
D = v_p / S	39.2	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

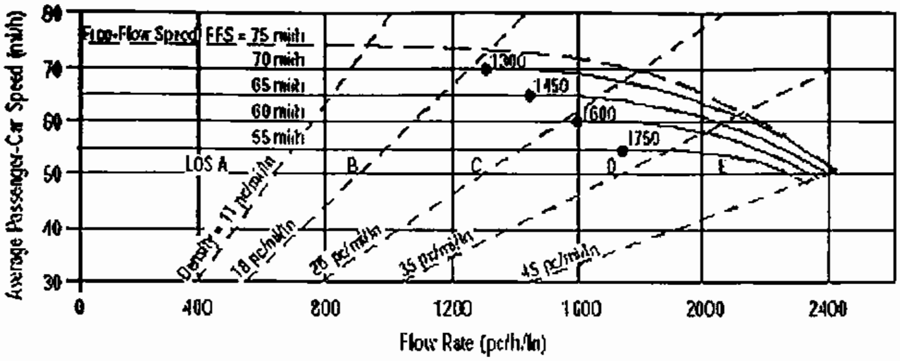
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/13/2004
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-5 Freeway Northbound
From/To	at North Broadway
Jurisdiction	City of Los Angeles
Analysis Year	Future Pre-Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	9460 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	5	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2127	pc/h/ln
S	58.9	mi/h
D = v_p / S	36.1	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

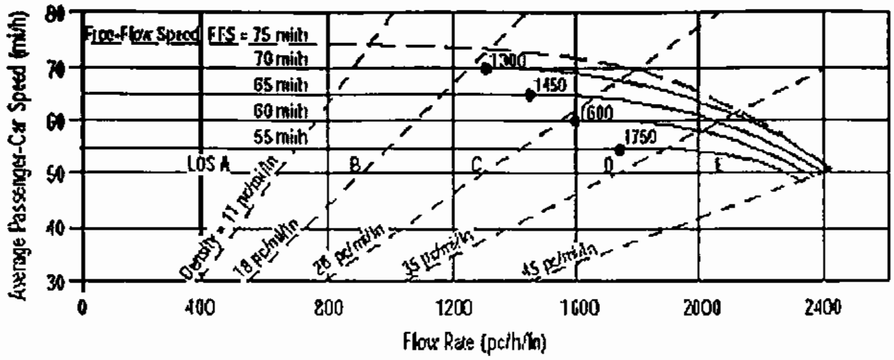
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/13/2004
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-5 Freeway Southbound
From/To	at North Broadway
Jurisdiction	City of Los Angeles
Analysis Year	Future Pre-Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	8810 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	5	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1981	pc/h/ln
S	61.8	mi/h
D = v_p / S	32.1	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

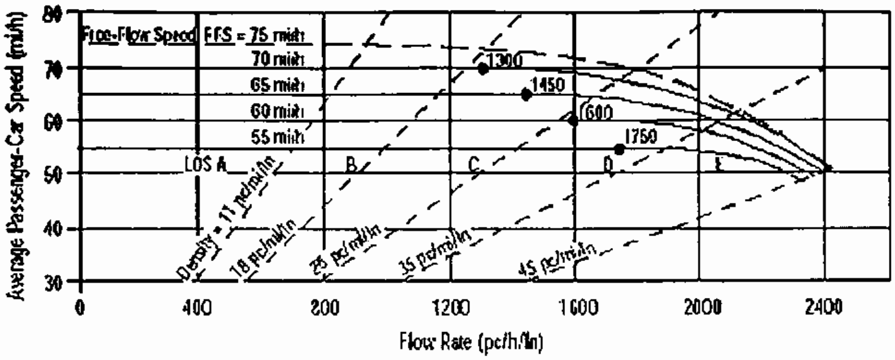
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/13/2004
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-5 Freeway Northbound
From/To	at Indiana Street
Jurisdiction	City of Los Angeles
Analysis Year	Future Pre-Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	10130 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	5	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2278	pc/h/ln
S	54.7	mi/h
D = v_p / S	41.6	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

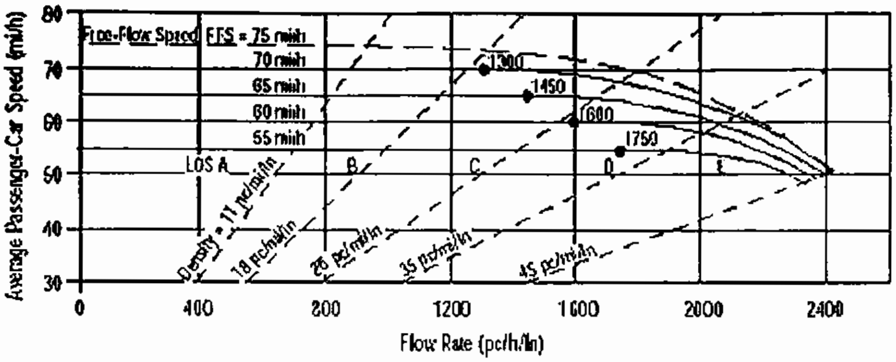
Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
DDHV - Directional design hour volume
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10
E_T - Exhibits 23-8, 23-10, 23-11
f_p - Page 23-12
LOS, S, FFS, v_p - Exhibits 23-2, 23-3
f_{LW} - Exhibit 23-4
f_{LC} - Exhibit 23-5
f_N - Exhibit 23-6
f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/13/2004
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-5 Freeway Southbound
From/To	at Indiana Street
Jurisdiction	City of Los Angeles
Analysis Year	Future Pre-Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	8080 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	5	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1817	pc/h/ln
S	63.8	mi/h
D = v_p / S	28.5	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

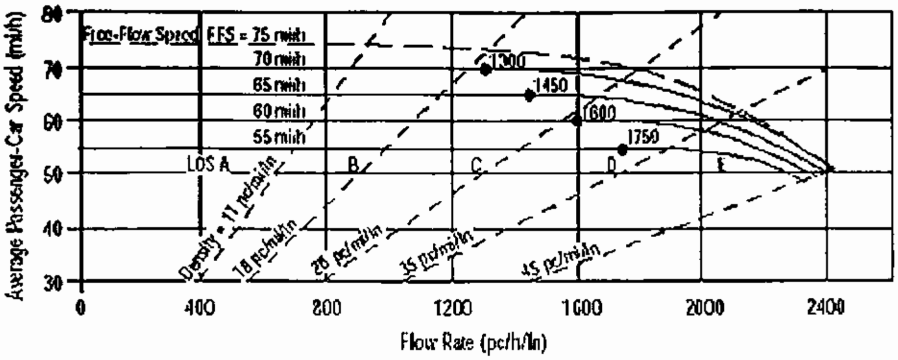
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/13/2004
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-5 Freeway Northbound
From/To	at Indiana Street
Jurisdiction	City of Los Angeles
Analysis Year	Future Pre-Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	8680 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	5	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1952	pc/h/ln
S	62.2	mi/h
D = v_p / S	31.4	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

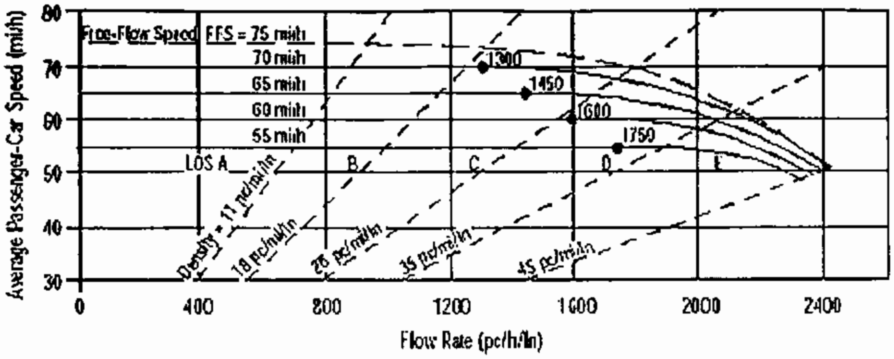
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		Site Information	
Analyst	KCJ	Highway/Direction of Travel	I-5 Freeway Southbound
Agency or Company	LLG Engineers	From/To	at Indiana Street
Date Performed	12/13/2004	Jurisdiction	City of Los Angeles
Analysis Time Period	PM Peak Hour	Analysis Year	Future Pre-Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	9590 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs			Calc Speed Adj and FFS		
Lane Width	12.0	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	6.0	ft	f_{LC}		mi/h
Interchange Density	0.50	I/mi	f_{ID}		mi/h
Number of Lanes, N	5		f_N		mi/h
FFS (measured)	65.0	mi/h	FFS	65.0	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2157	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	58.2	mi/h	S	mi/h
D = v_p / S	37.1	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	E		Required Number of Lanes, N	

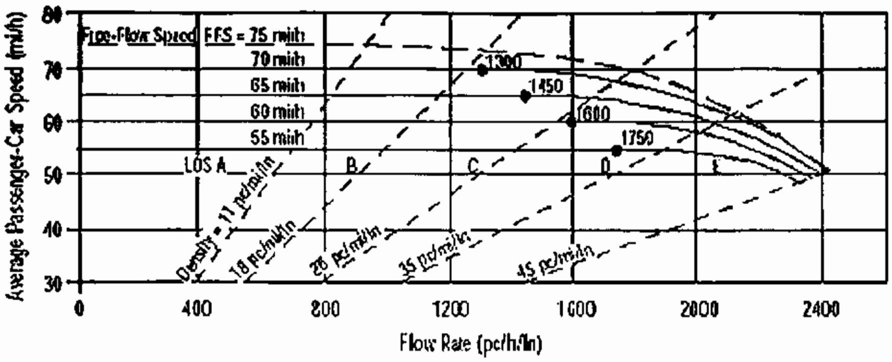
Glossary

- N - Number of lanes
- V - Hourly volume
- v_p - Flow rate
- LOS - Level of service
- DDHV - Directional design hour volume
- S - Speed
- D - Density
- FFS - Free-flow speed
- BFFS - Base free-flow speed

Factor Location

- E_R - Exhibits23-8, 23-10
- E_T - Exhibits 23-8, 23-10, 23-11
- f_p - Page 23-12
- LOS, S, FFS, v_p - Exhibits 23-2, 23-3
- f_{LW} - Exhibit 23-4
- f_{LC} - Exhibit 23-5
- f_N - Exhibit 23-6
- f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/13/2004
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-10 Freeway Eastbound
From/To	at Sante Fe Avenue
Jurisdiction	City of Los Angeles
Analysis Year	Future Pre-Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	10740 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	6	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2013	pc/h/ln
S	61.2	mi/h
D = v_p / S	32.9	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

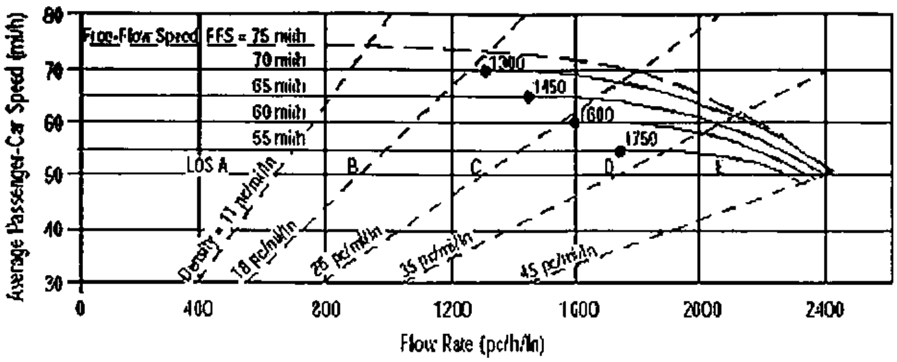
Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
DDHV - Directional design hour volume
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10
E_T - Exhibits 23-8, 23-10, 23-11
f_p - Page 23-12
LOS, S, FFS, v_p - Exhibits 23-2, 23-3
f_{LW} - Exhibit 23-4
f_{LC} - Exhibit 23-5
f_N - Exhibit 23-6
f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/13/2004
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-10 Freeway Westbound
From/To	at Sante Fe Avenue
Jurisdiction	City of Los Angeles
Analysis Year	Future Pre-Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	8210 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	6	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1539	pc/h/ln
S	65.0	mi/h
D = v_p / S	23.7	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

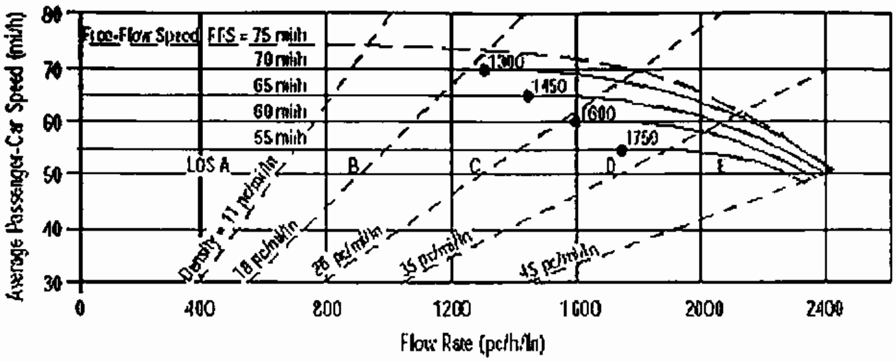
Glossary

N - Number of lanes
S - Speed
V - Hourly volume
D - Density
v_p - Flow rate
FFS - Free-flow speed
LOS - Level of service
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits23-8, 23-10
f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11
f_{LC} - Exhibit 23-5
f_p - Page 23-12
f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3
f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		Site Information	
Analyst	KCJ	Highway/Direction of Travel	I-10 Freeway Eastbound
Agency or Company	LLG Engineers	From/To	at Sante Fe Avenue
Date Performed	12/13/2004	Jurisdiction	City of Los Angeles
Analysis Time Period	PM Peak Hour	Analysis Year	Future Pre-Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	8860 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	6	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1660	pc/h/ln
S	64.7	mi/h
D = v_p / S	25.7	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

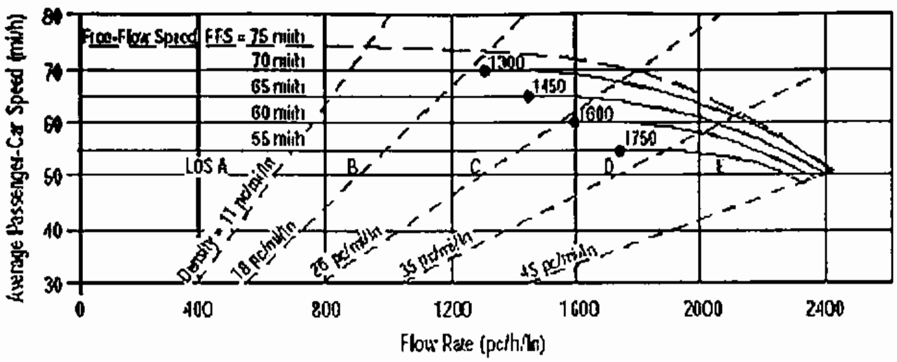
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/13/2004
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-10 Freeway Westbound
From/To	at Sante Fe Avenue
Jurisdiction	City of Los Angeles
Analysis Year	Future Pre-Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	11470 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	6	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2150	pc/h/ln
S	58.4	mi/h
D = v_p / S	36.8	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

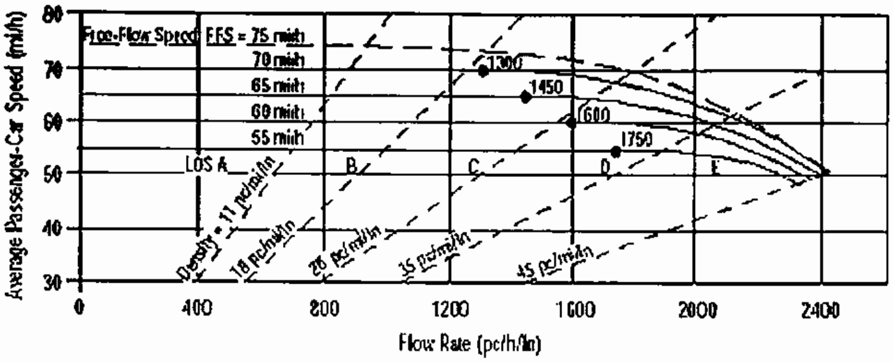
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/13/2004
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-10 Freeway Eastbound
From/To	at East LA City Limit
Jurisdiction	City of Los Angeles
Analysis Year	Future Pre-Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	7140 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	6	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1338	pc/h/ln
S	65.0	mi/h
D = v_p / S	20.6	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

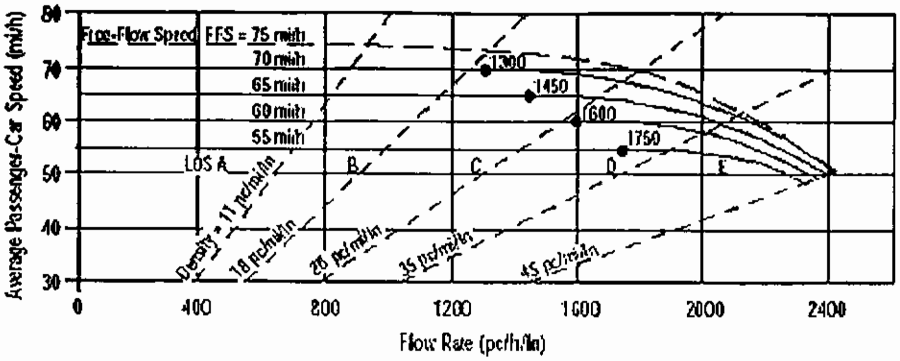
Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
DDHV - Directional design hour volume
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10
E_T - Exhibits 23-8, 23-10, 23-11
f_p - Page 23-12
LOS, S, FFS, v_p - Exhibits 23-2, 23-3
f_{LW} - Exhibit 23-4
f_{LC} - Exhibit 23-5
f_N - Exhibit 23-6
f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/13/2004
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-10 Freeway Westbound
From/To	at East LA City Limit
Jurisdiction	City of Los Angeles
Analysis Year	Future Pre-Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	11540 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	6	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2163	pc/h/ln
S	58.0	mi/h
D = v_p / S	37.3	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

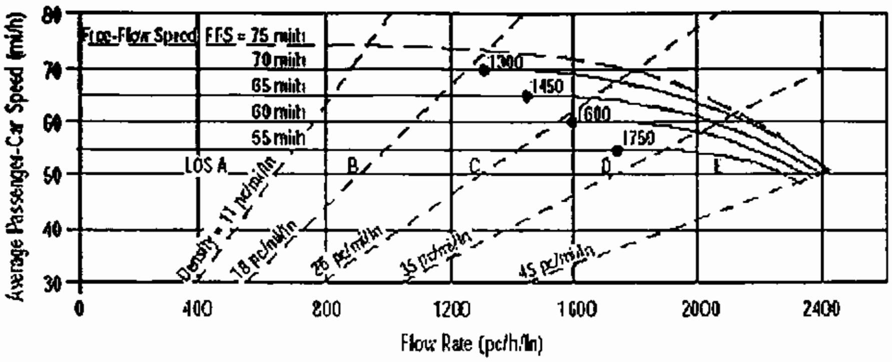
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/13/2004
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-10 Freeway Eastbound
From/To	at East LA City Limit
Jurisdiction	City of Los Angeles
Analysis Year	Future Pre-Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	11540 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	6	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2163	pc/h/ln
S	58.0	mi/h
D = v_p / S	37.3	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

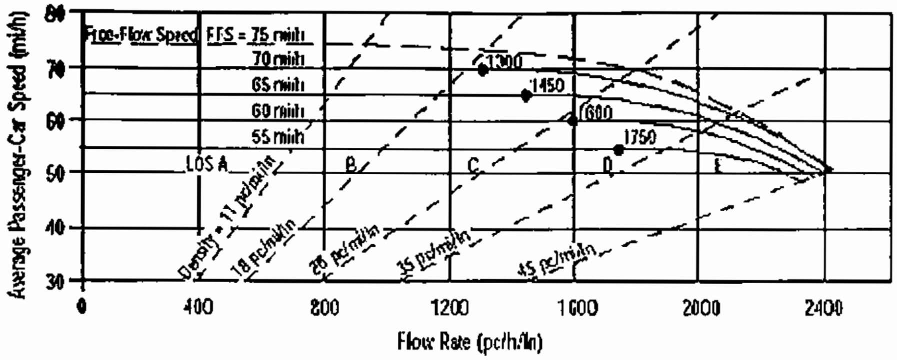
Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
DDHV - Directional design hour volume
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10
E_T - Exhibits 23-8, 23-10, 23-11
f_p - Page 23-12
LOS, S, FFS, v_p - Exhibits 23-2, 23-3
f_{LW} - Exhibit 23-4
f_{LC} - Exhibit 23-5
f_N - Exhibit 23-6
f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	KCJ	Highway/Direction of Travel	I-10 Freeway Westbound
Agency or Company	LLG Engineers	From/To	at East LA City Limit
Date Performed	12/13/2004	Jurisdiction	City of Los Angeles
Analysis Time Period	PM Peak Hour	Analysis Year	Future Pre-Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	8700 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	6	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1630	pc/h/ln
S	64.8	mi/h
D = v_p / S	25.2	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

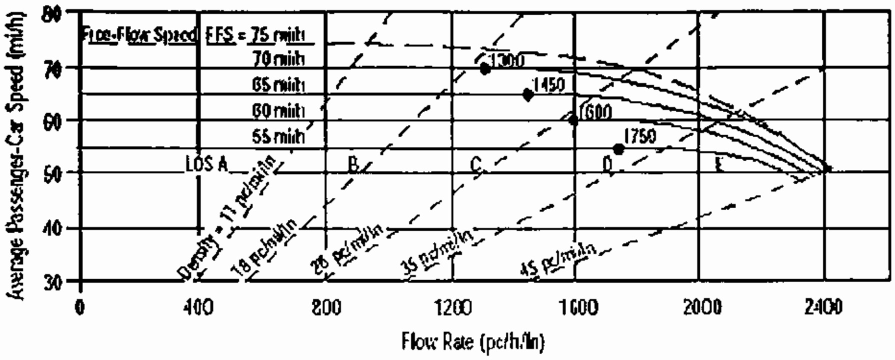
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/14/2004
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-5 Freeway Northbound
From/To	at North Broadway
Jurisdiction	City of Los Angeles
Analysis Year	Future With Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	8411 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	5	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1892	pc/h/ln
S	63.0	mi/h
D = v_p / S	30.0	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

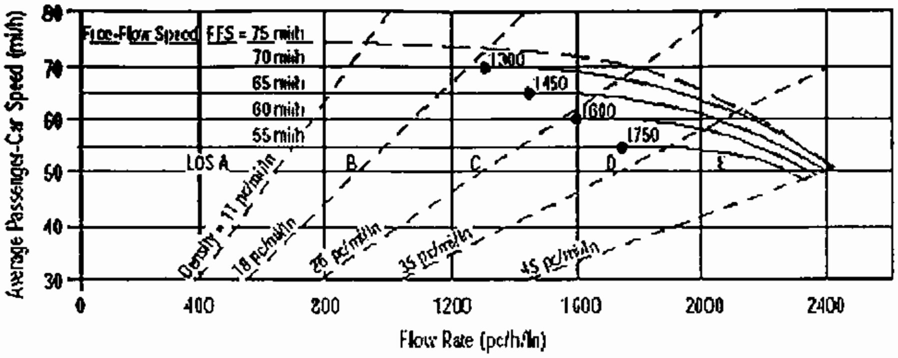
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/14/2004
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-5 Freeway Southbound
From/To	at North Broadway
Jurisdiction	City of Los Angeles
Analysis Year	Future With Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☑ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	9952 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	5	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2238	pc/h/ln
S	56.0	mi/h
D = v_p / S	40.0	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

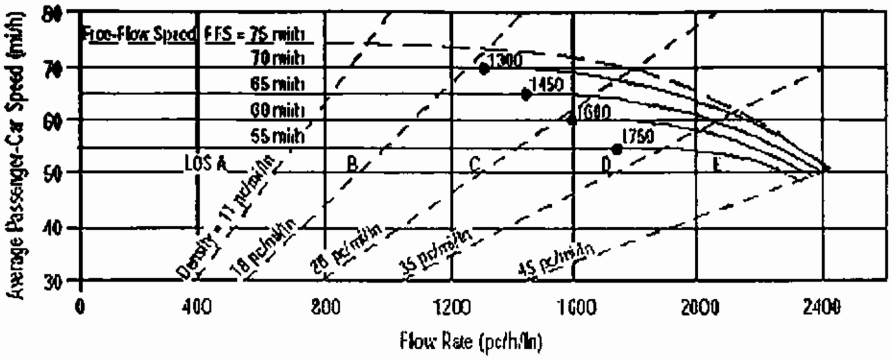
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/14/2004
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-5 Freeway Northbound
From/To	at North Broadway
Jurisdiction	City of Los Angeles
Analysis Year	Future With Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	9552 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	5	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2148	pc/h/ln
S	58.4	mi/h
D = v_p / S	36.8	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

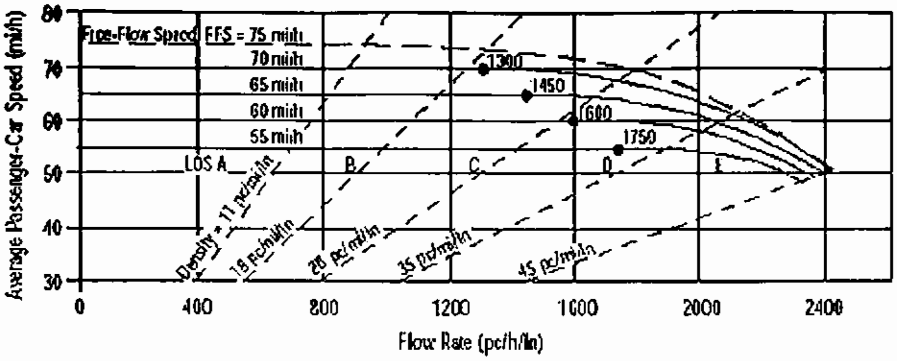
Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
DDHV - Directional design hour volume
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10
E_T - Exhibits 23-8, 23-10, 23-11
f_p - Page 23-12
LOS, S, FFS, v_p - Exhibits 23-2, 23-3
f_{LW} - Exhibit 23-4
f_{LC} - Exhibit 23-5
f_N - Exhibit 23-6
f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/14/2004
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-5 Freeway Southbound
From/To	at North Broadway
Jurisdiction	City of Los Angeles
Analysis Year	Future With Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	8834 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	5	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1987	pc/h/ln
S	61.7	mi/h
D = v_p / S	32.2	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

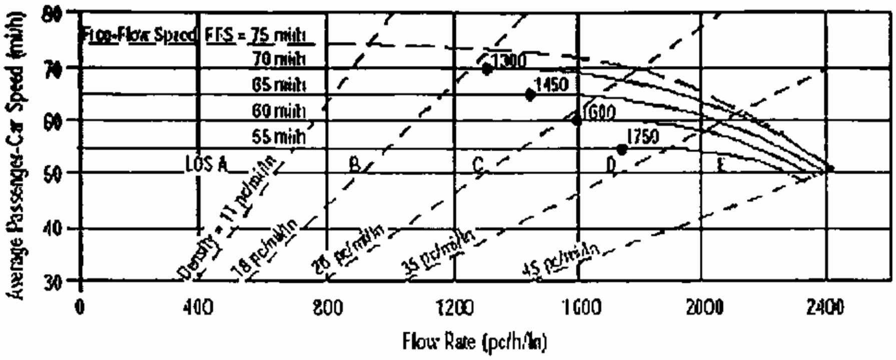
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	KCJ	Highway/Direction of Travel	I-5 Freeway Northbound
Agency or Company	LLG Engineers	From/To	at Indiana Street
Date Performed	12/14/2004	Jurisdiction	City of Los Angeles
Analysis Time Period	AM Peak Hour	Analysis Year	Future With Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	10151 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs / Calc Speed Adj and FFS

Lane Width	12.0	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	6.0	ft	f_{LC}		mi/h
Interchange Density	0.50	I/mi	f_{ID}		mi/h
Number of Lanes, N	5		f_N		mi/h
FFS (measured)	65.0	mi/h	FFS	65.0	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2283	pc/h/ln
S	54.6	mi/h
D = v_p / S	41.9	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

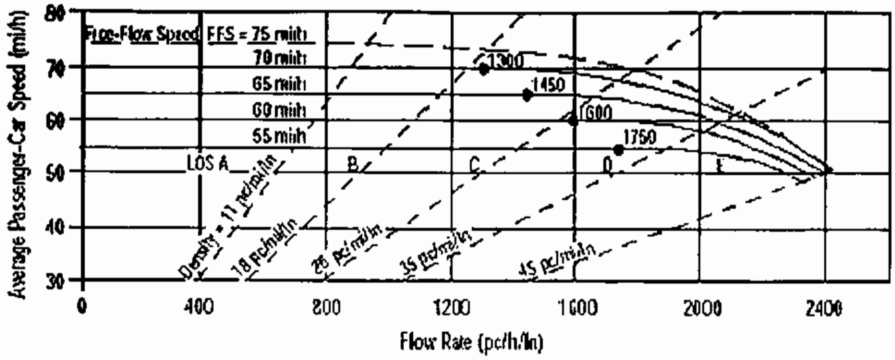
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

SIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/14/2004
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-5 Freeway Southbound
From/To	at Indiana Street
Jurisdiction	City of Los Angeles
Analysis Year	Future With Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	8172 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	5	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1838	pc/h/ln
S	63.6	mi/h
D = v_p / S	28.9	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

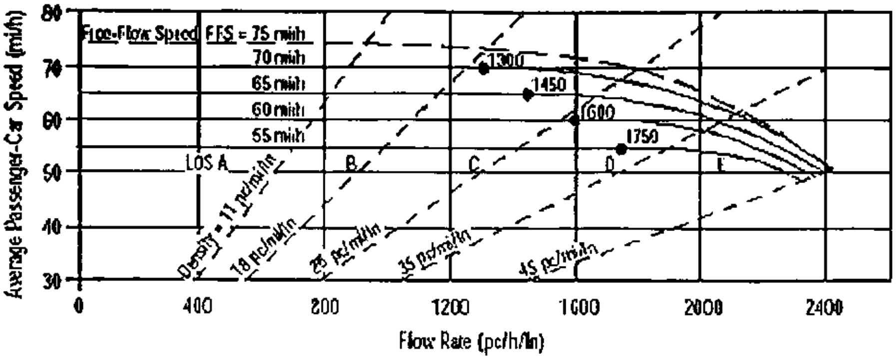
Glossary

N - Number of lanes
S - Speed
V - Hourly volume
D - Density
v_p - Flow rate
FFS - Free-flow speed
LOS - Level of service
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits23-8, 23-10
f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11
f_{LC} - Exhibit 23-5
f_p - Page 23-12
f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3
f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/14/2004
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-5 Freeway Northbound
From/To	at Indiana Street
Jurisdiction	City of Los Angeles
Analysis Year	Future With Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	8772 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	5	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1973	pc/h/ln
S	61.9	mi/h
D = v_p / S	31.9	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

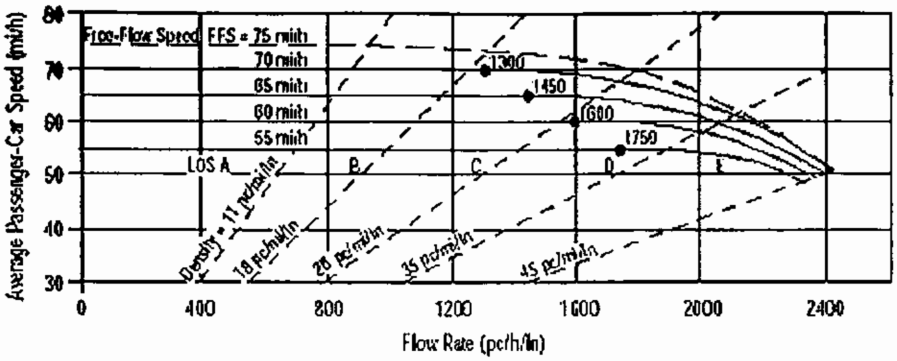
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/14/2004
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-5 Freeway Southbound
From/To	at Indiana Street
Jurisdiction	City of Los Angeles
Analysis Year	Future With Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	9614 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	5	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2162	pc/h/ln
S	58.1	mi/h
D = v_p / S	37.2	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

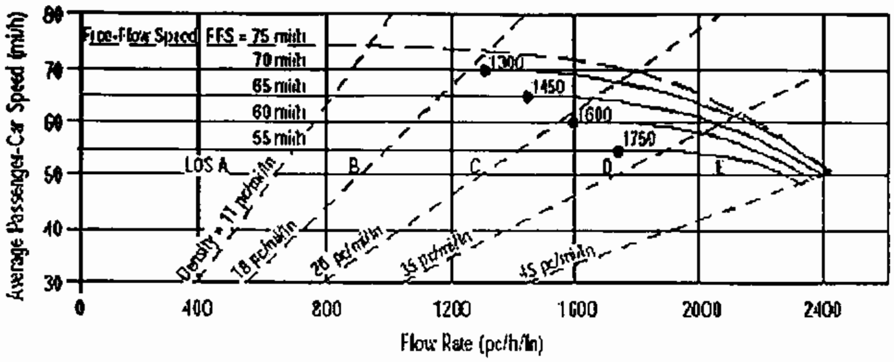
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/14/2004
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-10 Freeway Eastbound
From/To	at Sante Fe Avenue
Jurisdiction	City of Los Angeles
Analysis Year	Future With Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	10768 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	6	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2018	pc/h/ln
S	61.1	mi/h
D = v_p / S	33.0	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

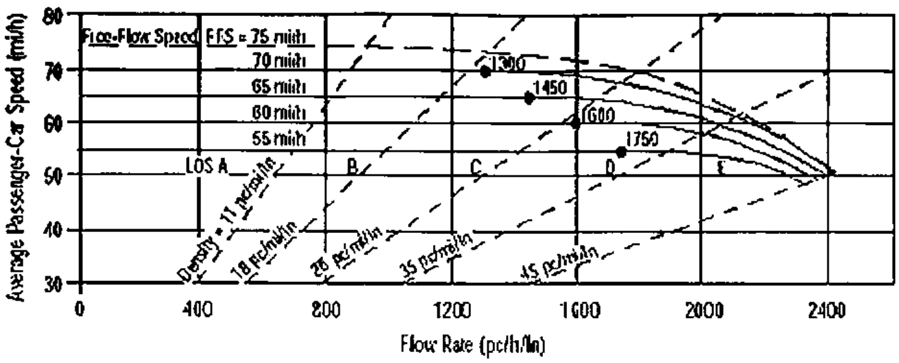
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/14/2004
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-10 Freeway Westbound
From/To	at Sante Fe Avenue
Jurisdiction	City of Los Angeles
Analysis Year	Future With Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	8333 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	6	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1562	pc/h/ln
S	64.9	mi/h
D = v_p / S	24.1	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

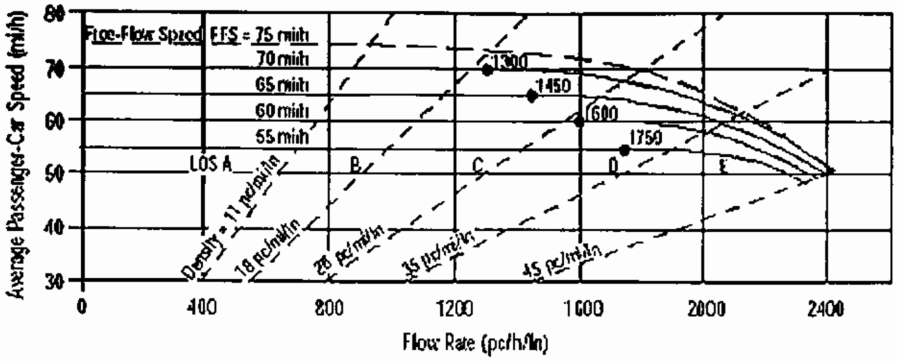
Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
DDHV - Directional design hour volume
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10
E_T - Exhibits 23-8, 23-10, 23-11
f_p - Page 23-12
LOS, S, FFS, v_p - Exhibits 23-2, 23-3
f_{LW} - Exhibit 23-4
f_{LC} - Exhibit 23-5
f_N - Exhibit 23-6
f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/14/2004
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-10 Freeway Eastbound
From/To	at Sante Fe Avenue
Jurisdiction	City of Los Angeles
Analysis Year	Future With Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	8983 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	6	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1683	pc/h/ln
S	64.6	mi/h
D = v_p / S	26.0	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

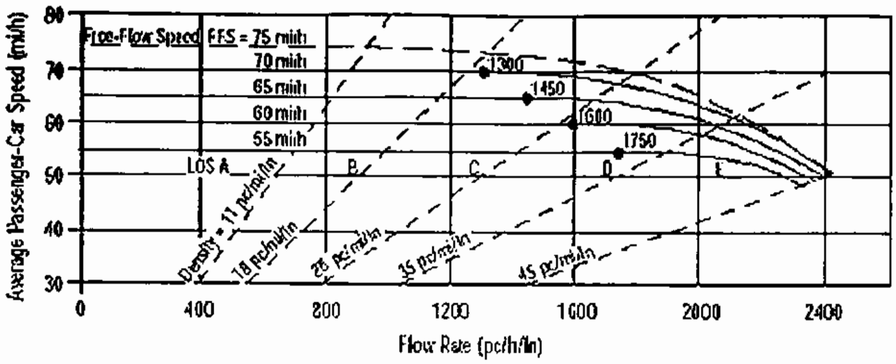
Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
DDHV - Directional design hour volume
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10
E_T - Exhibits 23-8, 23-10, 23-11
f_p - Page 23-12
LOS, S, FFS, v_p - Exhibits 23-2, 23-3
f_{LW} - Exhibit 23-4
f_{LC} - Exhibit 23-5
f_N - Exhibit 23-6
f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/14/2004
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-10 Freeway Westbound
From/To	at Sante Fe Avenue
Jurisdiction	City of Los Angeles
Analysis Year	Future With Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	11502 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	6	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2156	pc/h/ln
S	58.2	mi/h
D = v_p / S	37.0	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

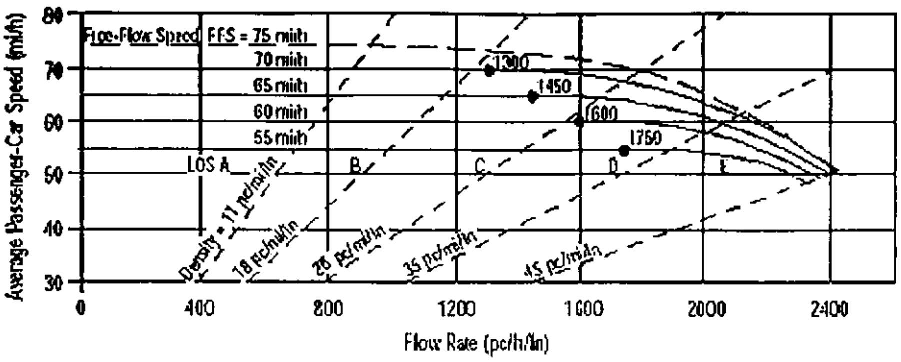
Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
DDHV - Directional design hour volume
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10
E_T - Exhibits 23-8, 23-10, 23-11
f_p - Page 23-12
LOS, S, FFS, v_p - Exhibits 23-2, 23-3
f_{LW} - Exhibit 23-4
f_{LC} - Exhibit 23-5
f_N - Exhibit 23-6
f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/14/2004
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-10 Freeway Eastbound
From/To	at East LA City Limit
Jurisdiction	City of Los Angeles
Analysis Year	Future With Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	7168 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	6	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1343	pc/h/ln
S	65.0	mi/h
D = v_p / S	20.7	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

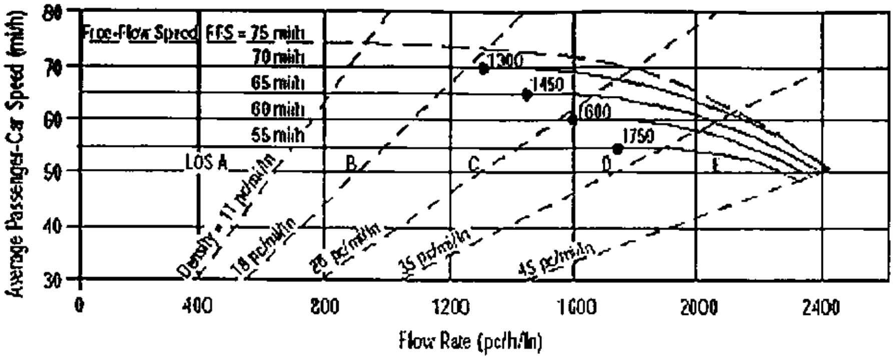
Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
DDHV - Directional design hour volume
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10
E_T - Exhibits 23-8, 23-10, 23-11
f_p - Page 23-12
LOS, S, FFS, v_p - Exhibits 23-2, 23-3
f_{LW} - Exhibit 23-4
f_{LC} - Exhibit 23-5
f_N - Exhibit 23-6
f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/14/2004
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-10 Freeway Westbound
From/To	at East LA City Limit
Jurisdiction	City of Los Angeles
Analysis Year	Future With Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	11663 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	6	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2186	pc/h/ln
S	57.4	mi/h
D = v_p / S	38.1	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

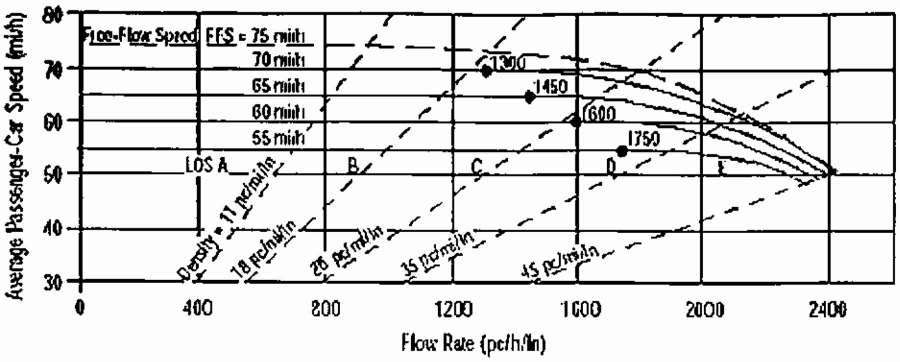
Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
DDHV - Directional design hour volume
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10
E_T - Exhibits 23-8, 23-10, 23-11
f_p - Page 23-12
LOS, S, FFS, v_p - Exhibits 23-2, 23-3
f_{LW} - Exhibit 23-4
f_{LC} - Exhibit 23-5
f_N - Exhibit 23-6
f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/14/2004
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-10 Freeway Eastbound
From/To	at East LA City Limit
Jurisdiction	City of Los Angeles
Analysis Year	Future With Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	11663 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T-1)+P_R(E_R-1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	6	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2186	pc/h/ln
S	57.4	mi/h
D = v_p / S	38.1	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

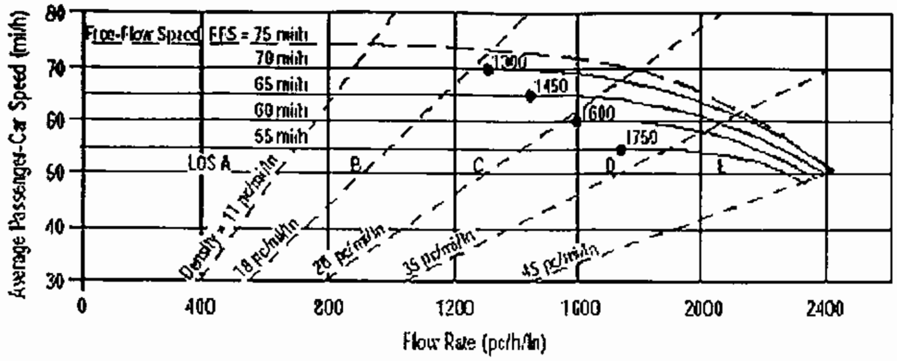
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KCJ
Agency or Company	LLG Engineers
Date Performed	12/14/2004
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-10 Freeway Westbound
From/To	at East LA City Limit
Jurisdiction	City of Los Angeles
Analysis Year	Future With Project Conditions

Project Description USC Health Sciences Campus Project / 1-023250-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	8732 veh/h	Peak-Hour Factor, PHF	0.90
AADT	veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K		%RVs, P_R	1
Peak-Hr Direction Prop, D		General Terrain:	Level
DDHV = AADT x K x D	veh/h	Grade % Length	mi
Driver type adjustment	1.00	Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.988

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	I/mi
Number of Lanes, N	6	
FFS (measured)	65.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	65.0	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1636	pc/h/ln
S	64.8	mi/h
D = v_p / S	25.3	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
DDHV - Directional design hour volume
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10
E_T - Exhibits 23-8, 23-10, 23-11
f_p - Page 23-12
LOS, S, FFS, v_p - Exhibits 23-2, 23-3
f_{LW} - Exhibit 23-4
f_{LC} - Exhibit 23-5
f_N - Exhibit 23-6
f_{ID} - Exhibit 23-7

Appendix D
Air Quality Calculation Worksheets

USC Health Sciences Campus

Draft Environmental Impact Report

Air Quality Assessment Files

Provided by PCR Services Corporation

December 2004

D-1 Project Construction Emissions

D-2 SCAQMD Rule 403 (Fugitive Dust) Control Requirements

D-3 Project Operation Emissions

Appendix D-1

- Construction Emissions Inventory
  - Construction Equipment Inventory and Phasing Schedule Sheets (**Lots A through F**)
  - Regional Construction Emissions Spreadsheet (**Scenarios 1 through 4**)
  - Local Construction Emissions (**Scenarios 1 through 4**)
    - Contour Plots (Industrial Source Complex – Unmitigated & Mitigated)
      - Site Preparation Only
        - PM10 (24-hr)
        - NOx (1-hr)
        - CO (1-hr & 8-hr)
      - Construction Only
        - PM10 (24-hr)
        - NOx (1-hr)
        - CO (1-hr & 8-hr)
    - Industrial Source Complex Dispersion Modeling Outputs
      - PM10 (24-hr)
      - NOx (1-hr)
      - CO (1-hr & 8-hr)

Scenario 1 (A, C, D, G)

	Equipment	Number	Hours per Day	Trips per Day	Miles per Trip
Site A (465,000 ft^2)					
Site Preparation/Grading					
	Bulldozer	1	7.5	0	0
	2 C.Y. Excavator	1	7.5	0	0
	Tractor/Loader/Backhoe	1	7	0	0
	Haul Truck	0	0	74	0.05741842
	Water Truck	0	0	3	0.870375
Building					
	Forklifts	2	6	0	0
	Cranes	2	7.5	0	0
	Tractors/Loaders/Backhoes	3	6	0	0
	Generator Sets	2	7.5	0	0
	Electric Welders	3	7.5	0	0
	Haul truck	0	0	30	0.05741842
	Water truck	0	0	3	0.870375
Architectural Coatings					
	Pavers	1	6	0	0
	Paving Equipment	1	7.5	0	0
	Rollers	1	7	0	0
	Cement and Mortar Mixers	1	6	0	0
	Tractors/Loaders/Backhoes	1	7.5	0	0
	Haul truck	0	0	3	0.05741842
Site C (2800 Parking Spaces @ 300 ft^2 per space ~ 840,000 ft^2)					
Demolition					
	Concrete/Industrial Saws	1	7	0	0
	Rubber Tired Dozers	1	7.5	0	0
	Tractors/Loaders/Backhoes	2	7.5	0	0
	Pavement Breakers	2	8		
	Haul truck	0	0	19	0.075828754
Site Preparation					
	Rubber Tired Dozers	1	7.5	0	0
	Graders	1	7.5	0	0
	Tractors/Loaders/Backhoes	4	7.5	0	0
	Haul truck	0	0	11	0.1
	Water truck	0	0	3	5.6
Site Preparation/Grading					
	Bulldozer	1	7.5	0	0
	2 C.Y. Excavator	1	7.5	0	0
	Tractor/Loader/Backhoe	3	7.5	0	0
	Haul Truck	0	0	96	0.075828754
	Water Truck	0	0	3	1.518
Building					
	Forklifts	2	6	0	0
	Cranes	2	7.5	0	0
	Tractors/Loaders/Backhoes	3	6	0	0
	Generator Sets	3	7.5	0	0
	Electric Welders	3	7.5	0	0
	Haul truck	0	0	30	0.075828754
	Water truck	0	0	3	1.518

Site D (200,000 ft^2)

Demolition					
	Concrete/Industrial Saws	1	4	0	0
	Rubber Tired Dozers	1	5	0	0
	Tractors/Loaders/Backhoes	1	7.5	0	0
	Pavement Breakers	1	7.5		
	Haul truck	0	0	4	0.034686092
Site Preparation					
	Rubber Tired Dozers	1	7.5	0	0
	Graders	1	7.5	0	0
	Tractors/Loaders/Backhoes	0	0	6	0.1
	Haul truck	0	0	3	1.3
	Water truck	0	0	0	0
Site Preparation/Grading					
	Bulldozer	1	6	0	0
	2 C.Y. Excavator	1	6	0	0
	Tractor/Loader/Backhoe	1	7	0	0
	Haul Truck	0	0	40	0.034686092
	Water Truck	0	0	3	0.317625
Building					
	Forklifts	2	6	0	0
	Cranes	2	7.5	0	0
	Tractors/Loaders/Backhoes	3	6	0	0
	Generator Sets	2	7.5	0	0
	Electric Welders	3	7.5	0	0
	Haul truck	0	0	30	0.034686092
	Water truck	0	0	3	0.317625
Architectural Coatings					
	Pavers	1	6	0	0
	Paving Equipment	1	7.5	0	0
	Rollers	1	7	0	0
	Cement and Mortar Mixers	1	6	0	0
	Tractors/Loaders/Backhoes	1	7.5	0	0
	Haul truck	0	0	3	0.034686092

Site G (100,000 ft^2)

Demolition					
	Concrete/Industrial Saws	1	7	0	0
	Rubber Tired Dozers	1	7.5	0	0
	Tractors/Loaders/Backhoes	2	7.5	0	0
	Pavement Breakers	2	7.5		
	Haul truck	0	0	10	0.079056942
Site Preparation					
	Rubber Tired Dozers	1	7.5	0	0
	2 C.Y. Excavator	1	7.5	0	0
	Tractors/Loaders/Backhoes	4	7.5	0	0
	Haul truck	0	0	11	0.1
	Water truck	0	0	3	5.6
Site Preparation/Grading					
	Rubber Tired Dozers	1	7.5	0	0
	2 C.Y. Excavator	2	7.5	0	0
	Tractors/Loaders/Backhoes	3	7.5	0	0
	Haul truck	0	0	105	0.079056942
	Water truck	0	0	3	1.65
Building					
	Cranes	2	6	0	0
	Forklifts	2	7.5	0	0
	Tractors/Loaders/Backhoes	3	6	0	0
	Generator Sets	2	7.5	0	0
	Electric Welders	3	7.5	0	0
	Haul truck	0	0	30	0.079056942
	Water truck	0	0	3	1.65
Architectural Coatings					
	Pavers	1	6	0	0
	Rollers	1	7.5	0	0
	Paving Equipment	1	7	0	0
	Cement and Mortar Mixers	1	6	0	0
	Tractors/Loaders/Backhoes	1	7.5	0	0
	Haul truck	0	0	3	0.079056942

Scenario 2 (E, F, B)

	Equipment	Number	Hours per Day	Trips per Day	Miles per Trip
Site E (365,000 ft^2)					
Demolition					
	Concrete/Industrial Saws	1	7	0	0
	Rubber Tired Dozers	1	7.5	0	0
	Tractors/Loaders/Backhoes	2	7.5	0	0
	Pavement Breakers	2	8		
	Haul truck	0	0	27	0.109258867
Site Preparation					
	Rubber Tired Dozers	1	7.5	0	0
	2 C.Y. Excavator	1	7.5	0	0
	Tractors/Loaders/Backhoes	4	7.5	0	0
	Haul truck	0	0	12	0.1
	Water truck	0	0	3	6.4
Site Preparation/Grading					
	Rubber Tired Dozers	1	7.5	0	0
	2 C.Y. Excavator	3	7.5	0	0
	Tractors/Loaders/Backhoes	3	7.5	0	0
	Haul truck	0	0	200	0.109258867
	Water truck	0	0	3	3.1515
Building					
	Cranes	2	6	0	0
	Forklifts	2	7.5	0	0
	Tractors/Loaders/Backhoes	3	6	0	0
	Generator Sets	2	7.5	0	0
	Electric Welders	3	7.5	0	0
	Haul truck	0	0	30	0.109258867
	Water truck	0	0	3	3.1515
Architectural Coatings					
	Pavers	1	6	0	0
	Rollers	1	7.5	0	0
	Paving Equipment	1	7	0	0
	Cement and Mortar Mixers	1	6	0	0
	Tractors/Loaders/Backhoes	1	7.5	0	0
	Haul truck	0	0	3	0.109258867
Site F (300,000 ft^2)					
Site Preparation/Grading					
	Rubber Tired Dozers	1	7.5	0	0
	2 C.Y. Excavator	1	7.5	0	0
	Tractors/Loaders/Backhoes	2	7	0	0
	Haul truck	0	0	93	0.064347688
	Water truck	0	0	3	1.093125
Building					
	Cranes	2	6	0	0
	Forklifts	2	7.5	0	0
	Tractors/Loaders/Backhoes	3	6	0	0
	Generator Sets	2	7.5	0	0
	Electric Welders	3	7.5	0	0
	Haul truck	0	0	30	0.1
	Water truck	0	0	3	1.093125
Architectural Coatings					
	Pavers	1	6	0	0
	Rollers	1	7.5	0	0
	Paving Equipment	1	7	0	0
	Cement and Mortar Mixers	1	6	0	0
	Tractors/Loaders/Backhoes	1	7.5	0	0
	Haul truck	0	0	3	0.1

Site B (100,000 ft^2 + 307,000 ft^2 Parking (~1,025 spaces)) @ 300 ft^2 per space					
Site Preparation/Grading					
	Bulldozer	1	6	0	0
	2 C.Y. Excavator	1	6	0	0
	Tractor/Loader/Backhoe	1	7	0	0
	Haul Truck	0	0	59	0.042019341
	Water Truck	0	0	3	0.466125
Building					
	Forklifts	1	6	0	0
	Cranes	1	7.5	0	0
	Tractors/Loaders/Backhoes	2	6	0	0
	Generator Sets	2	7.5	0	0
	Electric Welders	3	7.5	0	0
	Haul truck	0	0	30	0.042019341
	Water truck	0	0	3	0.466125
Site C (533,000 ft^2 Parking (~1,775 spaces)) @ 300 ft^2 per space					
Demolition					
	Concrete/Industrial Saws	1	7	0	0
	Rubber Tired Dozers	1	7.5	0	0
	Tractors/Loaders/Backhoes	2	7.5	0	0
	Pavement Breakers	2	8		
	Haul truck	0	0	19	0.075828754
Site Preparation					
	Rubber Tired Dozers	1	7.5	0	0
	Graders	1	7.5	0	0
	Tractors/Loaders/Backhoes	2	7.5	0	0
	Haul truck	0	0	11	0.1
	Water truck	0	0	3	5.6
Site Preparation/Grading					
	Bulldozer	1	7.5	0	0
	2 C.Y. Excavator	1	7.5	0	0
	Tractor/Loader/Backhoe	2	7.5	0	0
	Haul Truck	0	0	96	0.075828754
	Water Truck	0	0	3	1.518
Building					
	Forklifts	1	6	0	0
	Cranes	1	8	0	0
	Tractors/Loaders/Backhoes	2	6	0	0
	Generator Sets	2	8	0	0
	Electric Welders	2	8	0	0
	Haul truck	0	0	30	0.075828754
	Water truck	0	0	3	1.518

Scenario 3 (B, G, A, D, C)

	Equipment	Number	Hours per Day	Trips per Day	Miles per Trip
Site B (407,000 ft^2)					
Site Preparation/Grading					
	Bulldozer	1	6	0	0
	2 C.Y. Excavator	1	6	0	0
	Tractor/Loader/Backhoe	1	7	0	0
	Haul Truck	0	0	59	0.042019341
	Water Truck	0	0	3	0.466125
Building					
	Forklifts	2	6	0	0
	Cranes	2	7.5	0	0
	Tractors/Loaders/Backhoes	3	6	0	0
	Generator Sets	2	7.5	0	0
	Electric Welders	3	7.5	0	0
	Haul truck	0	0	30	0.042019341
	Water truck	0	0	3	0.466125
Architectural Coatings					
	Pavers	1	6	0	0
	Paving Equipment	1	8	0	0
	Rollers	1	7	0	0
	Cement and Mortar Mixers	1	6	0	0
	Tractors/Loaders/Backhoes	1	8		
	Haul truck	0	0	3	0.042019341
Site G (100,000 ft^2)					
Demolition					
	Concrete/Industrial Saws	1	7	0	0
	Rubber Tired Dozers	1	7.5	0	0
	Tractors/Loaders/Backhoes	2	7.5	0	0
	Pavement Breakers	2	8		
	Haul truck	0	0	10	0.079056942
Site Preparation					
	Rubber Tired Dozers	1	7.5	0	0
	2 C.Y. Excavator	1	7.5	0	0
	Tractors/Loaders/Backhoes	4	7.5	0	0
	Haul truck	0	0	11	0.1
	Water truck	0	0	3	5.6
Site Preparation/Grading					
	Rubber Tired Dozers	1	7.5	0	0
	2 C.Y. Excavator	2	7.5	0	0
	Tractors/Loaders/Backhoes	3	7.5	0	0
	Haul truck	0	0	105	0.079056942
	Water truck	0	0	3	1.65
Building					
	Cranes	2	6	0	0
	Forklifts	2	7.5	0	0
	Tractors/Loaders/Backhoes	3	6	0	0
	Generator Sets	2	7.5	0	0
	Electric Welders	3	7.5	0	0
	Haul truck	0	0	30	0.079056942
	Water truck	0	0	3	1.65
Architectural Coatings					
	Pavers	1	6	0	0
	Rollers	1	7.5	0	0
	Paving Equipment	1	7	0	0
	Cement and Mortar Mixers	1	6	0	0
	Tractors/Loaders/Backhoes	1	7.5	0	0
	Haul truck	0	0	3	0.079056942

Site A (258,000 ft^2)					
Site Preparation/Grading					
	Bulldozer	1	7.5	0	0
	2 C.Y. Excavator	1	7.5	0	0
	Tractor/Loader/Backhoe	1	7	0	0
	Haul Truck	0	0	74	0.05741842
	Water Truck	0	0	3	0.870375
Building					
	Forklifts	1	6	0	0
	Cranes	1	7.5	0	0
	Tractors/Loaders/Backhoes	2	6	0	0
	Generator Sets	1	7.5	0	0
	Electric Welders	2	7.5	0	0
	Haul truck	0	0	30	0.05741842
	Water truck	0	0	3	0.870375
Architectural Coatings					
	Pavers	1	6	0	0
	Paving Equipment	1	7.5	0	0
	Rollers	1	7	0	0
	Cement and Mortar Mixers	1	6	0	0
	Tractors/Loaders/Backhoes	1	7.5	0	0
	Haul truck	0	0	3	0.05741842
Site D (1,266 parking spaces @ 300 ft^2 per space ~ 380,000 ft^2)					
Demolition					
	Concrete/Industrial Saws	1	4	0	0
	Rubber Tired Dozers	1	5	0	0
	Tractors/Loaders/Backhoes	1	7.5	0	0
	Pavement Breakers	1	8		
	Haul truck	0	0	4	0.034686092
Site Preparation					
	Rubber Tired Dozers	1	7.5	0	0
	Graders	1	7.5	0	0
	Tractors/Loaders/Backhoes	0	0	6	0.1
	Haul truck	0	0	3	1.3
	Water truck	0	0	0	0
Site Preparation/Grading					
	Bulldozer	1	6	0	0
	2 C.Y. Excavator	1	6	0	0
	Tractor/Loader/Backhoe	1	7	0	0
	Haul Truck	0	0	40	0.034686092
	Water Truck	0	0	3	0.317625
Building					
	Forklifts	2	6	0	0
	Cranes	2	7.5	0	0
	Tractors/Loaders/Backhoes	3	6	0	0
	Generator Sets	2	7.5	0	0
	Electric Welders	3	7.5	0	0
	Haul truck	0	0	30	0.034686092
	Water truck	0	0	3	0.317625

Site C (1,534 parking spaces @ 300 ft^2 per space ~ 460,200 ft^2)					
Demolition					
	Concrete/Industrial Saws	1	7	0	0
	Rubber Tired Dozers	1	7.5	0	0
	Tractors/Loaders/Backhoes	2	7.5	0	0
	Pavement Breakers	2	8		
	Haul truck	0	0	19	0.075828754
Site Preparation					
	Rubber Tired Dozers	1	7.5	0	0
	Graders	1	7.5	0	0
	Tractors/Loaders/Backhoes	4	7.5	0	0
	Haul truck	0	0	11	0.1
	Water truck	0	0	3	5.6
Site Preparation/Grading					
	Bulldozer	1	7.5	0	0
	2 C.Y. Excavator	1	7.5	0	0
	Tractor/Loader/Backhoe	3	7.5	0	0
	Haul Truck	0	0	96	0.075828754
	Water Truck	0	0	3	1.518
Building					
	Forklifts	1	6	0	0
	Cranes	1	8	0	0
	Tractors/Loaders/Backhoes	2	6	0	0
	Generator Sets	2	8	0	0
	Electric Welders	2	8	0	0
	Haul truck	0	0	30	0.075828754
	Water truck	0	0	3	1.518

Lot A (465,000 ft2)	Units	Hours per Day	HP	Load	Trip Length	Year	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2007
						Month	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1
Site Preparation																															
Bulldozer	Number	8	352	0.59			1	1	1	1																					
2 C.Y. Excavator	Number	8	180	0.58			1	1	1	1																					
Tractor/Loader/Backhoe	Number	8	79	0.465			1	1	1	1																					
Haul Trucks	Trips	3	-	-	0.1		74	74	74	74																					
Water Truck	Trips	3	-	-	0.87		3	3	3	3																					
	Number																														
	Number																														
Construction																															
Forklifts	Number	8	94	0.475							2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Cranes	Number	4	190	0.43							2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Tractors/Loaders/Backhoes	Number	8	79	0.465							3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Generator Sets	Number	8	50	0.62							2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Electric Welders	Number	8									3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Haul Trucks	Trips	3	-	-	0.1						30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Water Trucks	Trips	3	-	-	0.87						3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Number																														
	Number																														
	Number																														
Architectural Coatings and Asphalt Paving																															
Pavers	Number	8	132	0.59																											
Paving Equipment	Number	8	111	0.53																											
Rollers	Number	8	114	0.43																											
Cement and Mortar Mixers	Number	8	190	0.62																											
Tractors/Loaders/Backhoes	Number	8	79	0.465																											
Haul Trucks	Trips	3	-	-	0.1																										
Total Off-Site Haul Trucks	Trips	3	-	-	20		74	74	74	74	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Worker Trips (Phase 1 and 2) - Total Miles							86.25	86.25	86.25	86.25	345	345	345	345	345	345	345	345	345	345	345	345	345	345	345	345	345	345	345	345	345
Worker Trips (Phase 3) - Building Square Footage											465000	465000	465000	465000	465000	465000	465000	465000	465000	465000	465000	465000	465000	465000	465000	465000	465000	465000	465000	465000	465000
Architectural Coatings Building Square Footage																															
Asphalt (acres)																															
Fugitive Dust (acres)							1.06	1.06	1.06	1.06																					

Lot C (2800 Parking Spaces)	Units	Hours per Day	HP	Load	Trip Length	Year	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2007
						Month	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1
Site Preparation																															
Bulldozer	Number	8	352	0.59					1	1	1	1																			
2 C.Y. Excavator	Number	8	180	0.58					1	1	1	1																			
Tractor/Loader/Backhoe	Number	8	79	0.465					3	4	4	4																			
Haul Trucks	Trips	3	-	-	0.075828754				96	11	11	11																			
Water Truck	Trips	3	-	-	1.518				3	3	3	3																			
	Number																														
	Number																														
Construction																															
Forklifts	Number	8	94	0.475									2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Cranes	Number	4	190	0.43									2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Tractors/Loaders/Backhoes	Number	8	79	0.465									3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Generator Sets	Number	8	50	0.62									3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Electric Welders	Number	8											3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Haul Trucks	Trips	3	-	-	0.075828754								30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Water Trucks	Trips	3	-	-	1.518								3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Number																														
	Number																														
	Number																														
Architectural Coatings and Asphalt Paving																															
Pavers	Number	8	132	0.59																											
Paving Equipment	Number	8	111	0.53																											
Rollers	Number	8	114	0.43																											
Cement and Mortar Mixers	Number	8	190	0.62																											
Tractors/Loaders/Backhoes	Number	8	79	0.465																											
Haul Trucks	Trips	3	-	-	0.1																										
Total Off-Site Haul Trucks	Trips	3	-	-	20		19	19	96	11	11	11	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Worker Trips (Phase 1 and 2) - Total Miles							172.5	172.5	143.75	172.5	172.5	172.5																			
Worker Trips (Phase 3) - Building Square Footage													840000	840000	840000	840000	840000	840000	840000	840000	840000	840000	840000	840000	840000	840000	840000	840000	840000	840000	840000
Architectural Coatings Building Square Footage																															
Asphalt (acres)																															
Fugitive Dust (acres)									1.84	1.84	1.84	1.84																			

Lot A (465,000 ft2)						2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008
	Units	Hours per Day	HP	Load	Trip Length	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Site Preparation																												
Bulldozer	Number	8	352	0.59																								
2 C.Y. Excavator	Number	8	180	0.58																								
Tractor/Loader/Backhoe	Number	8	79	0.465																								
Haul Trucks	Trips	3	-	-	0.1																							
Water Truck	Trips	3	-	-	0.87																							
	Number																											
	Number																											
Construction																												
Forklifts	Number	8	94	0.475		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Cranes	Number	4	190	0.43		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Tractors/Loaders/Backhoes	Number	8	79	0.465		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Generator Sets	Number	8	50	0.62		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Electric Welders	Number	8				3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Haul Trucks	Trips	3	-	-	0.1	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Water Trucks	Trips	3	-	-	0.87	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Number																											
	Number																											
	Number																											
Architectural Coatings and Asphalt Paving																												
Pavers	Number	8	132	0.59																					1	1	1	1
Paving Equipment	Number	8	111	0.53																					1	1	1	1
Rollers	Number	8	114	0.43																					1	1	1	1
Cement and Mortar Mixers	Number	8	190	0.62																					1	1	1	1
Tractors/Loaders/Backhoes	Number	8	79	0.465																					1	1	1	1
Haul Trucks	Trips	3	-	-	0.1																				3	3	3	3
Total Off-Site Haul Trucks	Trips	3	-	-	20	30	33	33	33	33	30	30	30	30	30	30	30	30	30	30	30	30	30	30	33	33	33	33
Worker Trips (Phase 1 and 2) - Total Miles						345	345	345	345	345	345	345	345															
Worker Trips (Phase 3) - Building Square Footage						465000	465000	465000	465000	465000	465000	465000	465000	465000	465000	465000	465000	465000	465000	465000	465000	465000	465000	465000	465000	465000	465000	465000
Architectural Coatings Building Square Footage																									116250	116250	116250	116250
Asphalt (acres)							0.5	0.5	0.5	0.5																		
Fugitive Dust (acres)																												

Lot C (2800 Parking Spaces)						2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008
	Units	Hours per Day	HP	Load	Trip Length	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Site Preparation																												
Bulldozer	Number	8	352	0.59																								
2 C.Y. Excavator	Number	8	180	0.58																								
Tractor/Loader/Backhoe	Number	8	79	0.465																								
Haul Trucks	Trips	3	-	-	0.075828754																							
Water Truck	Trips	3	-	-	1.518																							
	Number																											
	Number																											
Construction																												
Forklifts	Number	8	94	0.475		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Cranes	Number	4	190	0.43		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Tractors/Loaders/Backhoes	Number	8	79	0.465		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Generator Sets	Number	8	50	0.62		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Electric Welders	Number	8				3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Haul Trucks	Trips	3	-	-	0.075828754	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Water Trucks	Trips	3	-	-	1.518	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Number																											
	Number																											
	Number																											
Architectural Coatings and Asphalt Paving																												
Pavers	Number	8	132	0.59																								
Paving Equipment	Number	8	111	0.53																								
Rollers	Number	8	114	0.43																								
Cement and Mortar Mixers	Number	8	190	0.62																								
Tractors/Loaders/Backhoes	Number	8	79	0.465																								
Haul Trucks	Trips	3	-	-	0.1																							
Total Off-Site Haul Trucks	Trips	3	-	-	20	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Worker Trips (Phase 1 and 2) - Total Miles																												
Worker Trips (Phase 3) - Building Square Footage						840000	840000	840000	840000	840000	840000	840000	840000	840000	840000	840000	840000	840000	840000	840000	840000	840000	840000	840000	840000	840000	840000	840000
Architectural Coatings Building Square Footage																												
Asphalt (acres)																												
Fugitive Dust (acres)																												

Lot D (200,000 ft2)						Year	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2007
Demolition	**Units**	**Hours per Day**	**HP**	**Load**	**Trip Length**	**Month**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**
Concrete/Industrial Saws	Number	8	84	0.73			1	1																							
Rubber Tired Dozers	Number	8	352	0.59			1	1																							
Tractors/Loaders/Backhoes	Number	8	79	0.465			1	1																							
Pavement Breakers	Number	8	111	0.53			1	1																							
Haul Trucks	Trips	3	-	-	0.034686092		4	4																							
Site Preparation																															
Bulldozer	Number	8	352	0.59					1	1	1	1																			
2 C.Y. Excavator	Number	8	180	0.58					1	1	1	1																			
Tractor/Loader/Backhoe	Number	8	79	0.465					1	1	1	1																			
Haul Trucks	Trips	3	-	-	0.034686092				40	40	40	40																			
Water Truck	Trips	3	-	-	0.317625				3	3	3	3																			
	Number																														
	Number																														
Construction																															
Forklifts	Number	8	94	0.475									2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Cranes	Number	4	190	0.43									2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Tractors/Loaders/Backhoes	Number	8	79	0.465									3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Generator Sets	Number	8	50	0.62									2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Electric Welders	Number	8											3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Haul Trucks	Trips	3	-	-	0.1								30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Water Trucks	Trips	3	-	-	1.5								3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Number																														
	Number																														
	Number																														
Architectural Coatings and Asphalt Paving																															
Pavers	Number	8	132	0.59																											
Paving Equipment	Number	8	111	0.53																											
Rollers	Number	8	114	0.43																											
Cement and Mortar Mixers	Number	8	190	0.62																											
Tractors/Loaders/Backhoes	Number	8	79	0.465																											
Haul Trucks	Trips	3	-	-	0.1																										
Total Off-Site Haul Trucks	Trips		-	-	20		4	4	40	40	40	40	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Worker Trips (Phase 1 and 2) - Total Miles							115	115	86.25	86.25	86.25	86.25																			
Worker Trips (Phase 3) - Building Square Footage													200000	200000	200000	200000	200000	200000	200000	200000	200000	200000	200000	200000	200000	200000	200000	200000	200000	200000	200000
Architectural Coatings Building Square Footage																															
Asphalt (acres)																															
Fugitive Dust (acres)									0.39	0.39	0.39	0.39																			

Site G (100,000 ft2)						Year	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2007
Demolition	**Units**	**Hours per Day**	**HP**	**Load**	**Trip Length**	**Month**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**
Concrete/Industrial Saws	Number	8	84	0.73			1	1																							
Rubber Tired Dozers	Number	8	352	0.59			1	1																							
Tractors/Loaders/Backhoes	Number	8	79	0.465			2	2																							
Pavement Breakers	Number	8	111	0.53			2	2																							
Haul Trucks	Trips	3	-	-	0.079056942		10	10																							
Site Preparation																															
Rubber Tired Dozers	Number	8	352	0.59					1	1	1	1																			
2 C.Y. Excavator	Number	8	180	0.58					2	2	2	2																			
Tractors/Loaders/Backhoes	Number	8	79	0.465					3	3	3	3																			
Haul Trucks	Trips	3	-	-	0.079056942				105	105	105	105																			
Water Trucks	Trips	3	-	-	1.65				3	3	3	3																			
	Number																														
	Number																														
Construction																															
Cranes	Number	4	190	0.43									2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Forklifts	Number	8	94	0.475									2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Tractors/Loaders/Backhoes	Number	8	79	0.465									3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Generator Sets	Number	8	50	0.62									2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Electric Welders	Number	8											3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Haul Trucks	Trips	3	-	-	0.079056942								30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Water Trucks	Trips	3	-	-	1.65								3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Number																														
	Number																														
	Number																														
Architectural Coatings and Asphalt Paving																															
Pavers	Number	8	132	0.59																											
Rollers	Number	8	114	0.43																											
Paving Equipment	Number	8	111	0.53																											
Cement and Mortar Mixers	Number	8	190	0.62																											
Tractors/Loaders/Backhoes	Number	8	79	0.465																											
Haul Trucks	Trips	3	-	-	0.079056942																										
Total Off-Site Haul Trucks	Trips		-	-	20		10	10	105	105	105	105	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Worker Trips (Phase 1 and 2) - Total Miles							172.5	172.5	172.5	172.5	172.5	172.5																			
Worker Trips (Phase 3) - Building Square Footage													100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000
Architectural Coatings Building Square Footage																															
Asphalt (acres)																															
Fugitive Dust (acres)									0.4	0.4	0.4	0.4																			

USC HSC
Construction Schedule with Equipment -
Scenario 1

Lot D (200,000 ft2)						2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008
Demolition	**Units**	**Hours per Day**	**HP**	**Load**	**Trip Length**	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Concrete/Industrial Saws	Number	8	84	0.73																								
Rubber Tired Dozers	Number	8	352	0.59																								
Tractors/Loaders/Backhoes	Number	8	79	0.465																								
Pavement Breakers	Number	8	111	0.53																								
Haul Trucks	Trips	3	-	-	0.034686092																							
Site Preparation																												
Bulldozer	Number	8	352	0.59																								
2 C.Y. Excavator	Number	8	180	0.58																								
Tractor/Loader/Backhoe	Number	8	79	0.465																								
Haul Trucks	Trips	3	-	-	0.034686092																							
Water Truck	Trips	3	-	-	0.317625																							
	Number																											
	Number																											
Construction																												
Forklifts	Number	8	94	0.475		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Cranes	Number	4	190	0.43		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Tractors/Loaders/Backhoes	Number	8	79	0.465		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Generator Sets	Number	8	50	0.62		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Electric Welders	Number	8				3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Haul Trucks	Trips	3	-	-	0.1	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Water Trucks	Trips	3	-	-	1.5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Number																											
	Number																											
	Number																											
Architectural Coatings and Asphalt Paving																												
Pavers	Number	8	132	0.59																					1	1	1	1
Paving Equipment	Number	8	111	0.53																					1	1	1	1
Rollers	Number	8	114	0.43																					1	1	1	1
Cement and Mortar Mixers	Number	8	190	0.62																					1	1	1	1
Tractors/Loaders/Backhoes	Number	8	79	0.465																					1	1	1	1
Haul Trucks	Trips	3	-	-	0.1																				3	3	3	3
Total Off-Site Haul Trucks	Trips		-	-	20	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	33	33	33	33
Worker Trips (Phase 1 and 2) - Total Miles																												
Worker Trips (Phase 3) - Building Square Footage						200000	200000	200000	200000	200000	200000	200000	200000	200000	200000	200000	200000	200000	200000	200000	200000	200000	200000	200000	200000	200000	200000	200000
Architectural Coatings Building Square Footage																												
Asphalt (acres)																												
Fugitive Dust (acres)																												

Site G (100,000 ft2)						2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008
Demolition	**Units**	**Hours per Day**	**HP**	**Load**	**Trip Length**	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Concrete/Industrial Saws	Number	8	84	0.73																								
Rubber Tired Dozers	Number	8	352	0.59																								
Tractors/Loaders/Backhoes	Number	8	79	0.465																								
Pavement Breakers	Number	8	111	0.53																								
Haul Trucks	Trips	3	-	-	0.079056942																							
Site Preparation																												
Rubber Tired Dozers	Number	8	352	0.59																								
2 C.Y. Excavator	Number	8	180	0.58																								
Tractors/Loaders/Backhoes	Number	8	79	0.465																								
Haul Trucks	Trips	3	-	-	0.079056942																							
Water Trucks	Trips	3	-	-	1.65																							
	Number																											
	Number																											
Construction																												
Cranes	Number	4	190	0.43		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Forklifts	Number	8	94	0.475		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Tractors/Loaders/Backhoes	Number	8	79	0.465		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Generator Sets	Number	8	50	0.62		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Electric Welders	Number	8				3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Haul Trucks	Trips	3	-	-	0.079056942	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Water Trucks	Trips	3	-	-	1.65	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Number																											
	Number																											
	Number																											
Architectural Coatings and Asphalt Paving																												
Pavers	Number	8	132	0.59																					1	1	1	1
Rollers	Number	8	114	0.43																					1	1	1	1
Paving Equipment	Number	8	111	0.53																					1	1	1	1
Cement and Mortar Mixers	Number	8	190	0.62																					1	1	1	1
Tractors/Loaders/Backhoes	Number	8	79	0.465																					1	1	1	1
Haul Trucks	Trips	3	-	-	0.079056942																				3	3	3	3
Total Off-Site Haul Trucks	Trips		-	-	20	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	33	33	33	33
Worker Trips (Phase 1 and 2) - Total Miles																												
Worker Trips (Phase 3) - Building Square Footage						100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000
Architectural Coatings Building Square Footage																									25000	25000	25000	25000
Asphalt (acres)																									0.5	0.5	0.5	0.5
Fugitive Dust (acres)																												

Site E (365,000 ft2)						Year	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2007
	Units	Hours per Day	HP	Load	Trip Length	Month	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1
Site Preparation																															
Rubber Tired Dozers	Number	8	352	0.59					1	1	1	1																			
2 C.Y. Excavator	Number	8	180	0.58					3	3	3	3																			
Tractors/Loaders/Backhoes	Number	8	79	0.465					3	3	3	3																			
Haul Trucks	Trips	3	-	-	0.109258867				200	200	200	200																			
Water Trucks	Trips	3	-	-	3.1515				3	3	3	3																			
	Number																														
	Number																														
Construction																															
Cranes	Number	4	190	0.43									2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Forklifts	Number	8	94	0.475									2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Tractors/Loaders/Backhoes	Number	8	79	0.465									3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Generator Sets	Number	8	50	0.62									2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Electric Welders	Number	8											3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Haul Trucks	Trips	3	-	-	0.109258867								30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Water Trucks	Trips	3	-	-	3.1515								3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Number																														
	Number																														
	Number																														
Architectural Coatings and Asphalt Paving																															
Pavers	Number	8	132	0.59																											
Rollers	Number	8	114	0.43																											
Paving Equipment	Number	8	111	0.53																											
Cement and Mortar Mixers	Number	8	190	0.62																											
Tractors/Loaders/Backhoes	Number	8	79	0.465																											
Haul Trucks	Trips	3	-	-	0.109258867																										
Total Off-Site Haul Trucks	Trips	3	-	-	20		27	27	200	200	200	200	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Worker Trips (Phase 1 and 2) - Total Miles							172.5	172.5	201.25	201.25	201.25	201.25																			
Worker Trips (Phase 3) - Building Square Footage													365000	365000	365000	365000	365000	365000	365000	365000	365000	365000	365000	365000	365000	365000	365000	365000	365000	365000	365000
Architectural Coatings Building Square Footage																															
Asphalt (acres)																															
Fugitive Dust (acres)									3.82	3.82	3.82	3.82																			

Site F (300,000 ft2)						Year	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2007
	Units	Hours per Day	HP	Load	Trip Length	Month	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1
Site Preparation																															
Rubber Tired Dozers	Number	8	352	0.59			1	1	1	1																					
2 C.Y. Excavator	Number	8	180	0.58			1	1	1	1																					
Tractors/Loaders/Backhoes	Number	8	79	0.465			2	2	2	2																					
Haul Trucks	Trips	3	-	-	0.064347688		93	93	93	93																					
Water Trucks	Trips	3	-	-	1.093125		3	3	3	3																					
	Number																														
	Number																														
Construction																															
Cranes	Number	4	190	0.43							2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Forklifts	Number	8	94	0.475							2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Tractors/Loaders/Backhoes	Number	8	79	0.465							3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Generator Sets	Number	8	50	0.62							2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Electric Welders	Number	8									3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Haul Trucks	Trips	3	-	-	0.064347688						30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Water Trucks	Trips	3	-	-	1.093125						3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Number																														
	Number																														
	Number																														
Architectural Coatings and Asphalt Paving																															
Pavers	Number	8	132	0.59																											
Rollers	Number	8	114	0.43																											
Paving Equipment	Number	8	111	0.53																											
Cement and Mortar Mixers	Number	8	190	0.62																											
Tractors/Loaders/Backhoes	Number	8	79	0.465																											
Haul Trucks	Trips	3	-	-	0.1																										
Total Off-Site Haul Trucks	Trips		-	-	20		93	93	93	93	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Worker Trips (Phase 1 and 2) - Total Miles							115	115	115	115																					
Worker Trips (Phase 3) - Building Square Footage											300000	300000	300000	300000	300000	300000	300000	300000	300000	300000	300000	300000	300000	300000	300000	300000	300000	300000	300000	300000	300000
Architectural Coatings Building Square Footage																															
Asphalt (acres)																															
Fugitive Dust (acres)							1.33	1.33	1.33	1.33																					

Site E (365,000 ft2)	Units	Hours per Day	HP	Load	Trip Length	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008
						2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Site Preparation																												
Rubber Tired Dozers	Number	8	352	0.59																								
2 C.Y. Excavator	Number	8	180	0.58																								
Tractors/Loaders/Backhoes	Number	8	79	0.465																								
Haul Trucks	Trips	3	-	-	0.109258867																							
Water Trucks	Trips	3	-	-	3.1515																							
	Number																											
	Number																											
Construction																												
Cranes	Number	4	190	0.43		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Forklifts	Number	8	94	0.475		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Tractors/Loaders/Backhoes	Number	8	79	0.465		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Generator Sets	Number	8	50	0.62		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Electric Welders	Number	8				3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Haul Trucks	Trips	3	-	-	0.109258867	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Water Trucks	Trips	3	-	-	3.1515	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Number																											
	Number																											
	Number																											
Architectural Coatings and Asphalt Paving																												
Pavers	Number	8	132	0.59																					1	1	1	1
Rollers	Number	8	114	0.43																					1	1	1	1
Paving Equipment	Number	8	111	0.53																					1	1	1	1
Cement and Mortar Mixers	Number	8	190	0.62																					1	1	1	1
Tractors/Loaders/Backhoes	Number	8	79	0.465																					1	1	1	1
Haul Trucks	Trips	3	-	-	0.109258867																				3	3	3	3
Total Off-Site Haul Trucks	Trips	3	-	-	20	30	33	33	33	33	30	30	30	30	30	30	30	30	30	30	30	30	30	30	33	33	33	33
Worker Trips (Phase 1 and 2) - Total Miles																												
Worker Trips (Phase 3) - Building Square Footage						365000	365000	365000	365000	365000	365000	365000	365000	365000	365000	365000	365000	365000	365000	365000	365000	365000	365000	365000	365000	365000	365000	365000
Architectural Coatings Building Square Footage																									91250	91250	91250	91250
Asphalt (acres)																									0.5	0.5	0.5	0.5
Fugitive Dust (acres)																												

Site F (300,000 ft2)	Units	Hours per Day	HP	Load	Trip Length	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008
						2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Site Preparation																												
Rubber Tired Dozers	Number	8	352	0.59																								
2 C.Y. Excavator	Number	8	180	0.58																								
Tractors/Loaders/Backhoes	Number	8	79	0.465																								
Haul Trucks	Trips	3	-	-	0.064347688																							
Water Trucks	Trips	3	-	-	1.093125																							
	Number																											
	Number																											
Construction																												
Cranes	Number	4	190	0.43		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Forklifts	Number	8	94	0.475		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Tractors/Loaders/Backhoes	Number	8	79	0.465		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Generator Sets	Number	8	50	0.62		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Electric Welders	Number	8				3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Haul Trucks	Trips	3	-	-	0.064347688	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Water Trucks	Trips	3	-	-	1.093125	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Number																											
	Number																											
	Number																											
Architectural Coatings and Asphalt Paving																												
Pavers	Number	8	132	0.59																					1	1	1	1
Rollers	Number	8	114	0.43																					1	1	1	1
Paving Equipment	Number	8	111	0.53																					1	1	1	1
Cement and Mortar Mixers	Number	8	190	0.62																					1	1	1	1
Tractors/Loaders/Backhoes	Number	8	79	0.465																					1	1	1	1
Haul Trucks	Trips	3	-	-	0.1																				3	3	3	3
Total Off-Site Haul Trucks	Trips		-	-	20	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	33	33	33	33
Worker Trips (Phase 1 and 2) - Total Miles																												
Worker Trips (Phase 3) - Building Square Footage						300000	300000	300000	300000	300000	300000	300000	300000	300000	300000	300000	300000	300000	300000	300000	300000	300000	300000	300000	300000	300000	300000	300000
Architectural Coatings Building Square Footage																									75000	75000	75000	75000
Asphalt (acres)																									0.5	0.5	0.5	0.5
Fugitive Dust (acres)																												

USC HSC
Construction Schedule with Equipment
Scenario 2

Site B (100,000 ft2 + 307,000 ft2 Parking @ 300 ft2 per s						Year	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2007
Demolition	**Units**	**Hours per Day**	**HP**	**Load**	**Trip Length**	**Month**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**
Concrete/Industrial Saws	Number	8																													
Rubber Tired Dozers	Number	8																													
Tractors/Loaders/Backhoes	Number	8																													
Pavement Breakers	Number	8																													
Haul Trucks	Trips	3																													
Site Preparation																															
Bulldozer	Number	8	352	0.59			1	1	1	1																					
2 C.Y. Excavator	Number	8	180	0.58			1	1	1	1																					
Tractor/Loader/Backhoe	Number	8	79	0.465			1	1	1	1																					
Haul Trucks	Trips	3	-	-	0.042019341		59	59	59	59																					
Water Truck	Trips	3	-	-	0.466125		3	3	3	3																					
	Number																														
	Number																														
Construction																															
Forklifts	Number	8	94	0.475							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cranes	Number	4	190	0.43							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Tractors/Loaders/Backhoes	Number	8	79	0.465							2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Generator Sets	Number	8	50	0.62							2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Electric Welders	Number	8									3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Haul Trucks	Trips	3	-	-	0.042019341						30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Water Trucks	Trips	3	-	-	0.466125						3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Number																														
	Number																														
	Number																														
Architectural Coatings and Asphalt Paving																															
	Number	8																													
	Number	8																													
	Number	8																													
	Number	8																													
	Number	8																													
	Trips	3			0.1																										
Total Off-Site Haul Trucks	Trips	3	-	-	20		59	59	59	59	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Worker Trips (Phase 1 and 2) - Total Miles							86.25	86.25	86.25	86.25																					
Worker Trips (Phase 3) - Building Square Footage											407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000
Architectural Coatings Building Square Footage																															
Asphalt (acres)																															
Fugitive Dust (acres)							0.57	0.57	0.57	0.57																					

Site C (533,000 ft2 Parking @ 300 ft2 per space ~1,775						Year	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2007
Demolition	**Units**	**Hours per Day**	**HP**	**Load**	**Trip Length**	**Month**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**
Concrete/Industrial Saws	Number	8	84	0.73			1	1																							
Rubber Tired Dozers	Number	8	352	0.59			1	1																							
Tractors/Loaders/Backhoes	Number	8	79	0.465			2	2																							
Pavement Breakers	Number	8	111	0.53			2	2																							
Haul Trucks	Trips	3	-	-	0.075828754		19	19																							
Site Preparation																															
Rubber Tired Dozers	Number	8	352	0.59					1	1	1	1																			
2 C.Y. Excavator	Number	8	180	0.58					1	1	1	1																			
Tractors/Loaders/Backhoes	Number	8	79	0.465					2	2	2	2																			
Haul Trucks	Trips	3	-	-	0.075828754				96	96	96	96																			
Water Trucks	Trips	3	-	-	1.518				3	3	3	3																			
	Number																														
	Number																														
Construction																															
Cranes	Number	4	190	0.43									1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Forklifts	Number	8	94	0.475									1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Tractors/Loaders/Backhoes	Number	8	79	0.465									2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Generator Sets	Number	8	50	0.62									2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Electric Welders	Number	8											2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Haul Trucks	Trips	3	-	-	0.075828754								30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Water Trucks	Trips	3	-	-	1.518								3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Number																														
	Number																														
	Number																														
Architectural Coatings and Asphalt Paving																															
Pavers	Number	8	132	0.59																											
Rollers	Number	8	114	0.43																											
Paving Equipment	Number	8	111	0.53																											
Cement and Mortar Mixers	Number	8	190	0.62																											
Tractors/Loaders/Backhoes	Number	8	79	0.465																											
Haul Trucks	Trips	3	-	-	0.079056942																										
Total Off-Site Haul Trucks	Trips	3	-	-	20		19	19	96	96	96	96	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Worker Trips (Phase 1 and 2) - Total Miles							172.5	172.5	115	115	115	115																			
Worker Trips (Phase 3) - Building Square Footage													533000	533000	533000	533000	533000	533000	533000	533000	533000	533000	533000	533000	533000	533000	533000	533000	533000	533000	533000
Architectural Coatings Building Square Footage																															
Asphalt (acres)																															
Fugitive Dust (acres)									1.84	1.84	1.84	1.84																			

Site B (100,000 ft2 + 307,000 ft2 Parking @ 300 ft2 per s		Hours per				2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008
Demolition	**Units**	**Day**	**HP**	**Load**	**Trip Length**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Concrete/Industrial Saws	Number	8																										
Rubber Tired Dozers	Number	8																										
Tractors/Loaders/Backhoes	Number	8																										
Pavement Breakers	Number	8																										
Haul Trucks	Trips	3																										
Site Preparation																												
Bulldozer	Number	8	352	0.59																								
2 C.Y. Excavator	Number	8	180	0.58																								
Tractor/Loader/Backhoe	Number	8	79	0.465																								
Haul Trucks	Trips	3	-	-	0.042019341																							
Water Truck	Trips	3	-	-	0.466125																							
	Number																											
	Number																											
Construction																												
Forklifts	Number	8	94	0.475		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cranes	Number	4	190	0.43		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Tractors/Loaders/Backhoes	Number	8	79	0.465		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Generator Sets	Number	8	50	0.62		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Electric Welders	Number	8				3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Haul Trucks	Trips	3	-	-	0.042019341	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Water Trucks	Trips	3	-	-	0.466125	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Number																											
	Number																											
	Number																											
Architectural Coatings and Asphalt Paving																												
	Number	8																										
	Number	8																										
	Number	8																										
	Number	8																										
	Number	8																										
	Trips	3			0.1																							
Total Off-Site Haul Trucks	Trips	3	-	-	20	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Worker Trips (Phase 1 and 2) - Total Miles																												
Worker Trips (Phase 3) - Building Square Footage						407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000
Architectural Coatings Building Square Footage																												
Asphalt (acres)																												
Fugitive Dust (acres)																												

Site C (533,000 ft2 Parking @ 300 ft2 per space ~1,775		Hours per				2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008
Demolition	**Units**	**Day**	**HP**	**Load**	**Trip Length**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Concrete/Industrial Saws	Number	8	84	0.73																								
Rubber Tired Dozers	Number	8	352	0.59																								
Tractors/Loaders/Backhoes	Number	8	79	0.465																								
Pavement Breakers	Number	8	111	0.53																								
Haul Trucks	Trips	3	-	-	0.075828754																							
Site Preparation																												
Rubber Tired Dozers	Number	8	352	0.59																								
2 C.Y. Excavator	Number	8	180	0.58																								
Tractors/Loaders/Backhoes	Number	8	79	0.465																								
Haul Trucks	Trips	3	-	-	0.075828754																							
Water Trucks	Trips	3	-	-	1.518																							
	Number																											
	Number																											
Construction																												
Cranes	Number	4	190	0.43		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Forklifts	Number	8	94	0.475		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Tractors/Loaders/Backhoes	Number	8	79	0.465		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Generator Sets	Number	8	50	0.62		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Electric Welders	Number	8				2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Haul Trucks	Trips	3	-	-	0.075828754	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Water Trucks	Trips	3	-	-	1.518	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Number																											
	Number																											
	Number																											
Architectural Coatings and Asphalt Paving																												
Pavers	Number	8	132	0.59																								
Rollers	Number	8	114	0.43																								
Paving Equipment	Number	8	111	0.53																								
Cement and Mortar Mixers	Number	8	190	0.62																								
Tractors/Loaders/Backhoes	Number	8	79	0.465																								
Haul Trucks	Trips	3	-	-	0.079056942																							
Total Off-Site Haul Trucks	Trips	3	-	-	20	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Worker Trips (Phase 1 and 2) - Total Miles																												
Worker Trips (Phase 3) - Building Square Footage						533000	533000	533000	533000	533000	533000	533000	533000	533000	533000	533000	533000	533000	533000	533000	533000	533000	533000	533000	533000	533000	533000	533000
Architectural Coatings Building Square Footage																												
Asphalt (acres)																												
Fugitive Dust (acres)																												

Site G (100,000 ft2)	Units	Hours per Day	HP	Load	Trip Length	Year	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2007
						Month	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1
Site Preparation																															
Rubber Tired Dozers	Number	8	352	0.59					1	1	1	1																			
2 C.Y. Excavator	Number	8	180	0.58					2	2	2	2																			
Tractors/Loaders/Backhoes	Number	8	79	0.465					3	3	3	3																			
Haul Trucks	Trips	3	-	-	0.079				105	105	105	105																			
Water Trucks	Trips	3	-	-	1.65				3	3	3	3																			
	Number																														
	Number																														
Construction																															
Cranes	Number	4	190	0.43									2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Forklifts	Number	8	94	0.475									2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Tractors/Loaders/Backhoes	Number	8	79	0.465									3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Generator Sets	Number	8	50	0.62									2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Electric Welders	Number	8											3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Haul Trucks	Trips	3	-	-	0.079								30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Water Trucks	Trips	3	-	-	1.65								3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Number																														
	Number																														
	Number																														
Architectural Coatings and Asphalt Paving																															
Pavers	Number	8	132	0.59																											
Rollers	Number	8	114	0.43																											
Paving Equipment	Number	8	111	0.53																											
Cement and Mortar Mixers	Number	8	190	0.62																											
Tractors/Loaders/Backhoes	Number	8	79	0.465																											
Haul Trucks	Trips	3	-	-	0.079																										
Total Off-Site Haul Trucks	Trips	3	-	-	1.65		10	27	105	105	105	105	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Worker Trips (Phase 1 and 2) - Total Miles							172.5	172.5	172.5	172.5	172.5	172.5																			
Worker Trips (Phase 3) - Building Square Footage													100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000
Architectural Coatings Building Square Footage																															
Asphalt (acres)																															
Fugitive Dust (acres)									0.4	0.4	0.4	0.4																			

Site A (258,000 ft2)	Units	Hours per Day	HP	Load	Trip Length	Year	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2007
						Month	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1
Site Preparation																															
Rubber Tired Dozers	Number	8	352	0.59			1	1	1	1																					
2 C.Y. Excavator	Number	8	180	0.58			1	1	1	1																					
Tractors/Loaders/Backhoes	Number	8	79	0.465			1	1	1	1																					
Haul Trucks	Trips	3	-	-	0.057		74	74	74	74																					
Water Trucks	Trips	3	-	-	0.870		3	3	3	3																					
	Number																														
	Number																														
Construction																															
Cranes	Number	4	190	0.43							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Forklifts	Number	8	94	0.475							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Tractors/Loaders/Backhoes	Number	8	79	0.465							2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Generator Sets	Number	8	50	0.62							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Electric Welders	Number	8									2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Haul Trucks	Trips	3	-	-	0.057						30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Water Trucks	Trips	3	-	-	0.870						3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Number																														
	Number																														
	Number																														
Architectural Coatings and Asphalt Paving																															
Pavers	Number	8	132	0.59																											
Rollers	Number	8	114	0.43																											
Paving Equipment	Number	8	111	0.53																											
Cement and Mortar Mixers	Number	8	190	0.62																											
Tractors/Loaders/Backhoes	Number	8	79	0.465																											
Haul Trucks	Trips	3	-	-	0.057																										
Total Off-Site Haul Trucks	Trips		-	-			74	74	74	74	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Worker Trips (Phase 1 and 2) - Total Miles							86.25	86.25	86.25	86.25																					
Worker Trips (Phase 3) - Building Square Footage											258000	258000	258000	258000	258000	258000	258000	258000	258000	258000	258000	258000	258000	258000	258000	258000	258000	258000	258000	258000	258000
Architectural Coatings Building Square Footage																															
Asphalt (acres)																															
Fugitive Dust (acres)							1.06	1.06	1.06	1.06																					

USC HSC
Construction Schedule with Equipment
Scenario 3

Site G (100,000 ft2)	Units	Hours per Day	HP	Load	Trip Length	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008
						2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Site Preparation																												
Rubber Tired Dozers	Number	8	352	0.59																								
2 C.Y. Excavator	Number	8	180	0.58																								
Tractors/Loaders/Backhoes	Number	8	79	0.465																								
Haul Trucks	Trips	3	-	-	0.079																							
Water Trucks	Trips	3	-	-	1.65																							
	Number																											
	Number																											
Construction																												
Cranes	Number	4	190	0.43		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Forklifts	Number	8	94	0.475		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Tractors/Loaders/Backhoes	Number	8	79	0.465		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Generator Sets	Number	8	50	0.62		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Electric Welders	Number	8				3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Haul Trucks	Trips	3	-	-	0.079	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Water Trucks	Trips	3	-	-	1.65	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Number																											
	Number																											
	Number																											
Architectural Coatings and Asphalt Paving																												
Pavers	Number	8	132	0.59																					1	1	1	1
Rollers	Number	8	114	0.43																					1	1	1	1
Paving Equipment	Number	8	111	0.53																					1	1	1	1
Cement and Mortar Mixers	Number	8	190	0.62																					1	1	1	1
Tractors/Loaders/Backhoes	Number	8	79	0.465																					1	1	1	1
Haul Trucks	Trips	3	-	-	0.079																				3	3	3	3
Total Off-Site Haul Trucks	Trips	3	-	-	1.65	30	33	33	33	33	30	30	30	30	30	30	30	30	30	30	30	30	30	30	33	33	33	33
Worker Trips (Phase 1 and 2) - Total Miles																												
Worker Trips (Phase 3) - Building Square Footage						100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000
Architectural Coatings Building Square Footage																									25000	25000	25000	25000
Asphalt (acres)																									0.5	0.5	0.5	0.5
Fugitive Dust (acres)																												

Site A (258,000 ft2)	Units	Hours per Day	HP	Load	Trip Length	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008
						2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Site Preparation																												
Rubber Tired Dozers	Number	8	352	0.59																								
2 C.Y. Excavator	Number	8	180	0.58																								
Tractors/Loaders/Backhoes	Number	8	79	0.465																								
Haul Trucks	Trips	3	-	-	0.057																							
Water Trucks	Trips	3	-	-	0.870																							
	Number																											
	Number																											
Construction																												
Cranes	Number	4	190	0.43		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Forklifts	Number	8	94	0.475		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Tractors/Loaders/Backhoes	Number	8	79	0.465		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Generator Sets	Number	8	50	0.62		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Electric Welders	Number	8				2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Haul Trucks	Trips	3	-	-	0.057	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Water Trucks	Trips	3	-	-	0.870	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Number																											
	Number																											
	Number																											
Architectural Coatings and Asphalt Paving																												
Pavers	Number	8	132	0.59																					1	1	1	1
Rollers	Number	8	114	0.43																					1	1	1	1
Paving Equipment	Number	8	111	0.53																					1	1	1	1
Cement and Mortar Mixers	Number	8	190	0.62																					1	1	1	1
Tractors/Loaders/Backhoes	Number	8	79	0.465																					1	1	1	1
Haul Trucks	Trips	3	-	-	0.057																				3	3	3	3
Total Off-Site Haul Trucks	Trips		-	-		30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	33	33	33	33
Worker Trips (Phase 1 and 2) - Total Miles																												
Worker Trips (Phase 3) - Building Square Footage						258000	258000	258000	258000	258000	258000	258000	258000	258000	258000	258000	258000	258000	258000	258000	258000	258000	258000	258000	258000	258000	258000	258000
Architectural Coatings Building Square Footage																									64500	64500	64500	64500
Asphalt (acres)																									0.5	0.5	0.5	0.5
Fugitive Dust (acres)																												

Site B (407,000 ft2)		Hours per				Year	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2007
Demolition	Units	Day	HP	Load	Trip Length	Month	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1
Concrete/Industrial Saws	Number	8																													
Rubber Tired Dozers	Number	8																													
Tractors/Loaders/Backhoes	Number	8																													
Pavement Breakers	Number	8																													
Haul Trucks	Trips	3																													
Site Preparation																															
Bulldozer	Number	8	352	0.59			1	1	1	1																					
2 C.Y. Excavator	Number	8	180	0.58			1	1	1	1																					
Tractor/Loader/Backhoe	Number	8	79	0.465			1	1	1	1																					
Haul Trucks	Trips	3	-	-	0.042		59	59	59	59																					
Water Truck	Trips	3	-	-	0.466		3	3	3	3																					
	Number																														
	Number																														
Construction																															
Forklifts	Number	8	94	0.475							2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Cranes	Number	4	190	0.43							2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Tractors/Loaders/Backhoes	Number	8	79	0.465							3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Generator Sets	Number	8	50	0.62							2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Electric Welders	Number	8									3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Haul Trucks	Trips	3	-	-	0.042						30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Water Trucks	Trips	3	-	-	0.466						3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Number																														
	Number																														
	Number																														
Architectural Coatings and Asphalt Paving																															
Pavers	Number	8	132	0.59																											
Rollers	Number	8	114	0.43																											
Paving Equipment	Number	8	111	0.53																											
Cement and Mortar Mixers	Number	8	190	0.62																											
Tractors/Loaders/Backhoes	Number	8	79	0.465																											
Haul Trucks	Trips	3	-	-	0.1																										
Total Off-Site Haul Trucks	Trips	3	-	-	20		59	59	59	59	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Worker Trips (Phase 1 and 2) - Total Miles							86.25	86.25	86.25	86.25																					
Worker Trips (Phase 3) - Building Square Footage											407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000
Architectural Coatings Building Square Footage																															
Asphalt (acres)																															
Fugitive Dust (acres)							0.57	0.57	0.57	0.57																					

Site C (460,200 ft2 Parking @ 300 ft2 per space ~1534 S		Hours per				Year	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2007
Demolition	Units	Day	HP	Load	Trip Length	Month	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1
Concrete/Industrial Saws	Number	8	84	0.73			1	1																							
Rubber Tired Dozers	Number	8	352	0.59			1	1																							
Tractors/Loaders/Backhoes	Number	8	79	0.465			2	2																							
Pavement Breakers	Number	8	111	0.53			2	2																							
Haul Trucks	Trips	3	-	-	0.076		19	19																							
Site Preparation																															
Rubber Tired Dozers	Number	8	352	0.59					1	1	1	1																			
2 C.Y. Excavator	Number	8	180	0.58					1	1	1	1																			
Tractors/Loaders/Backhoes	Number	8	79	0.465					3	3	3	3																			
Haul Trucks	Trips	3	-	-	0.076				96	96	96	96																			
Water Trucks	Trips	3	-	-	1.518				3	3	3	3																			
	Number																														
	Number																														
Construction																															
Cranes	Number	4	190	0.43									1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Forklifts	Number	8	94	0.475									1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Tractors/Loaders/Backhoes	Number	8	79	0.465									2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Generator Sets	Number	8	50	0.62									2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Electric Welders	Number	8											2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Haul Trucks	Trips	3	-	-	0.076								30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Water Trucks	Trips	3	-	-	1.518								3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Number																														
	Number																														
	Number																														
Architectural Coatings and Asphalt Paving																															
Pavers	Number	8	132	0.59																											
Rollers	Number	8	114	0.43																											
Paving Equipment	Number	8	111	0.53																											
Cement and Mortar Mixers	Number	8	190	0.62																											
Tractors/Loaders/Backhoes	Number	8	79	0.465																											
Haul Trucks	Trips	3	-	-	0.079																										
Total Off-Site Haul Trucks	Trips	3	-	-	20		19	19	96	96	96	96	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Worker Trips (Phase 1 and 2) - Total Miles							172.5	172.5	143.75	143.75	143.75	143.75																			
Worker Trips (Phase 3) - Building Square Footage													460200	460200	460200	460200	460200	460200	460200	460200	460200	460200	460200	460200	460200	460200	460200	460200	460200	460200	460200
Architectural Coatings Building Square Footage																															
Asphalt (acres)																															
Fugitive Dust (acres)									1.84	1.84	1.84	1.84																			

Site B (407,000 ft2)		Hours per				2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008
Demolition	**Units**	**Day**	**HP**	**Load**	**Trip Length**	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Concrete/Industrial Saws	Number	8																										
Rubber Tired Dozers	Number	8																										
Tractors/Loaders/Backhoes	Number	8																										
Pavement Breakers	Number	8																										
Haul Trucks	Trips	3																										
Site Preparation																												
Bulldozer	Number	8	352	0.59																								
2 C.Y. Excavator	Number	8	180	0.58																								
Tractor/Loader/Backhoe	Number	8	79	0.465																								
Haul Trucks	Trips	3	-	-	0.042																							
Water Truck	Trips	3	-	-	0.466																							
	Number																											
	Number																											
Construction																												
Forklifts	Number	8	94	0.475		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Cranes	Number	4	190	0.43		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Tractors/Loaders/Backhoes	Number	8	79	0.465		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Generator Sets	Number	8	50	0.62		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Electric Welders	Number	8				3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Haul Trucks	Trips	3	-	-	0.042	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Water Trucks	Trips	3	-	-	0.466	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Number																											
	Number																											
	Number																											
Architectural Coatings and Asphalt Paving																												
Pavers	Number	8	132	0.59																					1	1	1	1
Rollers	Number	8	114	0.43																					1	1	1	1
Paving Equipment	Number	8	111	0.53																					1	1	1	1
Cement and Mortar Mixers	Number	8	190	0.62																					1	1	1	1
Tractors/Loaders/Backhoes	Number	8	79	0.465																					1	1	1	1
Haul Trucks	Trips	3	-	-	0.1																				3	3	3	3
Total Off-Site Haul Trucks	Trips	3	-	-	20	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	33	33	33	33
Worker Trips (Phase 1 and 2) - Total Miles																												
Worker Trips (Phase 3) - Building Square Footage						407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000	407000
Architectural Coatings Building Square Footage																												
Asphalt (acres)																												
Fugitive Dust (acres)																												

Site C (460,200 ft2 Parking @ 300 ft2 per space ~1534 S		Hours per				2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008
Demolition	**Units**	**Day**	**HP**	**Load**	**Trip Length**	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Concrete/Industrial Saws	Number	8	84	0.73																								
Rubber Tired Dozers	Number	8	352	0.59																								
Tractors/Loaders/Backhoes	Number	8	79	0.465																								
Pavement Breakers	Number	8	111	0.53																								
Haul Trucks	Trips	3	-	-	0.076																							
Site Preparation																												
Rubber Tired Dozers	Number	8	352	0.59																								
2 C.Y. Excavator	Number	8	180	0.58																								
Tractors/Loaders/Backhoes	Number	8	79	0.465																								
Haul Trucks	Trips	3	-	-	0.076																							
Water Trucks	Trips	3	-	-	1.518																							
	Number																											
	Number																											
Construction																												
Cranes	Number	4	190	0.43		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Forklifts	Number	8	94	0.475		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Tractors/Loaders/Backhoes	Number	8	79	0.465		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Generator Sets	Number	8	50	0.62		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Electric Welders	Number	8				2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Haul Trucks	Trips	3	-	-	0.076	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Water Trucks	Trips	3	-	-	1.518	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Number																											
	Number																											
	Number																											
Architectural Coatings and Asphalt Paving																												
Pavers	Number	8	132	0.59																								
Rollers	Number	8	114	0.43																								
Paving Equipment	Number	8	111	0.53																								
Cement and Mortar Mixers	Number	8	190	0.62																								
Tractors/Loaders/Backhoes	Number	8	79	0.465																								
Haul Trucks	Trips	3	-	-	0.079																							
Total Off-Site Haul Trucks	Trips	3	-	-	20	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Worker Trips (Phase 1 and 2) - Total Miles																												
Worker Trips (Phase 3) - Building Square Footage						460200	460200	460200	460200	460200	460200	460200	460200	460200	460200	460200	460200	460200	460200	460200	460200	460200	460200	460200	460200	460200	460200	460200
Architectural Coatings Building Square Footage																												
Asphalt (acres)																												
Fugitive Dust (acres)																												

Site D (380,000 ft2 Parking @ 300 ft2 per space ~1,266		Hours per				Year	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2006	2007
Demolition	**Units**	**Day**	**HP**	**Load**	**Trip Length**	**Month**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**
Concrete/Industrial Saws	Number	8	84	0.73			1	1																							
Rubber Tired Dozers	Number	8	352	0.59			1	1																							
Tractors/Loaders/Backhoes	Number	8	79	0.465			1	1																							
Pavement Breakers	Number	8	111	0.53			1	1																							
Haul Trucks	Trips	3	-	-	0.035		4	4																							
Site Preparation																															
Rubber Tired Dozers	Number	8	352	0.59					1	1	1	1																			
2 C.Y. Excavator	Number	8	180	0.58					1	1	1	1																			
Tractors/Loaders/Backhoes	Number	8	79	0.465					1	1	1	1																			
Haul Trucks	Trips	3	-	-	0.035				40	40	40	40																			
Water Trucks	Trips	3	-	-	0.318				3	3	3	3																			
	Number																														
	Number																														
Construction																															
Cranes	Number	4	190	0.43									2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Forklifts	Number	8	94	0.475									2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Tractors/Loaders/Backhoes	Number	8	79	0.465									3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Generator Sets	Number	8		0.62									2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Electric Welders	Number	8											3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Haul Trucks	Trips	3	-	-	0.035								30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Water Trucks	Trips	3	-	-	0.318								3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Number																														
	Number																														
	Number																														
Architectural Coatings and Asphalt Paving																															
	Number																														
	Number																														
	Number																														
	Number																														
	Number																														
	Trips																														
Total Off-Site Haul Trucks	Trips		-	-	20		4	4	40	40	40	40	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Worker Trips (Phase 1 and 2) - Total Miles							115	115	86.25	86.25	86.25	86.25																			
Worker Trips (Phase 3) - Building Square Footage													380000	380000	380000	380000	380000	380000	380000	380000	380000	380000	380000	380000	380000	380000	380000	380000	380000	380000	380000
Architectural Coatings Building Square Footage																															
Asphalt (acres)																															
Fugitive Dust (acres)									0.39	0.39	0.39	0.39																			

Site D (380,000 ft2 Parking @ 300 ft2 per space ~1,266						2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008
Demolition	**Units**	**Hours per Day**	**HP**	**Load**	**Trip Length**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Concrete/Industrial Saws	Number	8	84	0.73																								
Rubber Tired Dozers	Number	8	352	0.59																								
Tractors/Loaders/Backhoes	Number	8	79	0.465																								
Pavement Breakers	Number	8	111	0.53																								
Haul Trucks	Trips	3	-	-	0.035																							
Site Preparation																												
Rubber Tired Dozers	Number	8	352	0.59																								
2 C.Y. Excavator	Number	8	180	0.58																								
Tractors/Loaders/Backhoes	Number	8	79	0.465																								
Haul Trucks	Trips	3	-	-	0.035																							
Water Trucks	Trips	3	-	-	0.318																							
	Number																											
	Number																											
Construction																												
Cranes	Number	4	190	0.43		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Forklifts	Number	8	94	0.475		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Tractors/Loaders/Backhoes	Number	8	79	0.465		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Generator Sets	Number	8		0.62		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Electric Welders	Number	8				3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Haul Trucks	Trips	3	-	-	0.035	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Water Trucks	Trips	3	-	-	0.318	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Number																											
	Number																											
	Number																											
Architectural Coatings and Asphalt Paving																												
	Number																											
	Number																											
	Number																											
	Number																											
	Number																											
	Trips																											
Total Off-Site Haul Trucks	Trips		-	-	20	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Worker Trips (Phase 1 and 2) - Total Miles																												
Worker Trips (Phase 3) - Building Square Footage						380000	380000	380000	380000	380000	380000	380000	380000	380000	380000	380000	380000	380000	380000	380000	380000	380000	380000	380000	380000	380000	380000	380000
Architectural Coatings Building Square Footage																												
Asphalt (acres)																												
Fugitive Dust (acres)																												

USC HSC
Site Acre Disturbed
(URBEMIS Input)

Scenario 1	Total Acres	Acres Disturbed	Scenario 2	Total Acres	Acres Disturbed	Scenario 3	Total Acres	Acres Disturbed	Scenario 4	Total Acres	Acres Disturbed
A	2.11	1.06	E	7.64	3.82	B	1.13	0.57	A	2.11	1.06
C	3.68	1.84	F	2.65	1.33	G	4.00	0.40	G	4.00	0.40
D	0.77	0.39	B	1.13	0.57	A	2.11	1.06	D	0.77	0.39
G	4.00	0.40	C	3.68	1.84	D	0.77	0.39	C	3.68	1.84
						C	3.68	1.84			
Total	10.56	3.68	Total	15.10	7.55	Total	11.69	4.25	Total	10.56	3.68

ISC Summary	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive PM10 - Mitigated (lbs/day)	Fugitive PM10 - Rule 403 (lbs/day)	CO (g/s)	NOx (g/s)	PM10 (g/s*m^2)	Exhaust PM10 (g/s)	Fugitive PM10 (g/s*m^2) - Mitigated)	Fugitive PM10 (g/s*m^2) - Rule 403
Lot A (465,000 ft2)												
Demolition												
Site Prep	45.4	47.5	15.6	2.1	13.5	20.2	0.72	0.75	2.88E-05	3.32E-02	2.49E-05	3.74E-05
Construction	49.0	44.3	2.0	2.0	0.0	0.0	0.77	0.70	3.63E-06	3.10E-02		
Construction + Arch Coatings	96.9	80.0	2.0	2.0	0.0	0.0	1.53	1.26	3.63E-06	3.10E-02		
Lot C (2800 Parking Spaces)												
Demolition	55.6	67.9	3.2	3.2	0.0	0.0	0.88	1.07	3.35E-06	4.99E-02		
Site Prep	58.6	63.7	26.3	2.9	23.4	35.1	0.92	1.00	2.78E-05	4.51E-02	2.48E-05	3.72E-05
Construction	50.3	48.9	2.2	2.2	0.0	0.0	0.79	0.77	2.31E-06	3.44E-02		
Construction + Arch Coatings	49.0	39.8	1.5	1.5	0.0	0.0	0.77	0.63	1.55E-06	2.32E-02		
Lot D (200,000 ft2)												
Demolition	44.0	53.8	2.5	2.5	0.0	0.0	0.69	0.85	1.27E-05	3.95E-02		
Site Prep	45.2	47.3	7.1	2.1	5.0	7.4	0.71	0.75	3.57E-05	3.32E-02	2.51E-05	3.77E-05
Construction	49.1	44.4	2.0	2.0	0.0	0.0	0.77	0.70	9.96E-06	3.10E-02		
Construction + Arch Coatings	96.9	80.1	3.0	3.0	0.0	0.0	1.53	1.26	1.51E-05	4.72E-02		
Site G (100,000 ft2)												
Demolition	55.6	67.9	3.2	3.2	0.0	0.0	0.88	1.07	3.08E-06	4.99E-02		
Site Prep	70.0	69.6	8.1	3.0	5.1	7.6	1.10	1.10	7.91E-06	4.79E-02	4.96E-06	7.44E-06
Construction	49.1	44.4	2.0	2.0	0.0	0.0	0.77	0.70	1.92E-06	3.10E-02		
Construction + Arch Coatings	96.9	80.1	3.0	3.0	0.0	0.0	1.53	1.26	2.91E-06	4.72E-02		

ISC Summary	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive PM10 - Mitigated (lbs/day)	Fugitive PM10 - Rule 403 (lbs/day)	CO (g/s)	NOx (g/s)	PM10 ($g/s*m^2$)	Exhaust PM10 (g/s)	Fugitive PM10 ($g/s*m^2$) - Mitigated)	Fugitive PM10 ($g/s*m^2$) - Rule 403
Site E (365,000 ft2)												
Demolition	55.6	67.9	3.2		0.0	0.0	0.88	1.07	1.613E-06	0.049870666		0
Site Prep	86.2	81.3	52.1	3.5	48.6	73.0	1.36	1.28	2.65446E-05	0.820704069	2.47755E-05	3.72005E-05
Construction	49.2	44.5	2.0	2.0	0.0	0.0	0.78	0.70	1.00539E-06	0.031084776	0	0
Construction + Arch Coatings	97.0	80.2	3.0	3.0	0.0	0.0	1.53	1.26	1.52691E-06	0.047209014	0	0
Site F (300,000 ft2)												
Demolition							0.00	0.00	0	0	0	0
Site Prep	49.8	52.9	19.3	2.4	16.9	25.4	0.79	0.83	2.83379E-05	0.303900672	2.4869E-05	3.73409E-05
Construction	49.0	44.3	2.0	2.0	0.0	0.0	0.77	0.70	2.89304E-06	0.03102549	0	0
Construction + Arch Coatings	96.9	80.0	3.0	3.0	0.0	0.0	1.53	1.26	4.39746E-06	0.047159111	0	0
Site B (100,000 ft2 + 307,000 ft2 Parking @ 300 ft2 per space ~1,025 spaces)												
Demolition							0.00	0.00	0	0	0	0
Site Prep	45.2	47.4	9.4	2.1	7.3	10.9	0.71	0.75	3.22503E-05	0.147478742	2.49948E-05	3.75297E-05
Construction	31.2	29.4	1.3	1.3	0.0	0.0	0.49	0.46	4.5619E-06	0.020861317	0	0
Construction + Arch Coatings	31.2	26.2	1.0	1.0	0.0	0.0	0.49	0.41	3.46023E-06	0.015823463	0	0

ISC Summary	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive PM10 - Mitigated (lbs/day)	Fugitive PM10 - Rule 403 (lbs/day)	CO (g/s)	NOx (g/s)	PM10 ($g/s*m^2$)	Exhaust PM10 (g/s)	Fugitive PM10 ($g/s*m^2$) - Mitigated)	Fugitive PM10 ($g/s*m^2$) - Rule 403
Site G (100,000 ft2)												
Demolition	55.6	67.9	3.2	3.2	0.0	0.0	0.88	1.07	3.08E-06	4.99E-02		
Site Prep	70.0	69.6	8.1	3.0	5.1	7.6	1.10	1.10	7.91E-06	1.28E-01	4.96E-06	7.44E-06
Construction	49.1	44.4	2.0	2.0	0.0	0.0	0.77	0.70	1.92E-06	3.10E-02		
Construction + Arch Coatings	96.9	80.1	3.0	3.0	0.0	0.0	1.53	1.26	2.91E-06	4.72E-02		
Site A (258,000 ft2)												
Demolition							0.00	0.00	0.00E+00	0.00E+00	0	0
Site Prep	45.3	47.4	15.6	2.1	13.5	20.2	0.71	0.75	2.88E-05	2.46E-01	2.49E-05	3.74E-05
Construction	27.0	24.9	1.1	1.1	0.0	0.0	0.43	0.39	2.05E-06	1.75E-02		
Construction + Arch Coatings	74.9	62.5	2.4	2.4	0.0	0.0	1.18	0.99	4.35E-06	3.72E-02		
Site B (407,000 ft2)												
Demolition							0.00	0.00	0.00E+00	0.00E+00	0	0
Site Prep	45.2	47.4	9.4	2.1	7.3	10.9	0.71	0.75	3.23E-05	1.47E-01	2.50E-05	3.75E-05
Construction	48.9	44.3	2.0	2.0	0.0	0.0	0.77	0.70	6.78E-06	3.10E-02		
Construction + Arch Coatings	96.8	80.0	3.0	3.0	0.0	0.0	1.53	1.26	1.03E-05	4.71E-02		
Site C (460,200 ft2 Parking @ 300 ft2 per space ~1534 Spaces)												
Demolition	55.6	67.9	3.2	3.2	0.0	0.0	0.88	1.07	3.35E-06	4.99E-02		
Site Prep	54.3	58.4	26.0	2.6	23.4	35.1	0.86	0.92	2.75E-05	4.10E-01	2.48E-05	3.72E-05
Construction	31.3	29.5	1.3	1.3	0.0	0.0	0.49	0.47	1.40E-06	2.09E-02		
Construction + Arch Coatings	31.3	26.3	1.0	1.0	0.0	0.0	0.49	0.41	1.06E-06	1.59E-02		
Site D (380,000 ft2 Parking @ 300 ft2 per space ~1,266 Spaces)												
Demolition	44.0	53.8	2.5	2.5	0.0	0.0	0.69	0.85	1.27E-05	3.95E-02		
Site Prep	45.2	47.3	7.1	2.1	5.0	7.4	0.71	0.75	3.57E-05	1.11E-01	2.51E-05	3.77E-05
Construction	40.6	35.1	1.5	1.5	0.0	0.0	0.64	0.55	7.79E-06	2.43E-02		
Construction + Arch Coatings	40.6	31.8	1.1	1.1	0.0	0.0	0.64	0.50	5.71E-06	1.78E-02		

USC SC Sensiti e eceptor Concentrations
Scenario 1

Recept r	Scenari 1 CONS R C ION				
	1-hr CO	8-hr CO	1-hr NOx	24-hr PM10 M	24-hr PM10 M
1. A County/USC ospital	1.17	0.18	0.59		
2. USC Uni ersity ospital	0.32	0.05	0.14		
3. USC ealthcare Consultation Center CC	0.52	0.18	0.26		
4. USC ealthcare Consultation Center CC	0.32	0.11	0.16		
5. Doheny Eye nstitute	0.75	0.25	0.37		
6. rancisco ra o M.D. Magnet Senior igh School	0.48	0.04	0.15		
7a. esi ential eigh orhoo A	0.19	0.04	0.12		
7 . esi ential eigh orhoo	0.12	0.02	0.06		
7c. esi ential eigh orhoo C	0.17	0.04	0.07		
7 . esi ential eigh orhoo D	0.34	0.04	0.17		
7e. esi ential eigh orhoo E	0.39	0.05	0.20		
8. omen an Chil ren's ospital	0.55	0.14	0.28		
9. ursing College	0.30	0.06	0.15		
10. a ar Par	0.39	0.05	0.25		
11. incoln Par	0.19	0.08	0.10		

Recept r	Scenari 1 SI E PREP				
	1-hr CO	8-hr CO	1-hr NOx	24-hr PM10 M	24-hr PM10 M
1. A County/USC ospital	0.56	0.09	0.36	24.76	17.04
2. USC Uni ersity ospital	0.15	0.04	0.11	5.72	5.40
3. USC ealthcare Consultation Center CC	0.28	0.09	0.17	19.20	10.21
4. USC ealthcare Consultation Center CC	0.19	0.06	0.11	9.92	6.94
5. Doheny Eye nstitute	0.36	0.12	0.23	24.11	16.74
6. rancisco ra o M.D. Magnet Senior igh School	0.17	0.02	0.12	6.49	2.97
7a. esi ential eigh orhoo A	0.13	0.02	0.07	5.26	2.89
7 . esi ential eigh orhoo	0.07	0.01	0.05	2.20	1.55
7c. esi ential eigh orhoo C	0.11	0.04	0.08	13.43	9.24
7 . esi ential eigh orhoo D	0.18	0.02	0.11	4.90	3.46
7e. esi ential eigh orhoo E	0.22	0.03	0.14	5.19	4.03
8. omen an Chil ren's ospital	0.44	0.15	0.29	44.64	30.91
9. ursing College	0.30	0.07	0.20	17.58	12.15
10. a ar Par	0.22	0.03	0.16	6.07	4.23
11. incoln Par	0.12	0.05	0.07	6.41	4.60

Recept r	Scenari 1 WORS CASE				
	1-hr CO	8-hr CO	1-hr NOx	24-hr PM10 M	24-hr PM10 M
1. A County/USC ospital	1.17	0.18	0.59	24.76	17.04
2. USC Uni ersity ospital	0.32	0.05	0.14	5.72	5.40
3. USC ealthcare Consultation Center CC	0.52	0.18	0.26	19.20	10.21
4. USC ealthcare Consultation Center CC	0.32	0.11	0.16	9.92	6.94
5. Doheny Eye nstitute	0.75	0.25	0.37	24.11	16.74
6. rancisco ra o M.D. Magnet Senior igh School	0.48	0.04	0.15	6.49	2.97
7a. esi ential eigh orhoo A	0.19	0.04	0.12	5.26	2.89
7 . esi ential eigh orhoo	0.12	0.02	0.06	2.20	1.55
7c. esi ential eigh orhoo C	0.17	0.04	0.08	13.43	9.24
7 . esi ential eigh orhoo D	0.34	0.04	0.17	4.90	3.46
7e. esi ential eigh orhoo E	0.39	0.05	0.20	5.19	4.03
8. omen an Chil ren's ospital	0.55	0.15	0.29	44.64	30.91
9. ursing College	0.30	0.07	0.20	17.58	12.15
10. a ar Par	0.39	0.05	0.25	6.07	4.23
11. incoln Par	0.19	0.08	0.10	6.41	4.60

***CO and NOx units are in ppm. PM10 units are in ug/m3**

USC HSC Sensitive Receptor Concentrations
Scenario 2

Receptor	Scenario 2 CONSTRUCTION				
	1-hr CO	8-hr CO	1-hr NOx	24-hr PM10 UM	24-hr PM10 M
1. LA County/USC Hospital	0.17	0.03	0.09		
2. USC University Hospital	0.44	0.07	0.24		
3. USC Healthcare Consultation Center (HCC)	0.84	0.19	0.42		
4. USC Healthcare Consultation Center II (HCCII)	0.64	0.01	0.32		
5. Doheny Eye Institute	0.56	0.09	0.28		
6. Francisco Bravo M.D. Magnet Senior High School	0.25	0.03	0.14		
7a. Residential Neighborhood A	0.26	0.04	0.13		
7b. Residential Neighborhood B	0.16	0.02	0.08		
7c. Residential Neighborhood C	0.21	0.03	0.11		
7d. Residential Neighborhood D	0.13	0.02	0.06		
7e. Residential Neighborhood E	0.21	0.03	0.11		
8. Women and Children's Hospital	0.18	0.02	0.09		
9. Nursing College	0.22	0.03	0.11		
10. Hazard Park	0.38	0.05	0.19		
11. Lincoln Park	0.48	0.23	0.24		

Receptor	Scenario 2 SITE PREP				
	1-hr CO	8-hr CO	1-hr NOx	24-hr PM10 UM	24-hr PM10 M
1. LA County/USC Hospital	0.14	0.02	0.07	9.42	7.59
2. USC University Hospital	0.43	0.06	0.28	31.83	26.45
3. USC Healthcare Consultation Center (HCC)	1.00	0.22	0.62	92.73	72.92
4. USC Healthcare Consultation Center II (HCCII)	0.68	0.11	0.43	49.03	39.04
5. Doheny Eye Institute	0.65	0.08	0.40	49.41	39.42
6. Francisco Bravo M.D. Magnet Senior High School	0.25	0.03	0.16	13.06	11.95
7a. Residential Neighborhood A	0.24	0.04	0.15	16.96	13.44
7b. Residential Neighborhood B	0.13	0.02	0.08	10.34	8.31
7c. Residential Neighborhood C	0.18	0.02	0.08	12.46	10.02
7d. Residential Neighborhood D	0.11	0.01	0.06	6.50	5.23
7e. Residential Neighborhood E	0.16	0.02	0.10	11.43	9.22
8. Women and Children's Hospital	0.13	0.02	0.08	7.52	6.55
9. Nursing College	0.16	0.02	0.10	9.11	6.96
10. Hazard Park	0.38	0.05	0.23	25.65	20.55
11. Lincoln Park	0.31	0.14	0.19	71.83	57.43

Receptor	Scenario 2 WORST CASE				
	1-hr CO	8-hr CO	1-hr NOx	24-hr PM10 UM	24-hr PM10 M
1. LA County/USC Hospital	0.17	0.03	0.09	9.42	7.59
2. USC University Hospital	0.44	0.07	0.28	31.83	26.45
3. USC Healthcare Consultation Center (HCC)	1.00	0.22	0.62	92.73	72.92
4. USC Healthcare Consultation Center II (HCCII)	0.68	0.11	0.43	49.03	39.04
5. Doheny Eye Institute	0.65	0.09	0.40	49.41	39.42
6. Francisco Bravo M.D. Magnet Senior High School	0.25	0.03	0.16	13.06	11.95
7a. Residential Neighborhood A	0.26	0.04	0.15	16.96	13.44
7b. Residential Neighborhood B	0.16	0.02	0.08	10.34	8.31
7c. Residential Neighborhood C	0.21	0.03	0.11	12.46	10.02
7d. Residential Neighborhood D	0.13	0.02	0.06	6.50	5.23
7e. Residential Neighborhood E	0.21	0.03	0.11	11.43	9.22
8. Women and Children's Hospital	0.18	0.02	0.09	7.52	6.55
9. Nursing College	0.22	0.03	0.11	9.11	6.96
10. Hazard Park	0.38	0.05	0.23	25.65	20.55
11. Lincoln Park	0.48	0.23	0.24	71.83	57.43

***CO and NOx units are in ppm. PM10 units are in ug/m3.**
Unless otherwise noted, all scenarios are analyzed using the unmitigated case.
UM - Unmitigated, M - Mitigated

USC SC Sensiti e eceptor Concentrations
Scenario 3

Recept r	Scenari 3 CONS R C ION				
	1-hr CO	8-hr CO	1-hr NOx	24-hr PM10 M	24-hr PM10 M
1. A County/USC ospital	0.55	0.09	0.27		
2. USC Uni ersity ospital	0.50	0.11	0.37		
3. USC ealthcare Consultation Center CC	1.45	0.35	0.73		
4. USC ealthcare Consultation Center CC	1.12	0.19	0.56		
5. Doheny Eye nstitute	0.87	0.18	0.44		
6. rancisco ra o M.D. Magnet Senior igh School	0.30	0.04	0.15		
7a. esi ential eigh orhoo A	0.36	0.08	0.18		
7 . esi ential eigh orhoo	0.17	0.04	0.09		
7c. esi ential eigh orhoo C	0.19	0.03	0.10		
7 . esi ential eigh orhoo D	0.27	0.03	0.13		
7e. esi ential eigh orhoo E	0.44	0.05	0.20		
8. omen an Chil ren's ospital	0.39	0.10	0.20		
9. ursing College	0.29	0.04	0.14		
10. a ar Par	0.48	0.06	0.24		
11. incoln Par	0.24	0.10	0.12		

Recept r	Scenari 3 SI E PREP				
	1-hr CO	8-hr CO	1-hr NOx	24-hr PM10 M	24-hr PM10 M
1. A County/USC ospital	0.50	0.08	0.29	37.58	29.84
2. USC Uni ersity ospital	0.32	0.05	0.19	11.96	8.22
3. USC ealthcare Consultation Center CC	0.67	0.16	0.43	50.14	39.75
4. USC ealthcare Consultation Center CC	0.53	0.10	0.34	22.67	18.38
5. Doheny Eye nstitute	0.40	0.11	0.26	41.05	32.72
6. rancisco ra o M.D. Magnet Senior igh School	0.20	0.03	0.13	10.93	5.50
7a. esi ential eigh orhoo A	0.18	0.03	0.11	7.96	6.42
7 . esi ential eigh orhoo	0.10	0.02	0.06	4.57	3.72
7c. esi ential eigh orhoo C	0.13	0.04	0.08	20.82	16.64
7 . esi ential eigh orhoo D	0.21	0.03	0.13	7.88	6.33
7e. esi ential eigh orhoo E	0.24	0.03	0.17	11.62	7.42
8. omen an Chil ren's ospital	0.44	0.15	0.28	69.59	55.57
9. ursing College	0.28	0.06	0.18	27.80	17.29
10. a ar Par	0.25	0.03	0.19	13.12	10.53
11. incoln Par	0.14	0.06	0.08	10.81	8.83

Recept r	Scenari 3 WORS CASE				
	1-hr CO	8-hr CO	1-hr NOx	24-hr PM10 M	24-hr PM10 M
1. A County/USC ospital	0.55	0.09	0.29	37.58	29.84
2. USC Uni ersity ospital	0.50	0.11	0.37	11.96	8.22
3. USC ealthcare Consultation Center CC	1.45	0.35	0.73	50.14	39.75
4. USC ealthcare Consultation Center CC	1.12	0.19	0.56	22.67	18.38
5. Doheny Eye nstitute	0.87	0.18	0.44	41.05	32.72
6. rancisco ra o M.D. Magnet Senior igh School	0.30	0.04	0.15	10.93	5.50
7a. esi ential eigh orhoo A	0.36	0.08	0.18	7.96	6.42
7 . esi ential eigh orhoo	0.17	0.04	0.09	4.57	3.72
7c. esi ential eigh orhoo C	0.19	0.04	0.10	20.82	16.64
7 . esi ential eigh orhoo D	0.27	0.03	0.13	7.88	6.33
7e. esi ential eigh orhoo E	0.44	0.05	0.20	11.62	7.42
8. omen an Chil ren's ospital	0.44	0.15	0.28	69.59	55.57
9. ursing College	0.29	0.06	0.18	27.80	17.29
10. a ar Par	0.48	0.06	0.24	13.12	10.53
11. incoln Par	0.24	0.10	0.12	10.81	8.83

***CO and NOx units are in ppm. PM10 units are in ug/m3**

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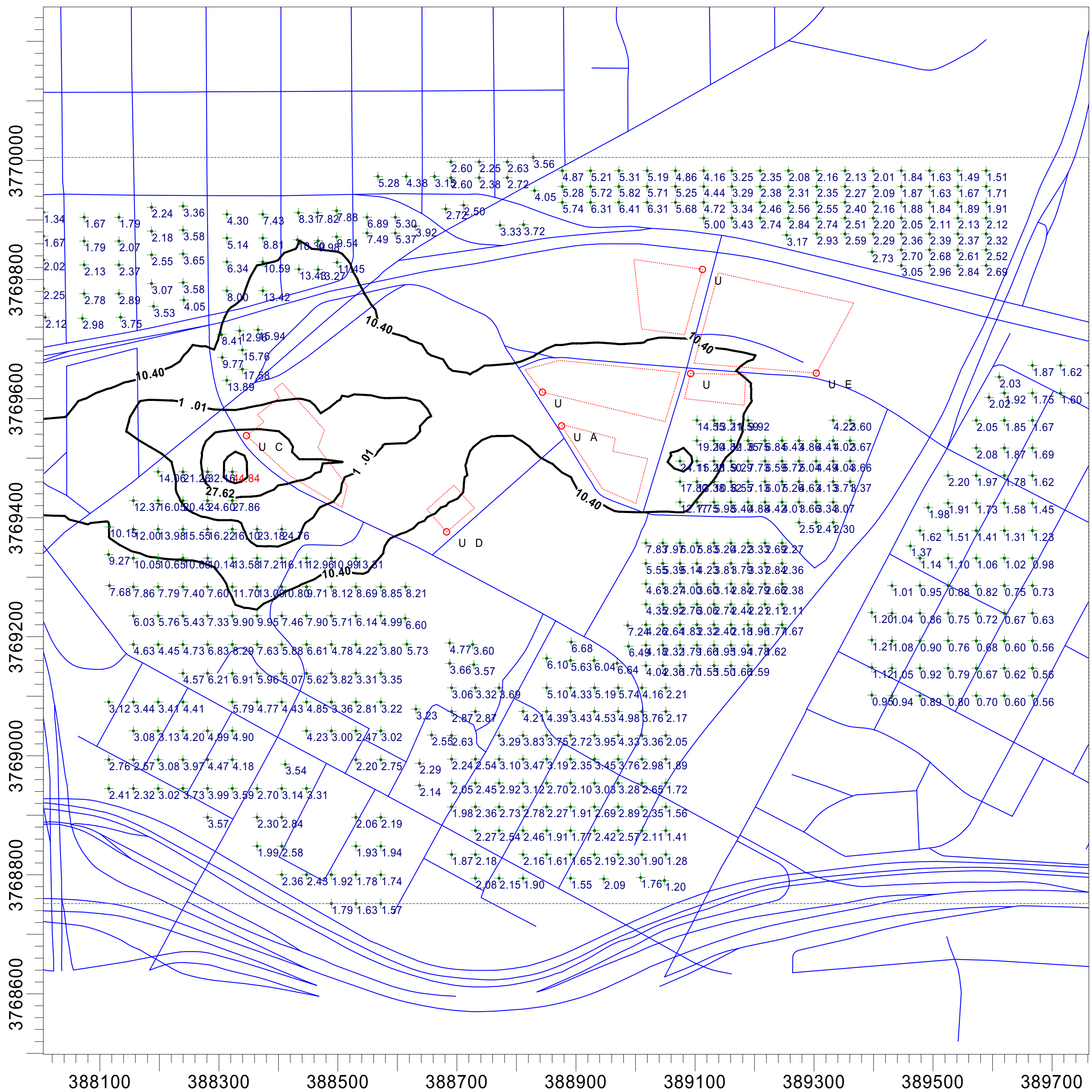
P O FI E OF IG 1S IG 24- R VA ES FOR SO RCE GRO P: A



C MME S: USC SC Scenario 1 ots A, C, D, ugiti e + Exhaust PM10 - ule 403 nly	M DE P S: **CONC, RBAN, F A ,** **F GPO , NOCA M**	C MPA AME:	
		M DE E :	
	U PU PE: **CONC**	ECEP S: **551**	0 0.3 m
	MAX: **44.83554**	U S: **µg/m³**	DA E: **12/6/2004**
			P JEC .:

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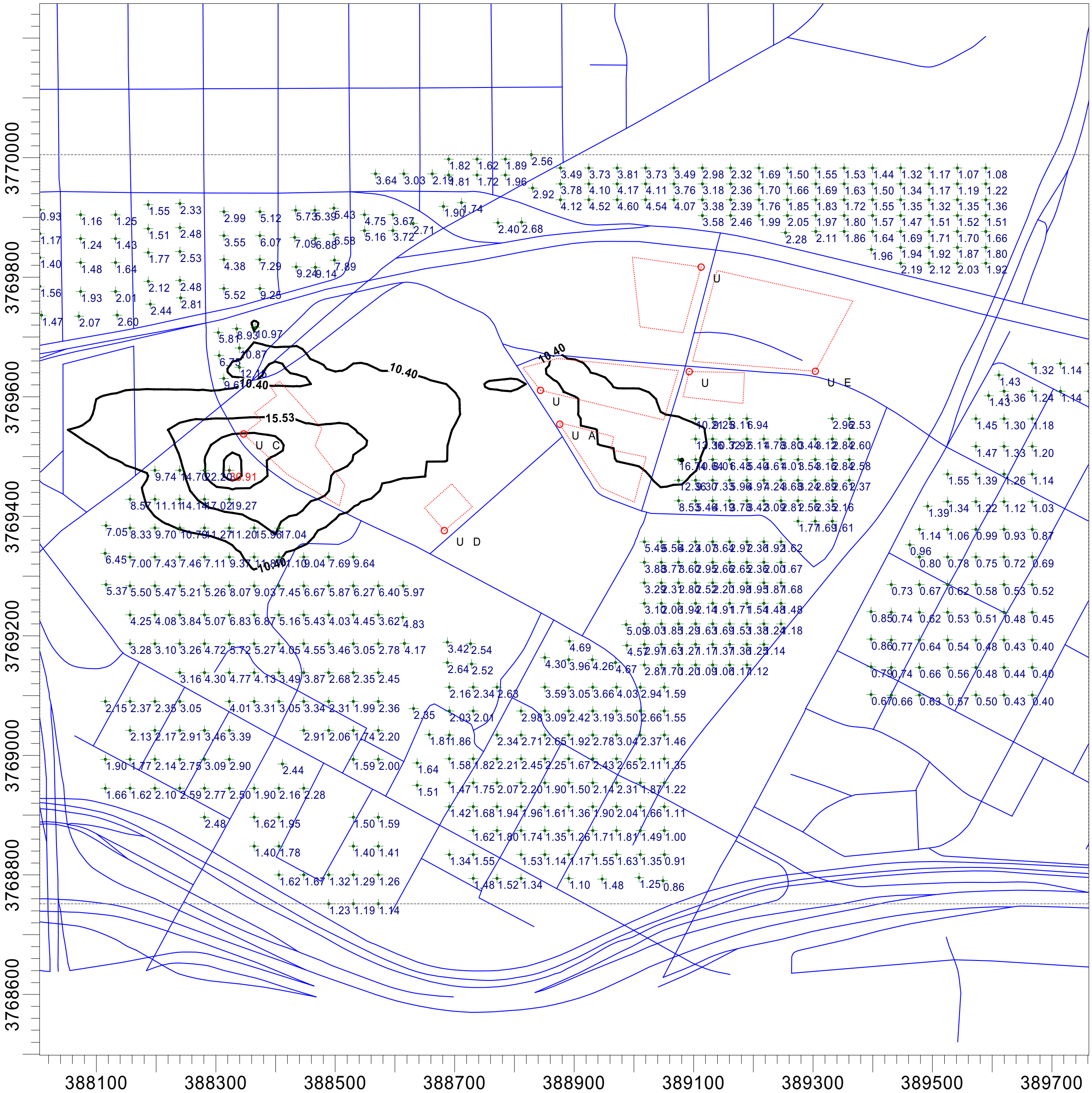
P O FI E OF IG 1S IG 24- R VA ES FOR SO RCE GRO P: A



C MME S:	M DE P S:	C MPA AME:
USC SC Scenario 1 ots A, C, D, ugiti e + Exhaust PM10 - Mitigate	**CONC, RBAN, F A ,** **F GPO , NOCA M**	M DE E :
	U PU PE: **CONC** / ECEP S: **551**	0 0.3 m
	MAX: **30. 1363** / U S: **µg/m³**	DA E: **12/6/2004** / P JEC .:

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P O FI E OF IG 1S IG 1- R VA ES FOR SO RCE GRO P: SRCGP1

C MME S: USC SC Scenario 1 ots A, C, D, x 1-hr Max Site Preparation	M DE P S: **CONC, RBAN, F A , F GPO , NOCA M, PPM**		C MPA AME:
	U PU PE: **CONC**	ECEP S: **551**	M DE E :
	MAX: **0.3606**	U S: **µg/m³**	DA E: **12/6/2004**
			P JEC .:

0 0.3 m

P JEC E:

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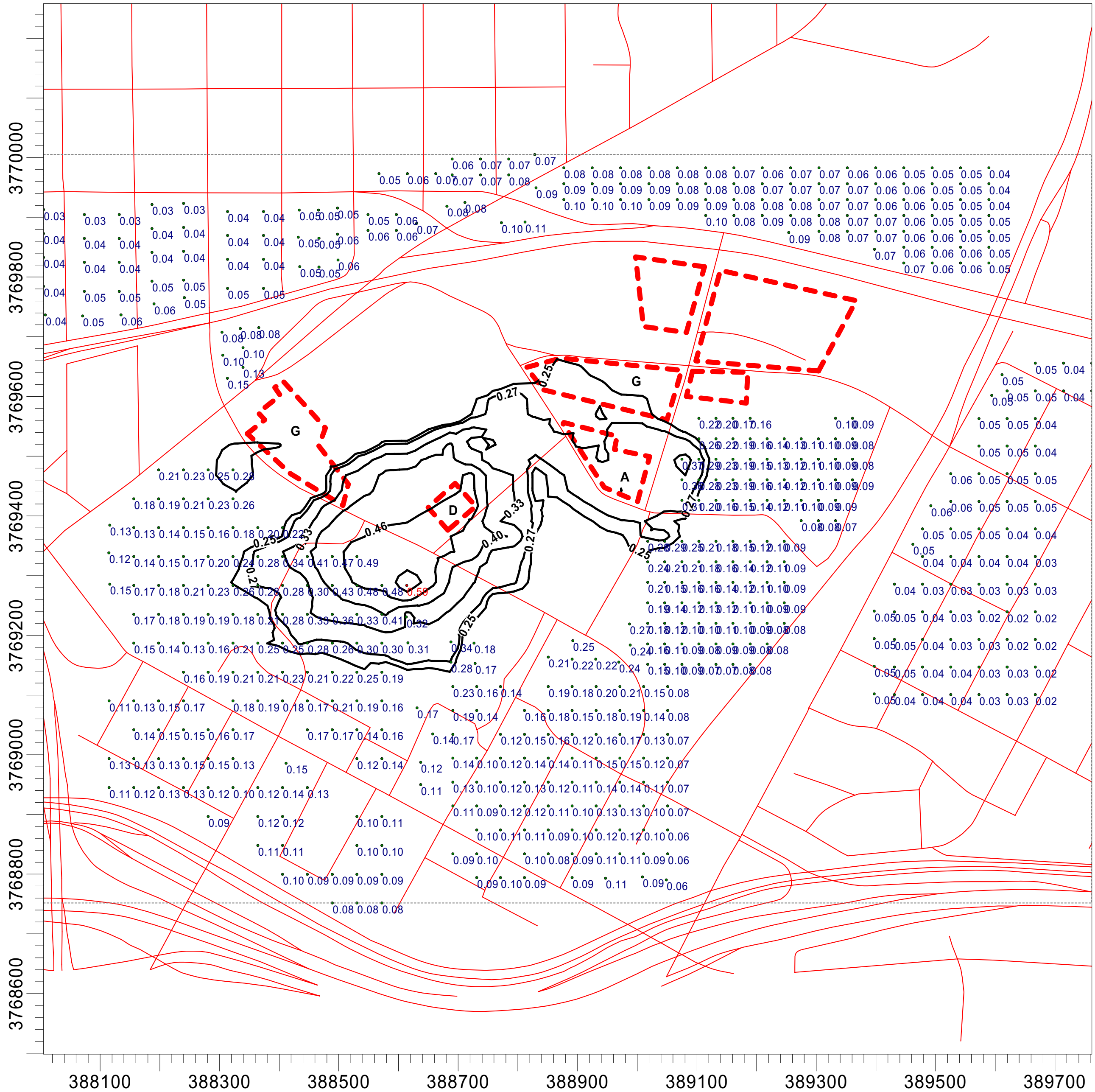
P O FI E OF IG 1S IG 1- R VA ES FOR SO RCE GRO P: SRCGP1



C MME S:	M DE P S:		C MPA AME:	
USC SC Scenario 1 ots A, C, D, x 1-hr Max Construction	**CONC, RBAN, F A , F GPO , NOCA M, PPM**		M DE E :	
	U PU PE: **CONC**	ECEP S: **551**	0 ▬ 0.3 m	
	MAX: **0.5855**	U S: **µg/m³**	DA E: **12/6/2004**	P JEC .:

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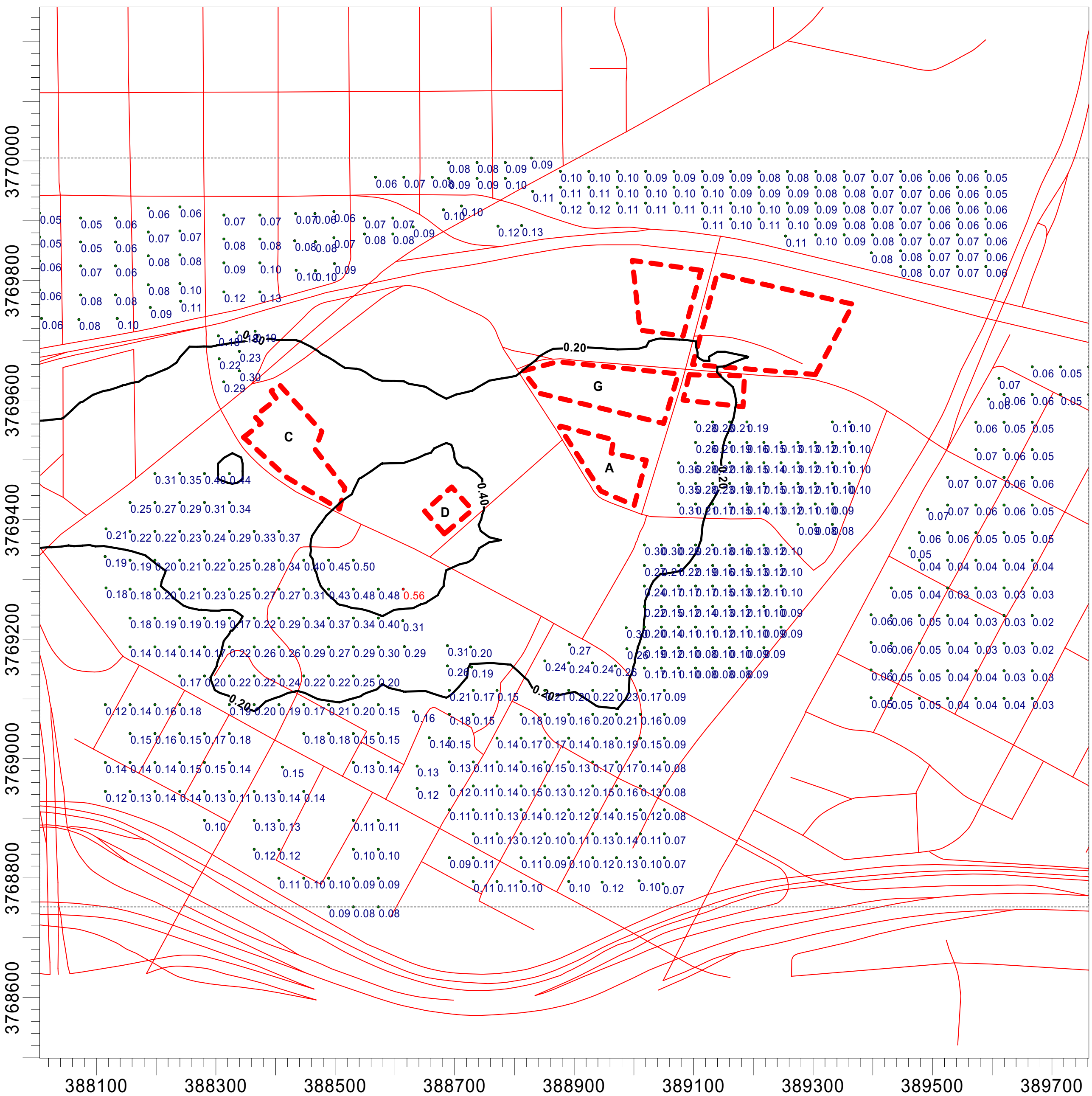
P O FI E OF IG 1S IG 1- R VA ES FOR SO RCE GRO P: SRCGP1



C MME S: USC SC Scenario 1 ots A, C, D, C 1-hr Max Site Preparation	M DE P S: **CONC, RBAN, F A , F GPO , NOCA M, PPM**	C MPA AME:	
		M DE E :	
	U PU PE: **CONC** / ECEP S: **551**	0 ▬▬ 0.3 m	
	MAX: **0.5642** / U S: **µg/m³**	DA E: **12/6/2004**	P JEC .:

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P O FI E OF IG 1S IG 1- R VA ES FOR SO RCE GRO P: SRCGP1

C MME S:	M DE P S:	C MPA AME:	
USC SC Scenario 1 ots A, C, D, C 1-hr Max Construction	**CONC, RBAN, F A , F GPO , NOCA M, PPM**	M DE E :	
	U PU PE: **CONC** / ECEP S: **551**	0 — 0.3 m	
	MAX: **1.168** / U S: **µg/m³**	DA E: **12/6/2004**	P JEC .:

P JEC E:

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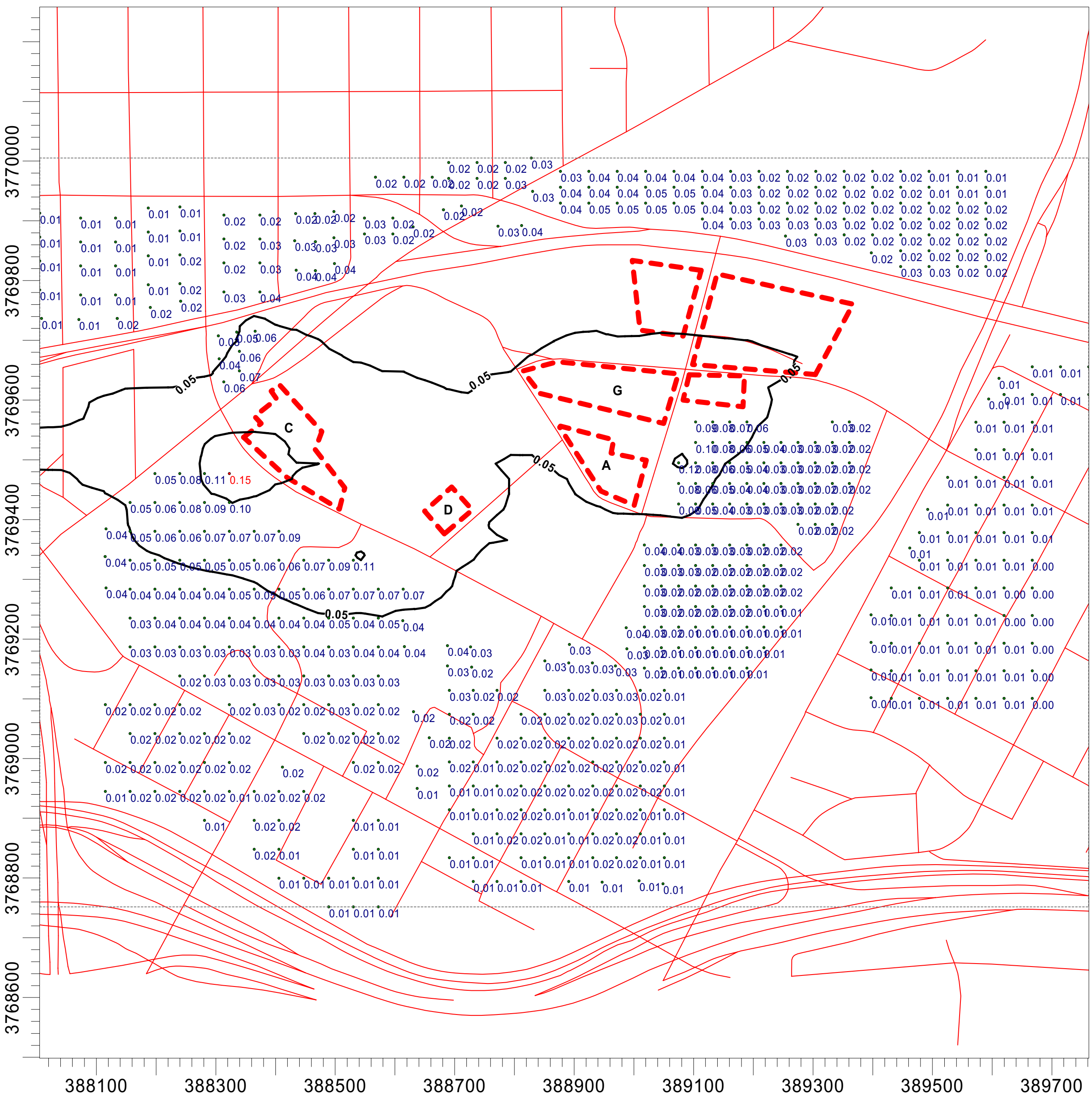
P O FI E OF IG 1S IG 8- R VA ES FOR SO RCE GRO P: SRCGP1



C MME S: USC SC Scenario 1 ots A, C, D, C 8-hr Max Site ra ing	M DE P S: **CONC, RBAN, F A , F GPO , NOCA M, PPM**	C MPA AME:	
	U PU PE: **CONC** / ECEP S: **551**	M DE E : 0 — 0.3 m	
	MAX: **0.1516** / U S: **µg/m³**	DA E: **12/6/2004**	P JEC .:

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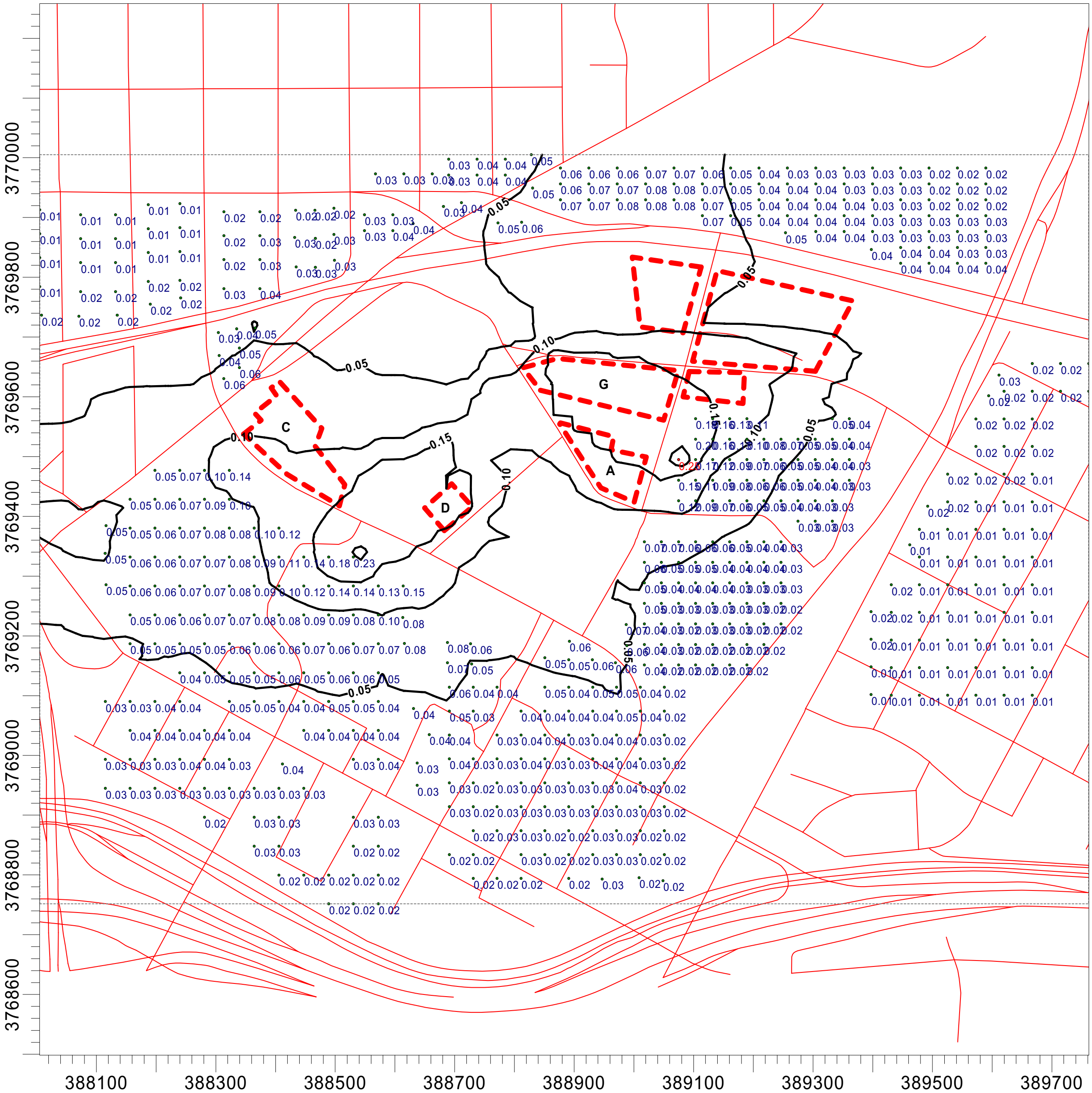

C MME S: USC SC Scenario 1 ots A, C, D, C 8-hr Max Construction	M DE P S: **CONC, RBAN, F A ,** **F GPO , NOCA M, PPM**		C MPA AME:
	U PU PE: **CONC**	ECEP S: **551**	M DE E : 0 0.3 m
	MAX: **0.2456**	U S: **µg/m³**	DA E: **12/6/2004**
			P JEC .:

P JEC E:

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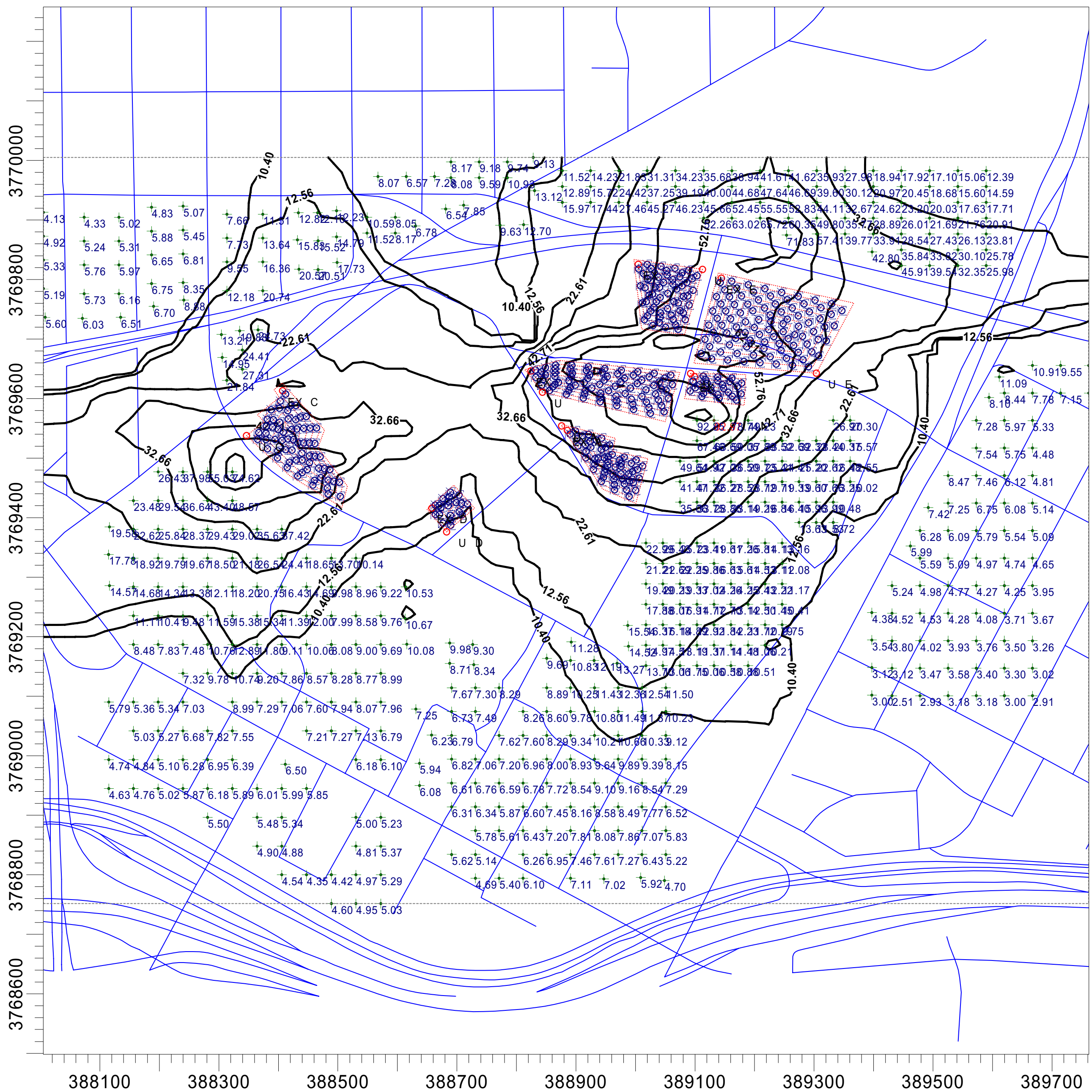
P O FI E OF IG 1S IG 24- R VA ES FOR SO RCE GRO P: A



C MME S: USC SC Scenario 2 ots , C, E, PM10 24-hr Max ugiti e + Exhaust ule 403 ule 403 nly	M DE P S: **CONC, RBAN, F A , F GPO , NOCA M**		C MPA AME:
			M DE E :
	U PU PE: **CONC**	ECEP S: **551**	0 0.3 m
	MAX: **2. 6731**	U S: **µg/m³**	DA E: **12/6/2004**
			P JEC .:

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P JEC E:

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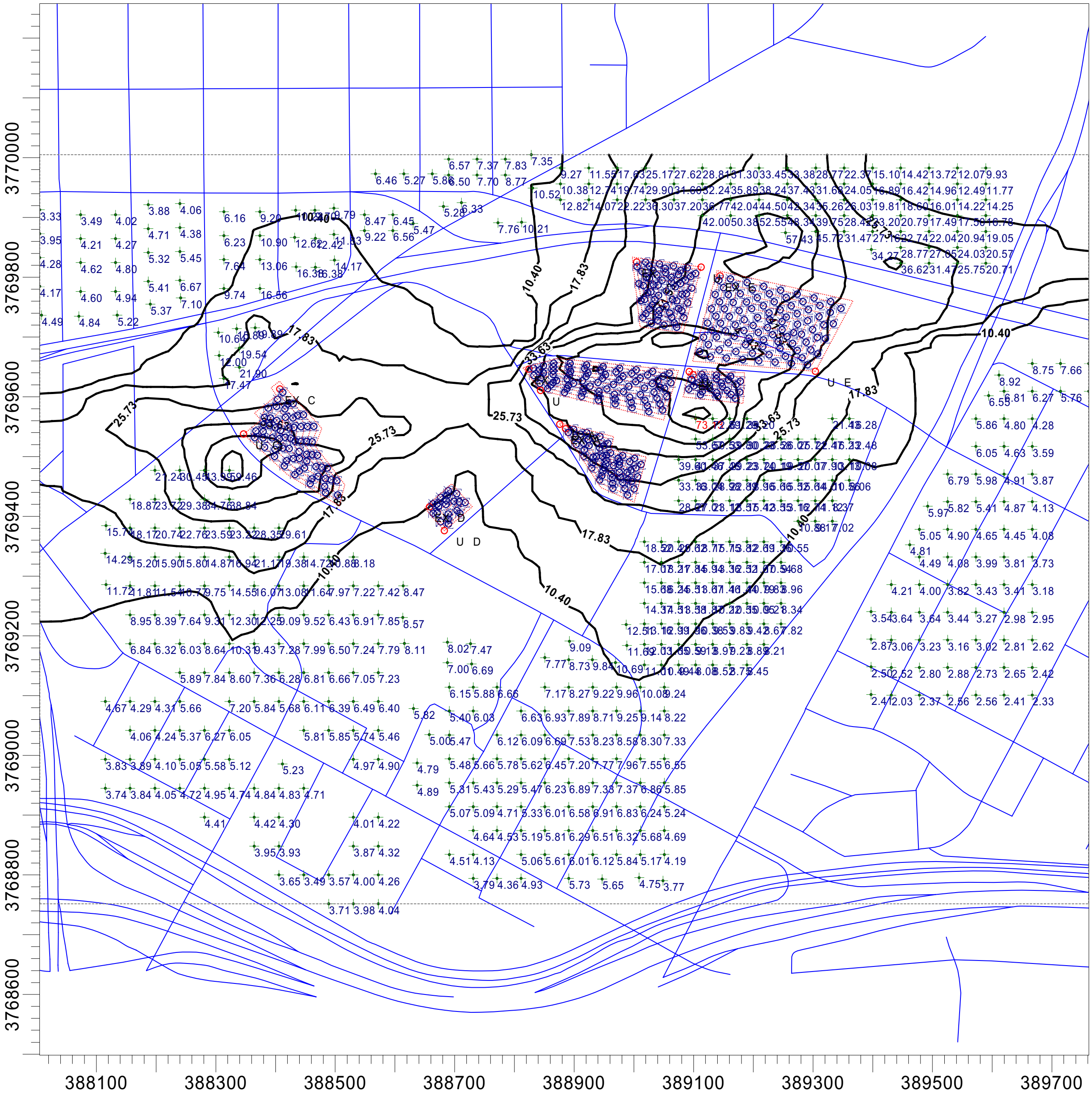
P O FI E OF IG 1S IG 24- R VA ES FOR SO RCE GRO P: A



C MME S: USC SC Scenario 2 ots , C, E, PM10 24-hr Max ugiti e + Exhaust Mitigate Mitigate	M DE P S: **CONC, RBAN, F A , F GPO , NOCA M**		C MPA AME: M DE E :
	U PU PE: **CONC**	ECEP S: **551**	0 0.3 m
	MAX: **73.131 8**	U S: **µg/m³**	DA E: **12/6/2004**	P JEC .:

P JEC E:

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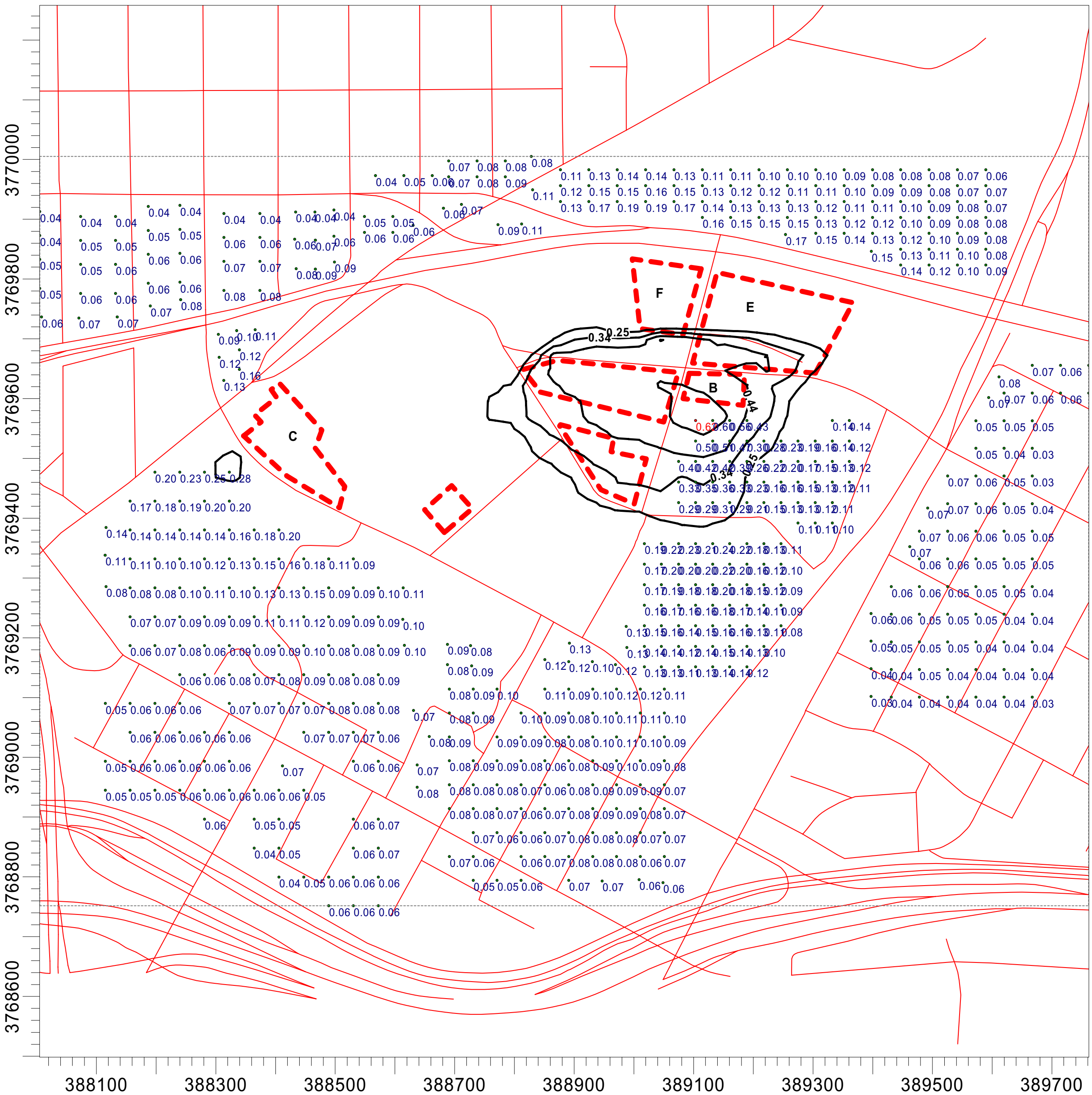
P O FI E OF IG 1S IG 1- R VA ES FOR SO RCE GRO P: A



C MME S: USC SC Scenario 2 ots , C, E, x 1-hr Max Site Preparation	M DE P S: **CONC, RBAN, F A ,** **F GPO , NOCA M, PPM**		C MPA AME:
	U PU PE: **CONC**	ECEP S: **551**	M DE E : 0 0.3 m
	MAX: **0.6221**	U S: **µg/m³**	DA E: **12/6/2004**
			P JEC .:

P JEC E:

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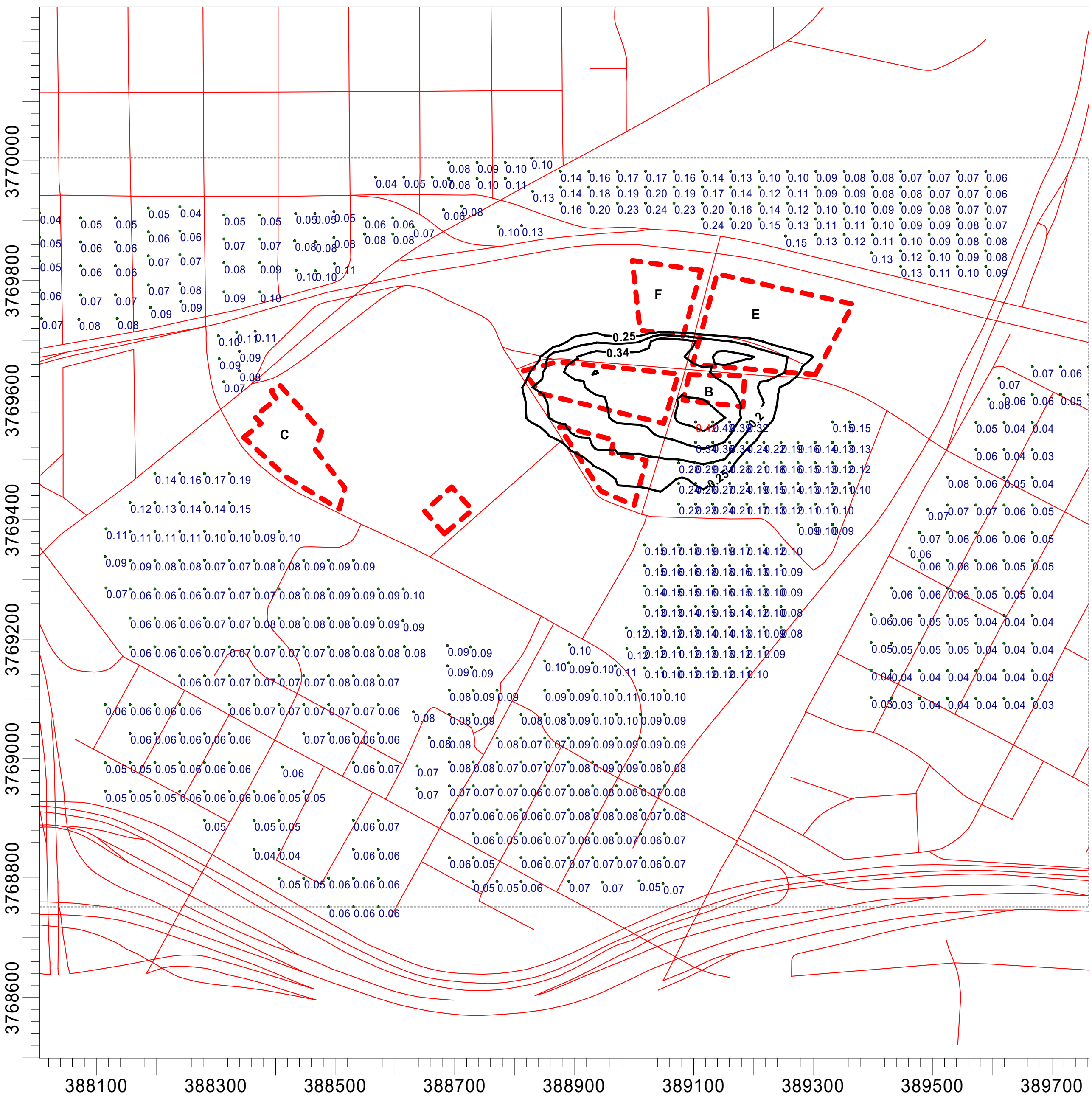
P O FI E OF IG 1S IG 1- R VA ES FOR SO RCE GRO P: A



C MME S:	M DE P S:		C MPA AME:	
USC SC Scenario 2 ots , C, E, x 1-hr Max Construction	**CONC, RBAN, F A , F GPO , NOCA M, PPM**		M DE E :	
	U PU PE: **CONC**	ECEP S: **551**	0 0.3 m	
	MAX: **0.4227**	U S: **µg/m³**	DA E: **12/6/2004**	P JEC .:

P JEC E:

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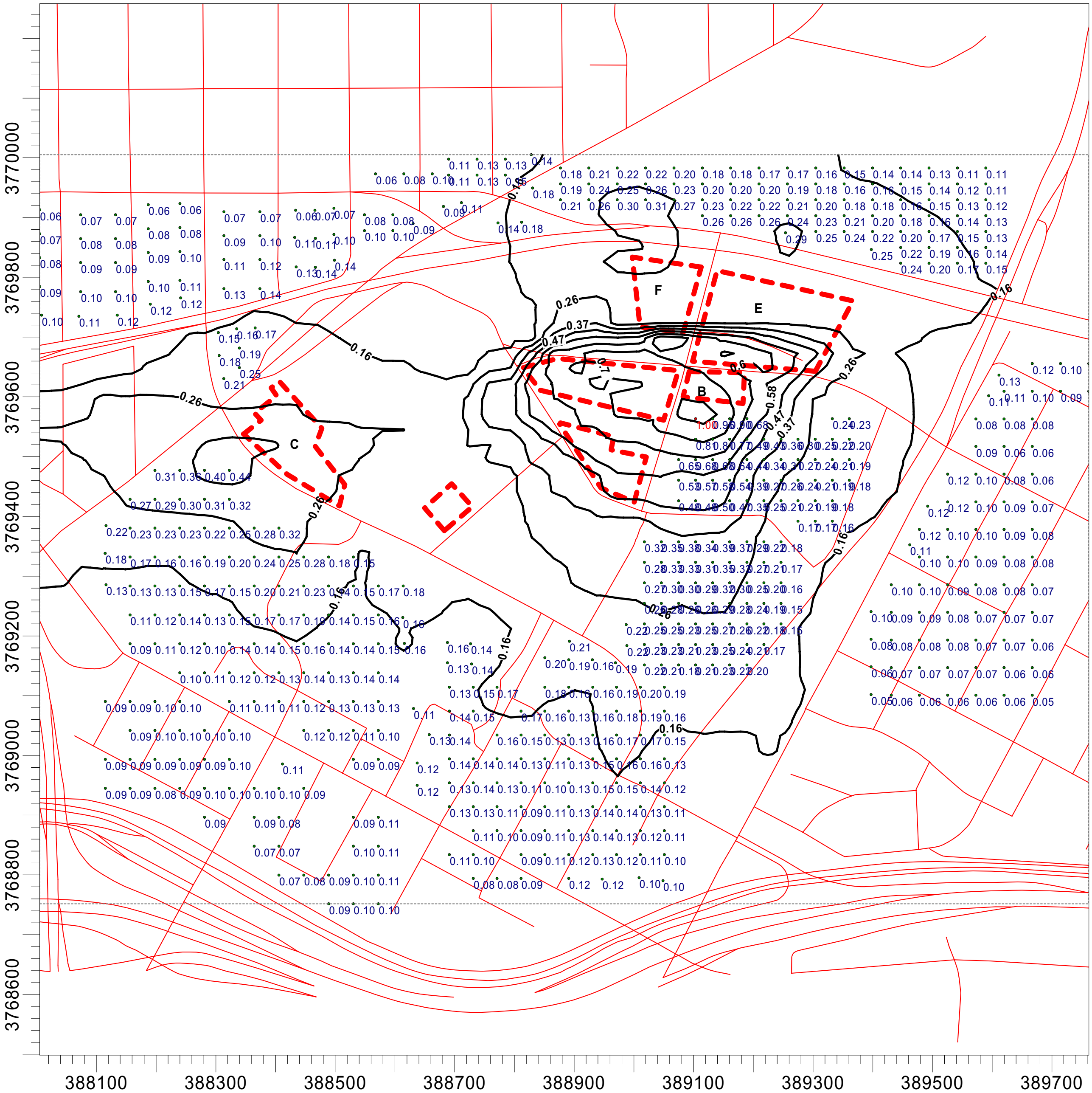
P O FI E OF IG 1S IG 1- R VA ES FOR SO RCE GRO P: A



C MME S:	M DE P S:		C MPA AME:	
USC SC Scenario 2 ots , C, E, C 1-hr Max Site Preparation	**CONC, RBAN, F A , F GPO , NOCA M, PPM**		M DE E :	
	U PU PE: **CONC**	ECEP S: **551**	0 0.3 m	
	MAX: **1.0035**	U S: **µg/m³**	DA E: **12/6/2004**	P JEC .:

P JEC E:

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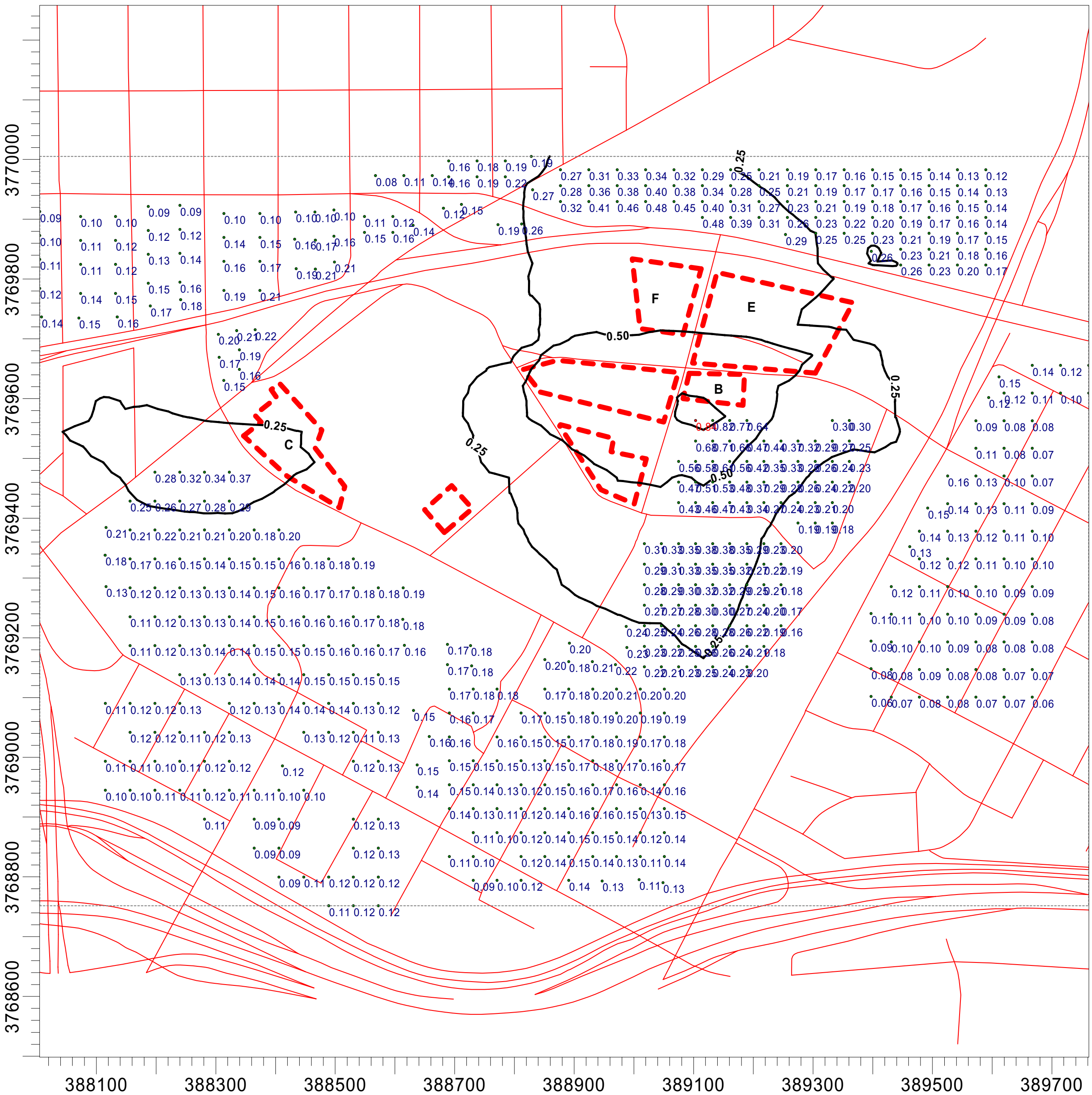
P O FI E OF IG 1S IG 1- R VA ES FOR SO RCE GRO P: A



C MME S: USC SC Scenario 2 ots , C, E, C 1-hr Max Construction	M DE P S: **CONC, RBAN, F A ,** **F GPO , NOCA M, PPM**	C MPA AME:	
		M DE E :	
	U PU PE: **CONC** / ECEP S: **551**	0 — 0.3 m	
	MAX: **0.8358** / U S: **µg/m³**	DA E: **12/6/2004**	P JEC .:

P S Vie - a es En ironmental So t are V:\AQ SE D V S \Acti e Projects\USC\ ealth Sciences Campus\ SC\111604\Scenario2\C 1hrC.P

P JEC E:

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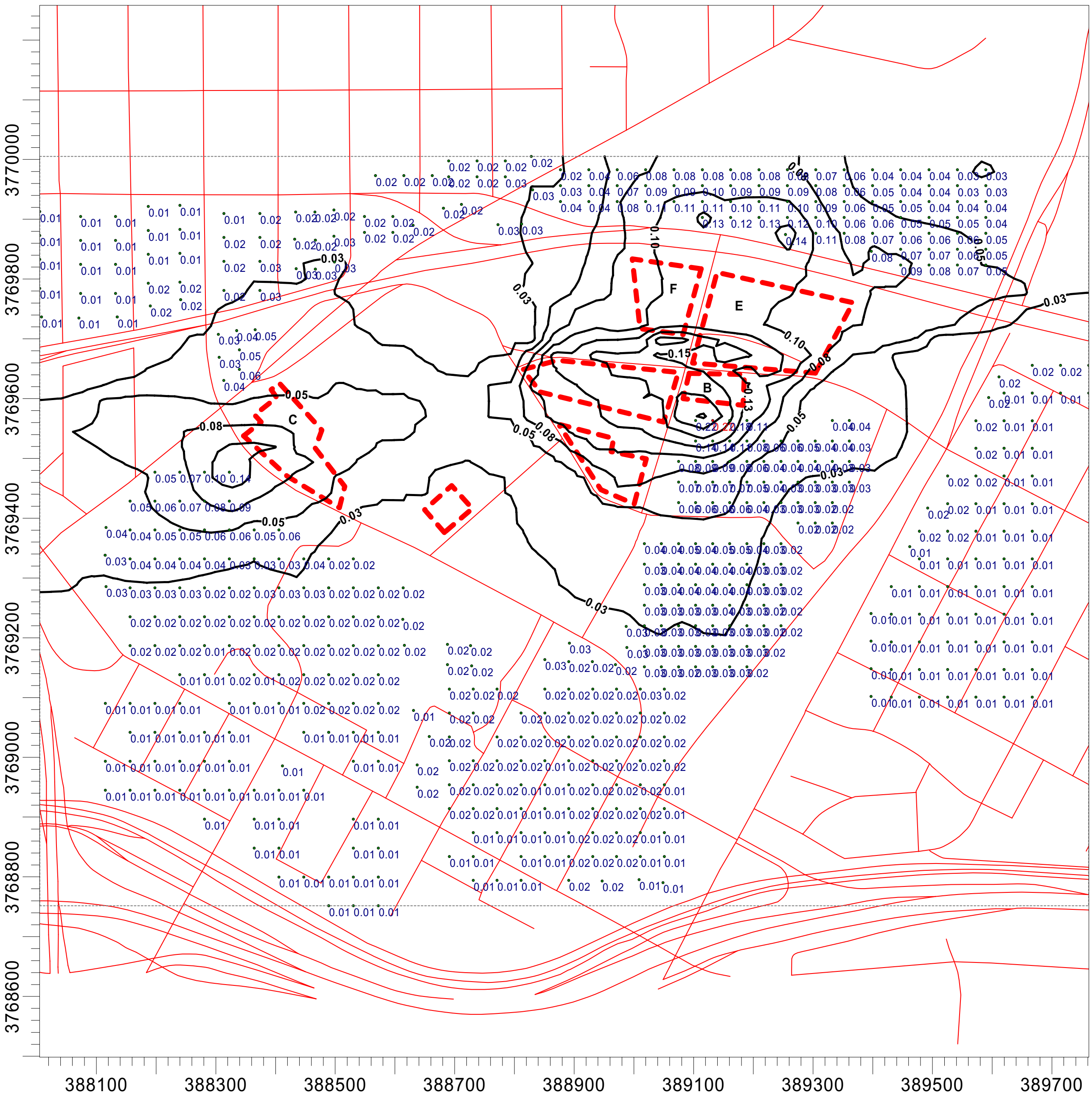
P O FI E OF IG 1S IG 8- R VA ES FOR SO RCE GRO P: A



C MME S: USC SC Scenario 2 ots , C, E, C 8-hr Max Site Preparation	M DE P S: **CONC, RBAN, F A ,** **F GPO , NOCA M, PPM**		C MPA AME:
			M DE E :
	U PU PE: **CONC**	ECEP S: **551**	0 0.3 m
	MAX: **0.2241**	U S: **µg/m³**	DA E: **12/6/2004**	P JEC .:

P JEC E:

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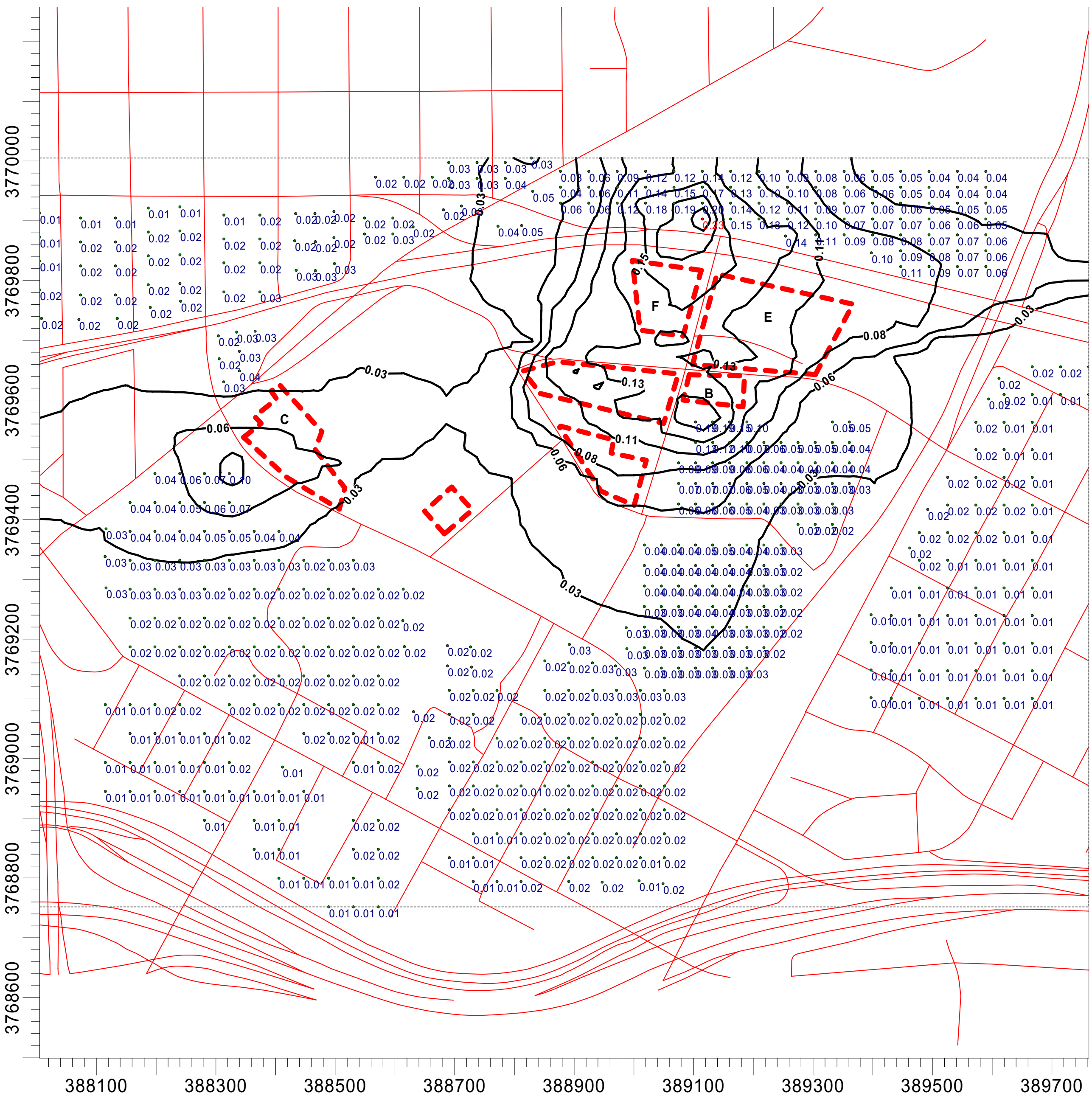
P O FI E OF IG 1S IG 8- R VA ES FOR SO RCE GRO P: A



C MME S:	M DE P S:		C MPA AME:	
USC SC Scenario 2 ots , C, E, C 8-hr Max Construction	CONC, RBAN, F A , F GPO , NOCA M, PPM		M DE E :	
	U PU PE: **CONC**	ECEP S: **551**	0 0.3 m	
	MAX: **0.227**	U S: **µg/m³**	DA E: **12/6/2004**	P JEC .:

P JEC E:

C:\D cuments and Settings\e.yan\Deskt p\ SC SC\ SC SC.isc
P O FI E OF IG 1S IG 24- R VA ES FOR SO RCE GRO P: A

C MME S: USC SC Scenario 3 ots A, , C, D, PM10 24-hr Max ugiti e + Exhaust ule 403 nly	M DE P S: **CONC, RBAN, F A , F GPO , NOCA M**		C MPA AME:
	U PU PE: **CONC**	ECEP S: **551**	M DE E : 0 0.3 m
	MAX: **6 .58722**	U S: **µg/m³**	DA E: **12/8/2004**
			P JEC .:

P JEC E:

C:\D cuments and Settings\e.yan\Deskt p\ SC SC\ SC SC.isc

P O FI E OF IG 1S IG 24- R VA ES FOR SO RCE GRO P: A

C MME S:	M DE P S:		C MPA AME:	
USC SC Scenario 3 ots A, , C, D, PM10 24-hr Max ugiti e + Exhaust Mitigate	**CONC, RBAN, F A , F GPO , NOCA M**		M DE E :	
	U PU PE: **CONC**	ECEP S: **551**	0 0.3 m	
	MAX: **55.56635**	U S: **µg/m³**	DA E: **12/8/2004**	P JEC .:

P JEC E:

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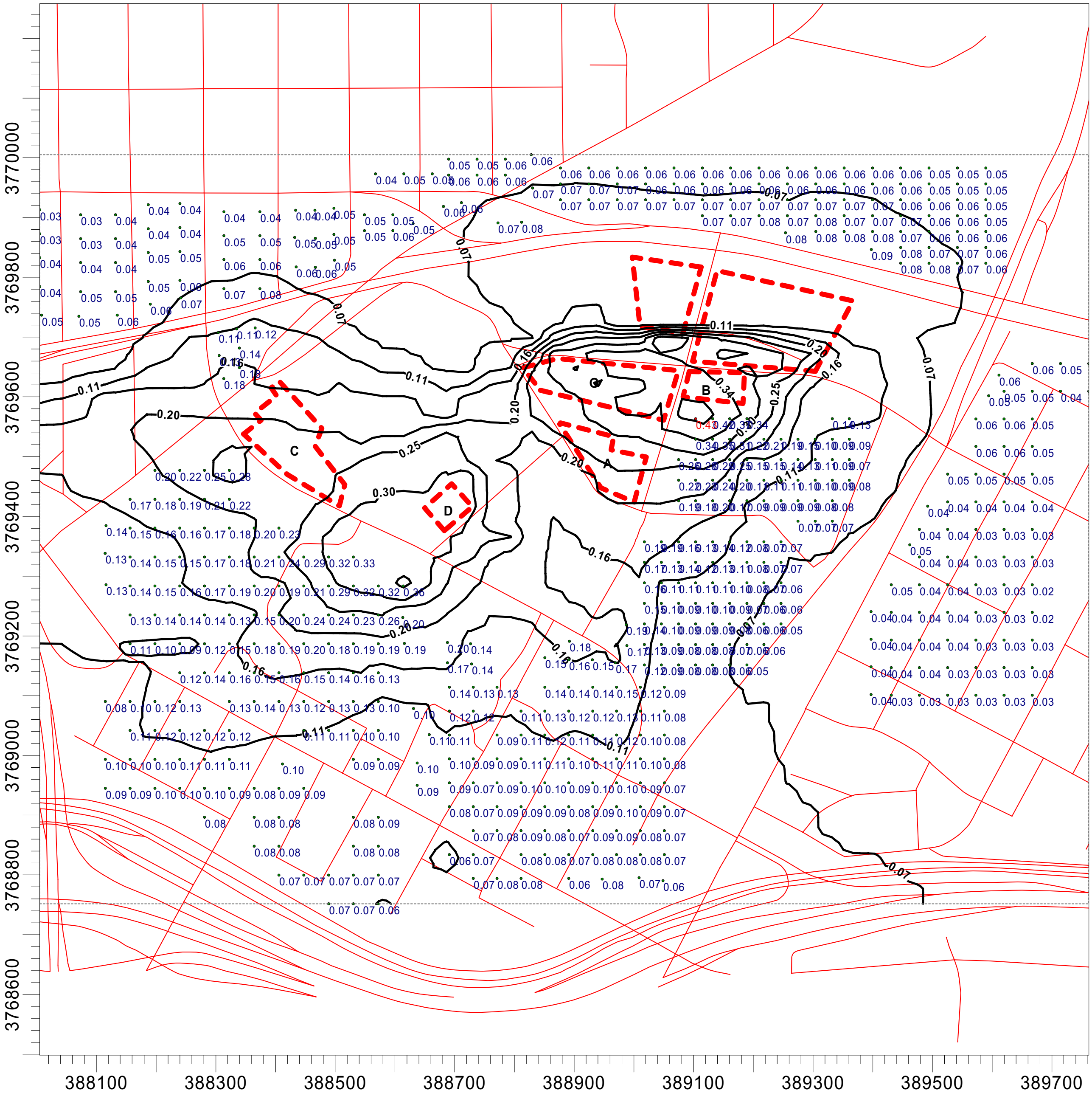
P O FI E OF IG 1S IG 1- R VA ES FOR SO RCE GRO P: A



C MME S: USC SC Scenario 3 ots A, , C, D, x 1-hr Max Site Preparation	M DE P S: **CONC, RBAN, F A , F GPO , NOCA M, PPM**	C MPA AME:	
		M DE E :	
	U PU PE: **CONC** / ECEP S: **551**	0 — 0.3 m	
	MAX: **0.4336** / U S: **µg/m³**	DA E: **12/8/2004**	P JEC .:

P JEC E:

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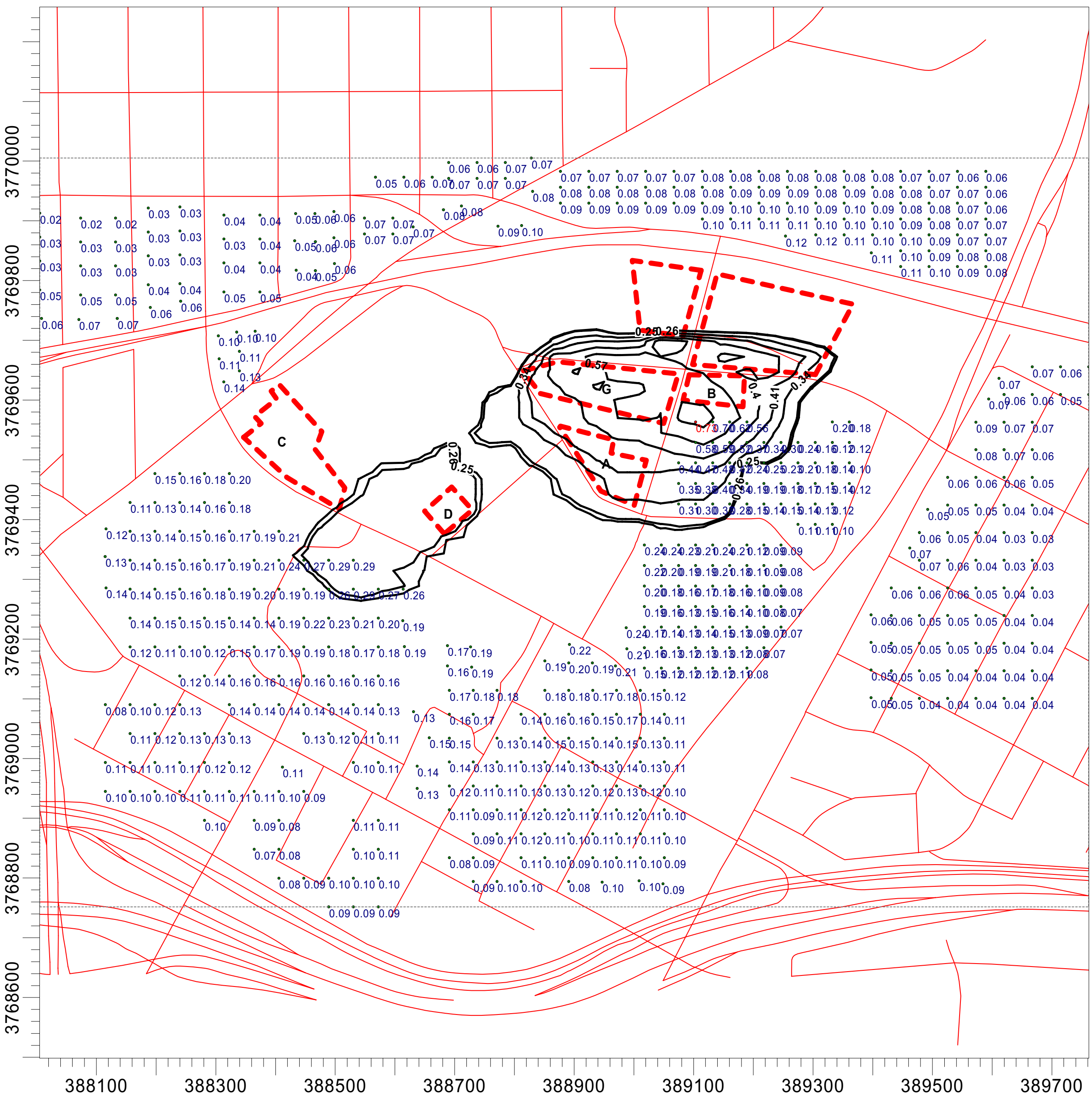
P O FI E OF IG 1S IG 1- R VA ES FOR SO RCE GRO P: A



C MME S: USC SC Scenario 3 ots A, , C, D, x 1-hr Max Construction	M DE P S: **CONC, RBAN, F A ,** **F GPO , NOCA M, PPM**		C MPA AME:
			M DE E :
	U PU PE: **CONC**	ECEP S: **551**	0 0.3 m
	MAX: **0.7284**	U S: **µg/m³**	DA E: **12/8/2004**
			P JEC .:

P JEC E:

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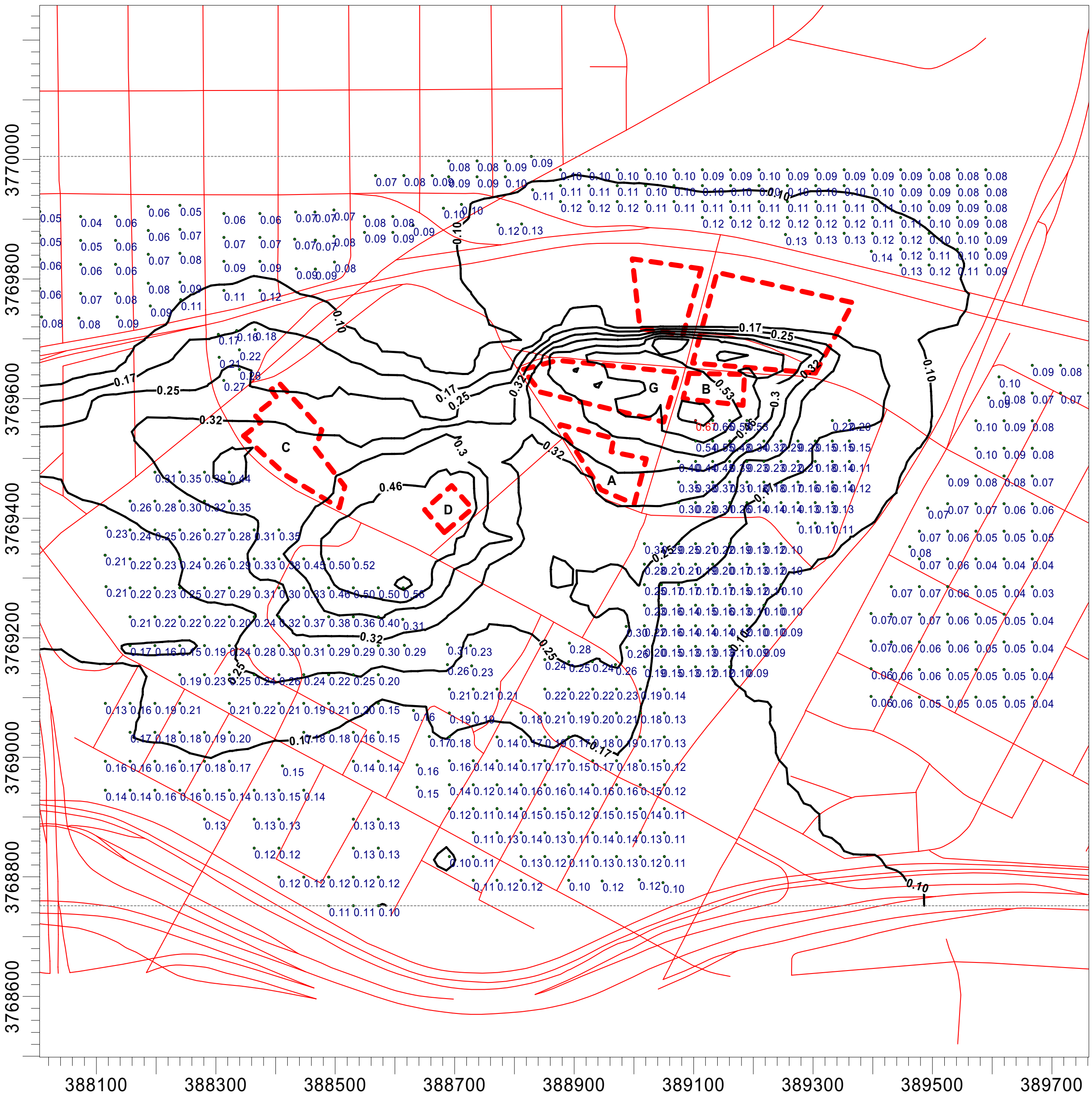
P O FI E OF IG 1S IG 1- R VA ES FOR SO RCE GRO P: A



C MME S:	M DE P S:	C MPA AME:
USC SC Scenario 3 ots A, , C, D, C 1-hr Max Site Preparation	**CONC, RBAN, F A , F GPO , NOCA M, PPM**	M DE E :
	U PU PE: **CONC** / ECEP S: **551**	0 0.3 m
	MAX: **0.6743** / U S: **µg/m³**	DA E: **12/6/2004** / P JEC .:

P JEC E:

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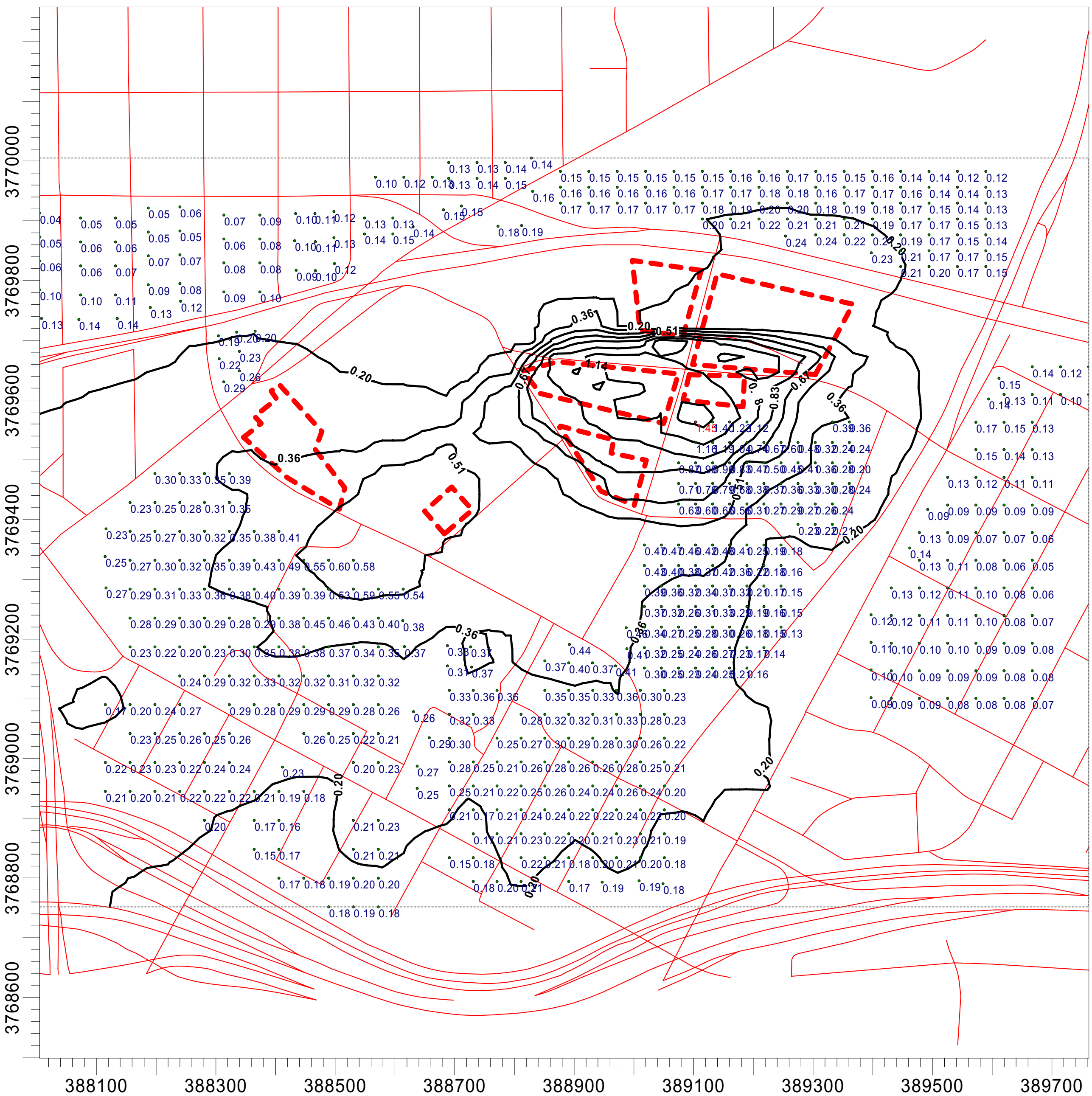
P O FI E OF IG 1S IG 1- R VA ES FOR SO RCE GRO P: A



C MME S:	M DE P S:		C MPA AME:	
USC SC Scenario 3 ots A, , C, D, C 1-hr Max Construction	CONC, RBAN, F A , F GPO , NOCA M, PPM		M DE E :	
	U PU PE: CONC	ECEP S: 551	0 0.3 m	
	MAX: 1.4532	U S: µg/m³	DA E: 12/6/2004	P JEC .:

P JEC E:

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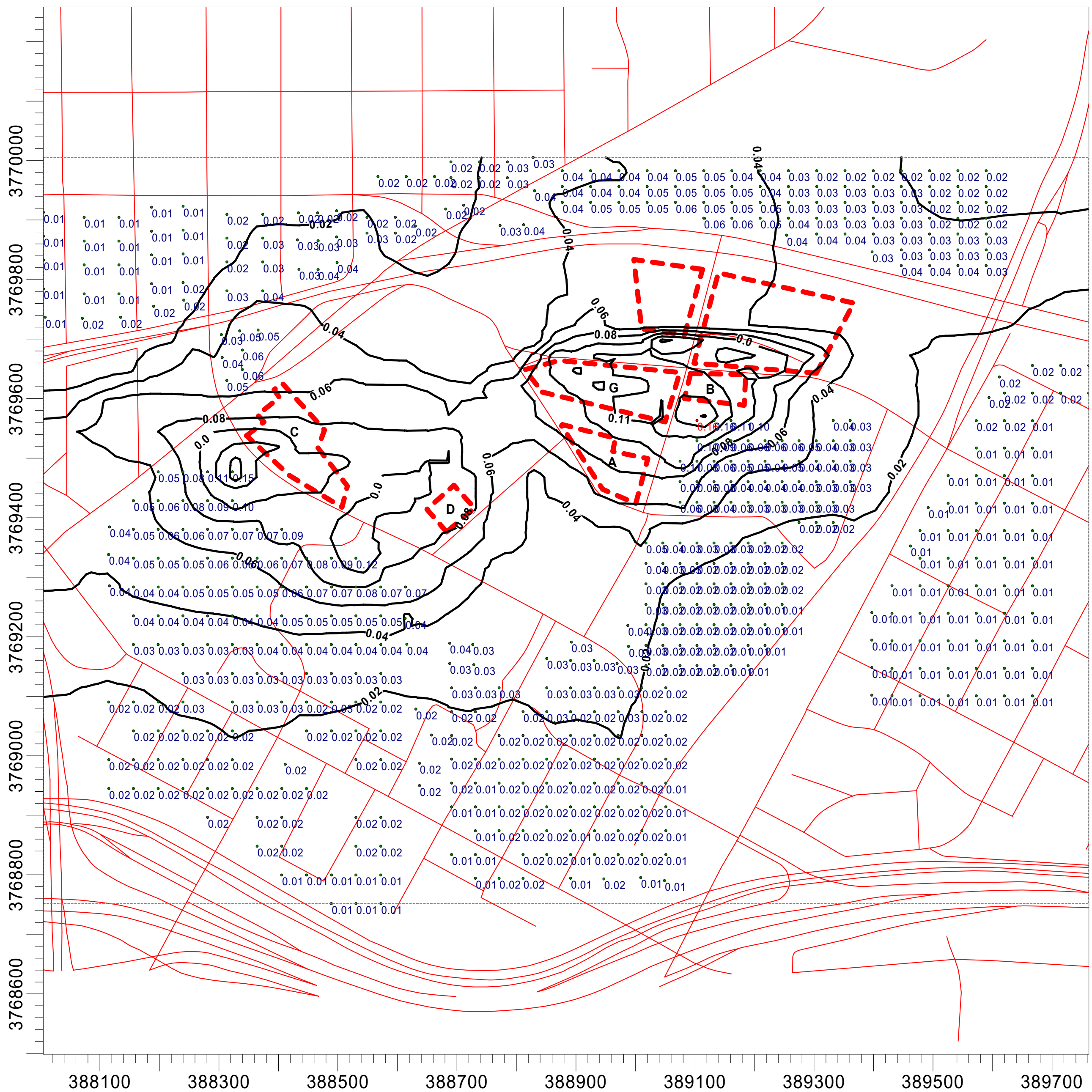
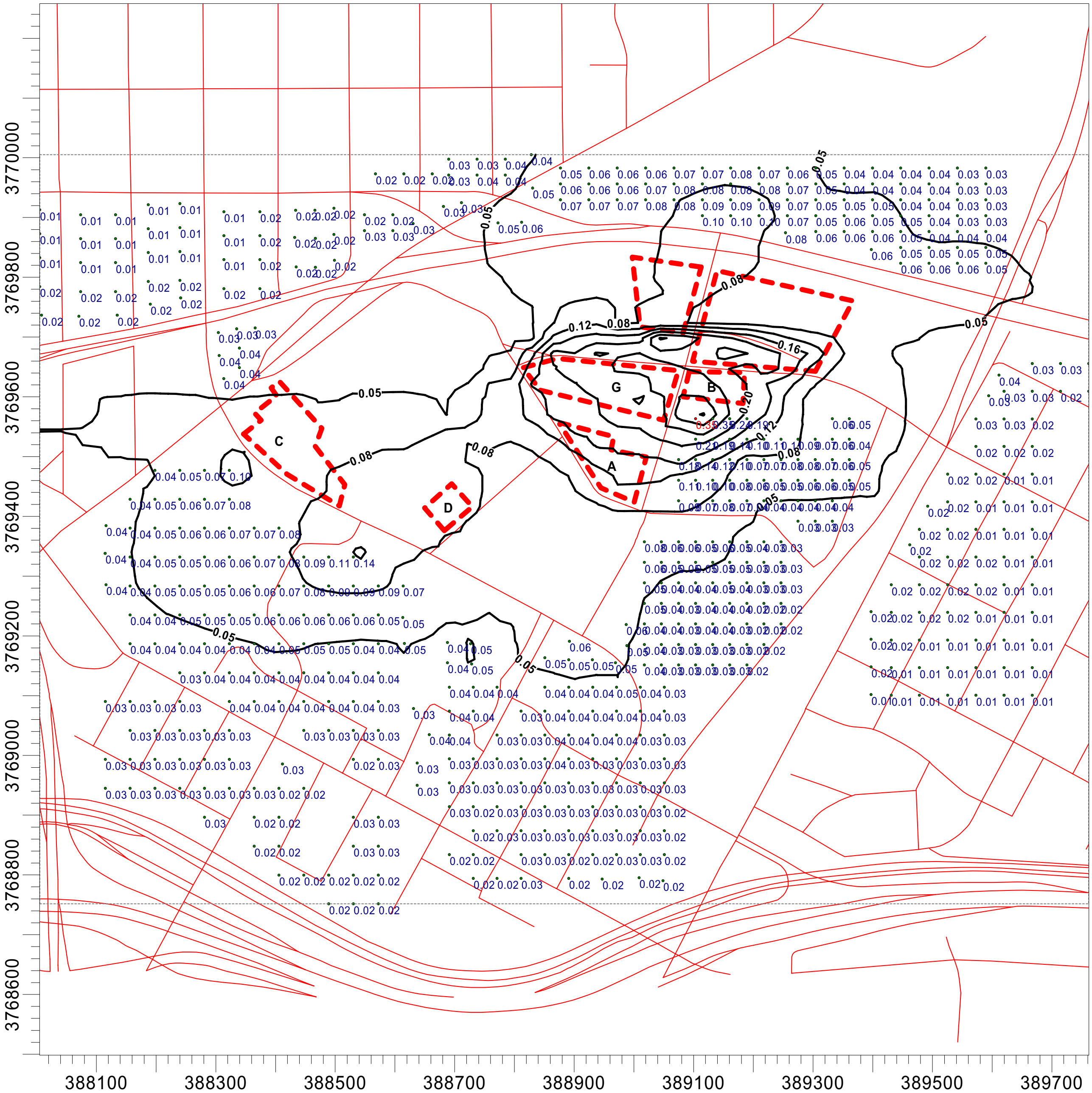
P O FI E OF IG 1S IG 8- R VA ES FOR SO RCE GRO P: A



C MME S: USC SC Scenario 3 ots A, , C, D, C 8-hr Max Site Preparation	M DE P S: **CONC, RBAN, F A ,** **F GPO , NOCA M, PPM**		C MPA AME: M DE E :
	U PU PE: **CONC**	ECEP S: **551**	0 0.3 m
	MAX: **0.1633**	U S: **µg/m³**	DA E: **12/8/2004**
			P JEC .:

P JEC E:

C:\D cuments and Settings\e.yan\Deskt p\ SC SC\ SC SC.isc
P O FI E OF IG 1S IG 8- R VA ES FOR SO RCE GRO P: A



C MME S: USC SC Scenario 3 ots A, , C, D, C 8-hr Max Construction	M DE P S: **CONC, RBAN, F A ,** **F GPO , NOCA M, PPM**	C MPA AME:	
		M DE E :	
	U PU PE: **CONC** / ECEP S: **551**	0 — 0.3 m	
	MAX: **0.3503** / U S: **µg/m³**	DA E: **12/8/2004**	P JEC .:

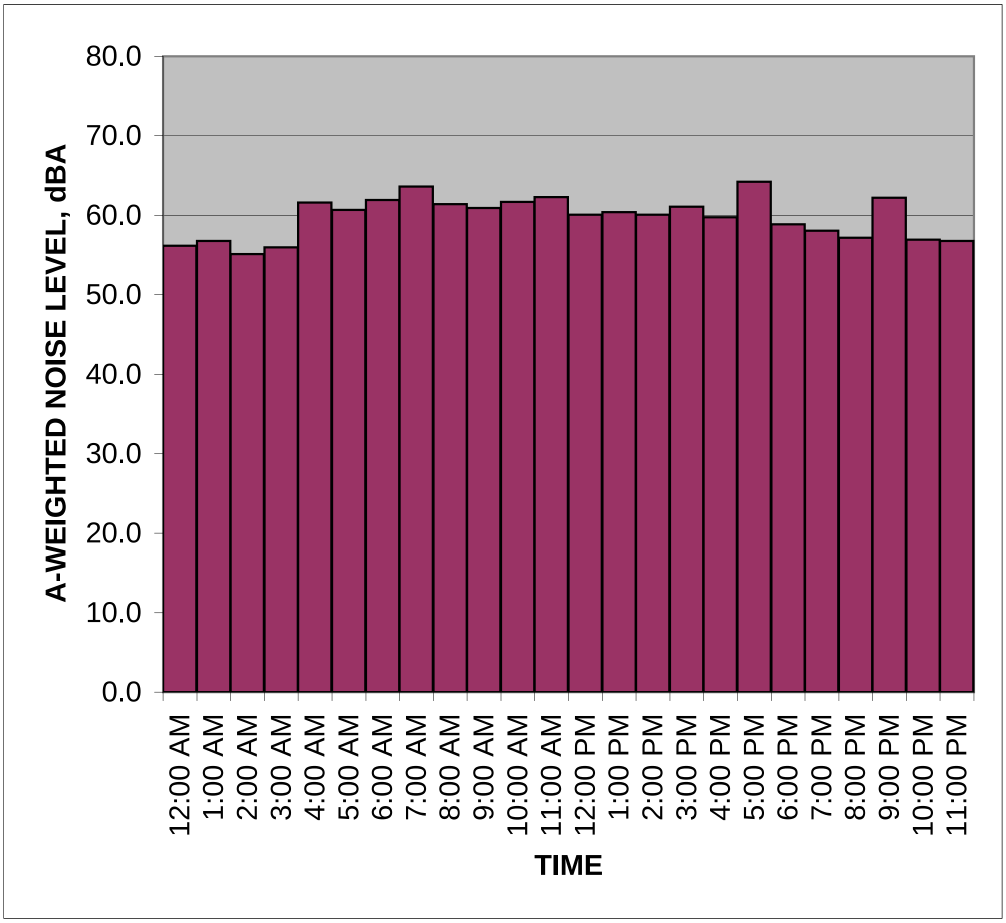
Appendix E
Noise Calculation Worksheets

Community Noise Equivalent Level, CNEL.

Project: USC Health Sciences Campus
Location: Northwest corner of San Pablo Street and Eastlake Avenue
Sources: Traffic Volumes

Date: June 9, 2004

TIME	HNL, dB(A)
12:00 AM	56.2
1:00 AM	56.8
2:00 AM	55.1
3:00 AM	56.0
4:00 AM	61.6
5:00 AM	60.7
6:00 AM	61.9
7:00 AM	63.6
8:00 AM	61.4
9:00 AM	60.9
10:00 AM	61.7
11:00 AM	62.3
12:00 PM	60.1
1:00 PM	60.4
2:00 PM	60.1
3:00 PM	61.1
4:00 PM	59.8
5:00 PM	64.2
6:00 PM	58.9
7:00 PM	58.1
8:00 PM	57.2
9:00 PM	62.2
10:00 PM	56.9
11:00 PM	56.8
CNEL, dB(A):	**65.9**



NOTES:

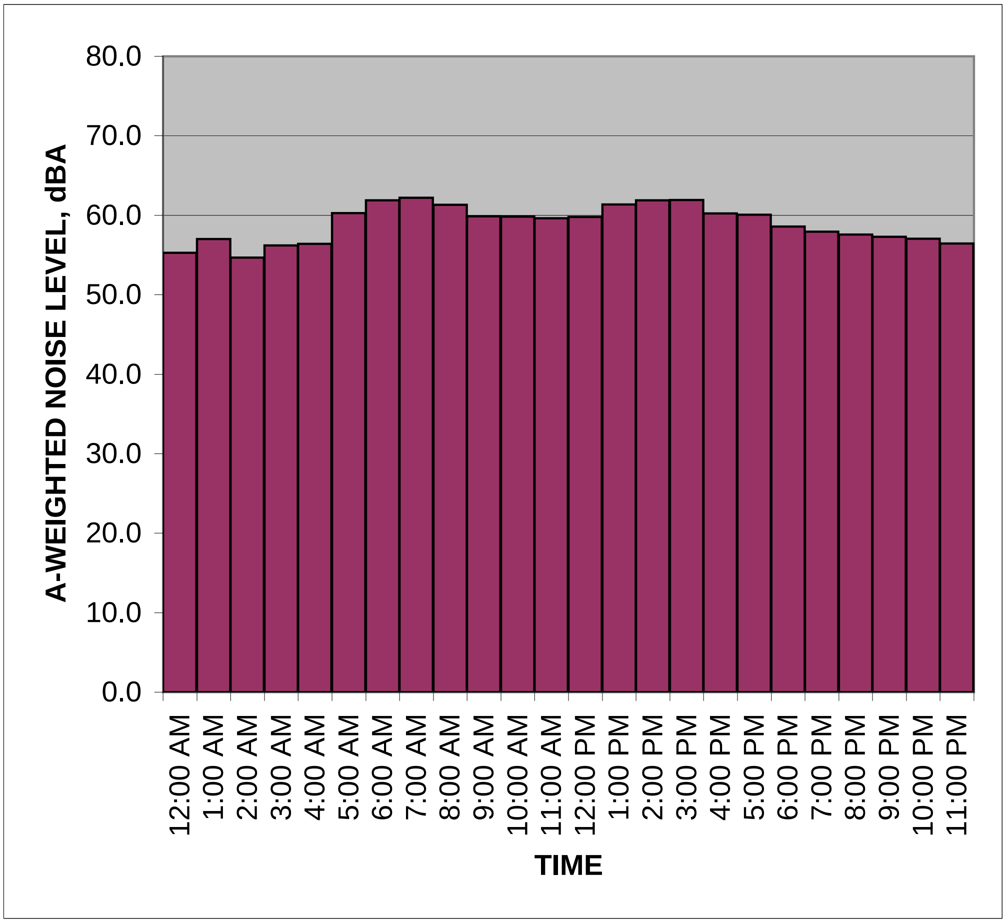
fieldcnel.xls

Community Noise Equivalent Level, CNEL.

Project: USC Health Sciences Campus
Location: Northwest corner of San Pablo Street and Eastlake Avenue
Sources: Traffic Volumes

Date: June 10, 2004

TIME	*HNL, dB(A)*
12:00 AM	55.3
1:00 AM	57.0
2:00 AM	54.7
3:00 AM	56.2
4:00 AM	56.4
5:00 AM	60.3
6:00 AM	61.9
7:00 AM	62.2
8:00 AM	61.3
9:00 AM	59.9
10:00 AM	59.8
11:00 AM	59.6
12:00 PM	59.8
1:00 PM	61.4
2:00 PM	61.9
3:00 PM	61.9
4:00 PM	60.2
5:00 PM	60.1
6:00 PM	58.6
7:00 PM	58.0
8:00 PM	57.6
9:00 PM	57.3
10:00 PM	57.0
11:00 PM	56.4
CNEL, dB(A):	**64.9**



NOTES:

fieldcnel.xls

Interval data
Translated: 27-Nov-2004 17:37:43
Translated File: C:\WINDOWS\DESKTOP\SLMUTIL\USC HSC 15 Min Measurements 112904.SLMDL
SLM: 820A1065
Firmware Rev.: 1.500 18Sep1998
Software: SlmUtility v2.01
PCR Services
233 Wilshire Blvd
Santa Monica, CA
USC HSC

Rec #	Location	Date	Time	Duration	Leq	Lmax	Lmin	SEL	Peak	UwPeak	L(1.00)	L(10.00)	L(25.00)	L(50.00)	L(90.00)	L(99.00)
1	Zonal and Mission	29-Nov-04	12:28:22	15:00.0	65.59	77.28	56.28	95.14	94.06	103.15	74.69	68.72	65.93	63.18	58.63	56.86
2	Zonal, Front of Hospital	29-Nov-04	13:00:03	15:00.0	74.33	97.56	56.13	103.89	112.32	112.23	84.39	67.61	64.78	62.18	58.75	56.65
3	Bravo High School	29-Nov-04	13:25:31	15:00.0	65.32	81.11	51.89	94.87	93.72	100.68	75.43	67.84	65.47	62.44	54.40	52.22
4	Center of HCC I and Doheny Eye Institute	29-Nov-04	14:25:54	15:00.0	60.14	73.00	56.22	89.70	94.44	101.58	70.34	60.94	59.11	58.13	57.11	56.22
5	Child Day Care (East)	29-Nov-04	15:13:14	15:00.0	58.43	76.10	49.86	87.98	96.90	95.56	70.70	58.81	53.86	52.37	50.98	50.07
6	Norfolk and Soto (Residential)	29-Nov-04	15:35:57	15:00.0	71.53	82.82	55.61	101.08	100.95	105.65	78.78	74.62	72.80	70.19	62.43	56.96
7	Lot F (Mission Street and Railroad Tracks)	29-Nov-04	16:01:44	15:00.0	79.70	102.26	52.57	109.25	117.68	117.47	94.36	66.57	64.11	61.78	56.64	53.78

Existing								
	Traffic Volumes		Leq			CNEL		
Roadway/Segment	AM	PM	ROW	50 Feet	100 Feet	ROW	50 Feet	100 Feet
Zonal Ave., East of San Pablo St.	1159	1036	68.3	63.6	61.4	67.6	62.8	60.6
Zonal Ave., between Biggy St. and San Pablo St.	1079	1020	68.0	63.3	61.1	67.3	62.5	60.3
Zonal Ave., between Mission Rd. and Biggy St.	1034	1043	67.9	63.1	60.9	67.1	62.4	60.2
Biggy St., North of Zonal Ave	468	312	62.8	58.1	55.8	62.0	57.3	55.1
San Pablo St., between Zonal Ave. and Norfolk St.	626	587	64.0	59.3	57.1	63.3	58.6	56.4
Future No Project								
	Traffic Volumes		Leq			CNEL		
Roadway/Segment	AM	PM	ROW	50 Feet	100 Feet	ROW	50 Feet	100 Feet
Zonal Ave., East of San Pablo St.	1182	988	68.4	63.7	61.5	67.7	62.9	60.7
Zonal Ave., between Biggy St. and San Pablo St.	969	799	67.5	62.8	60.6	66.8	62.1	59.9
Zonal Ave., between Mission Rd. and Biggy St.	1034	943	67.8	63.1	60.9	67.1	62.3	60.1
Biggy St., North of Zonal Ave	533	356	63.3	58.6	56.4	62.6	57.9	55.7
San Pablo St., between Zonal Ave. and Norfolk St.	792	699	65.1	60.3	58.1	64.3	59.6	57.4
Future With Project								
	Traffic Volumes		Leq			CNEL		
Roadway/Segment	AM	PM	ROW	50 Feet	100 Feet	ROW	50 Feet	100 Feet
Zonal Ave., East of San Pablo St.	1336	1168	68.9	64.2	62.0	68.2	63.5	61.3
Zonal Ave., between Biggy St. and San Pablo St.	1224	1087	68.6	63.8	61.6	67.8	63.1	60.9
Zonal Ave., between Mission Rd. and Biggy St.	1161	1087	68.3	63.6	61.4	67.6	62.8	60.6
Biggy St., North of Zonal Ave	533	356	63.3	58.6	56.4	62.6	57.9	55.7
San Pablo St., between Zonal Ave. and Norfolk St.	893	807	65.6	60.9	58.7	64.8	60.1	57.9

	CNEL			
Summary	50 ft. from ROW		At ROW	
Roadway/Segment	Project Increment	Cumulative Increment	Project Increment	Cumulative Increment
Zonal Ave., East of San Pablo St.	0.6	0.7	0.5	0.6
Zonal Ave., between Biggy St. and San Pablo St.	1.0	0.6	1.0	0.5
Zonal Ave., between Mission Rd. and Biggy St.	0.5	0.4	0.5	0.5
Biggy St., North of Zonal Ave	0.0	0.6	0.0	0.6
San Pablo St., between Zonal Ave. and Norfolk St.	0.5	1.5	0.5	1.5

Predicted Exisiting Noise Levels Table

		CNEL	
Roadway/Segment	ROW	50 Feet	100 Feet
Zonal Ave., East of San Pablo St.	67.6	62.8	60.6
Zonal Ave., between Biggy St. and San Pablo St.	67.3	62.5	60.3
Zonal Ave., between Mission Rd. and Biggy St.	67.1	62.4	60.2
Biggy St., North of Zonal Ave	62.0	57.3	55.1
San Pablo St., between Zonal Ave. and Norfolk St.	63.3	58.6	56.4

Predicted Future Noise Levels Table

Roadway/Segment	Existing	Future No Project	Future With Project	Project Increment	Cumulative Increment
Zonal Ave., East of San Pablo St.	62.8	62.9	63.5	0.6	0.7
Zonal Ave., between Biggy St. and San Pablo St.	62.5	62.1	63.1	1.0	0.6
Zonal Ave., between Mission Rd. and Biggy St.	62.4	62.3	62.8	0.5	0.4
Biggy St., North of Zonal Ave	57.3	57.9	57.9	0.0	0.6
San Pablo St., between Zonal Ave. and Norfolk St.	58.6	59.6	60.1	0.5	1.5

Existing								
	Traffic Volumes		Leq			CNEL		
Roadway/Segment	AM	PM	ROW	50 Feet	100 Feet	ROW	50 Feet	100 Feet
Eastlake St., West of San Pablo St.	386	377	61.9	57.2	55.0	61.2	56.5	54.3
Norfolk St., East of San Pablo St.	139	152	57.9	53.2	51.0	57.1	52.4	50.2
San Pablo St., between Eastlake/Norfolk St. and Alcaz	612	557	63.9	59.2	57.0	63.2	58.5	56.3
Alcazar St., West of San Pablo St.	453	440	62.6	57.9	55.7	61.9	57.2	55.0
Alcazar St., East of San Pablo St.	884	841	65.5	60.8	58.6	64.8	60.1	57.9
Future No Project								
	Traffic Volumes		Leq			CNEL		
Roadway/Segment	AM	PM	ROW	50 Feet	100 Feet	ROW	50 Feet	100 Feet
Eastlake St., West of San Pablo St.	443	460	62.7	58.0	55.8	62.0	57.2	55.0
Norfolk St., East of San Pablo St.	240	273	60.4	55.7	53.5	59.7	55.0	52.8
San Pablo St., between Eastlake/Norfolk St. and Alcaz	759	655	64.9	60.2	57.9	64.1	59.4	57.2
Alcazar St., West of San Pablo St.	597	592	63.8	59.1	56.9	63.1	58.4	56.2
Alcazar St., East of San Pablo St.	1227	1179	67.0	62.2	60.0	66.2	61.5	59.3
Future With Project								
	Traffic Volumes		Leq			CNEL		
Roadway/Segment	AM	PM	ROW	50 Feet	100 Feet	ROW	50 Feet	100 Feet
Eastlake St., West of San Pablo St.	443	460	62.7	58.0	55.8	62.0	57.2	55.0
Norfolk St., East of San Pablo St.	240	273	60.4	55.7	53.5	59.7	55.0	52.8
San Pablo St., between Eastlake/Norfolk St. and Alcaz	860	763	65.4	60.7	58.5	64.7	59.9	57.7
Alcazar St., West of San Pablo St.	597	592	63.8	59.1	56.9	63.1	58.4	56.2
Alcazar St., East of San Pablo St.	1288	1222	67.2	62.5	60.2	66.4	61.7	59.5

	CNEL			
Summary	50 ft. from ROW		At ROW	
Roadway/Segment	Project Increment	Cumulative Increment	Project Increment	Cumulative Increment
Eastlake St., West of San Pablo St.	0.0	0.7	0.0	0.8
Norfolk St., East of San Pablo St.	0.0	2.6	0.0	2.6
San Pablo St., between Eastlake/Norfolk St. and Alcaz	0.5	1.4	0.6	1.5
Alcazar St., West of San Pablo St.	0.0	1.2	0.0	1.2
Alcazar St., East of San Pablo St.	0.2	1.6	0.2	1.6

Predicted Exisiting Noise Levels Table

		CNEL	
Roadway/Segment	ROW	50 Feet	100 Feet
Eastlake St., West of San Pablo St.	61.2	56.5	54.3
Norfolk St., East of San Pablo St.	57.1	52.4	50.2
San Pablo St., between Eastlake/Norfolk St. and Alcaz	63.2	58.5	56.3
Alcazar St., West of San Pablo St.	61.9	57.2	55.0
Alcazar St., East of San Pablo St.	64.8	60.1	57.9

Predicted Future Noise Levels Table

Roadway/Segment	Existing	Future No Project	Future With Project	Project Increment	Cumulative Increment
Eastlake St., West of San Pablo St.	56.5	57.2	57.2	0.0	0.7
Norfolk St., East of San Pablo St.	52.4	55.0	55.0	0.0	2.6
San Pablo St., between Eastlake/Norfolk St. and Alcaz	58.5	59.4	59.9	0.5	1.4
Alcazar St., West of San Pablo St.	57.2	58.4	58.4	0.0	1.2
Alcazar St., East of San Pablo St.	60.1	61.5	61.7	0.2	1.6

Existing								
	Traffic Volumes		Leq			CNEL		
Roadway/Segment	AM	PM	ROW	50 Feet	100 Feet	ROW	50 Feet	100 Feet
San Pablo St., between Alcazar St. and Valley Blvd	301	203	60.9	56.1	53.9	60.1	55.4	53.2
Valley Blvd., East of San Pablo St.	2193	2001	71.6	68.1	66.2	70.9	67.3	65.4
Valley Blvd, West of San Pablo St.	2131	1995	71.5	68.0	66.0	70.8	67.2	65.3
Future No Project								
	Traffic Volumes		Leq			CNEL		
Roadway/Segment	AM	PM	ROW	50 Feet	100 Feet	ROW	50 Feet	100 Feet
San Pablo St., between Alcazar St. and Valley Blvd	501	384	63.1	58.4	56.1	62.3	57.6	55.4
Valley Blvd., East of San Pablo St.	2555	2399	72.3	68.7	66.8	71.6	68.0	66.1
Valley Blvd, West of San Pablo St.	2545	2444	72.3	68.7	66.8	71.5	68.0	66.0
Future With Project								
	Traffic Volumes		Leq			CNEL		
Roadway/Segment	AM	PM	ROW	50 Feet	100 Feet	ROW	50 Feet	100 Feet
San Pablo St., between Alcazar St. and Valley Blvd	554	452	63.5	58.8	56.6	62.8	58.0	55.8
Valley Blvd., East of San Pablo St.	2689	2543	72.5	69.0	67.0	71.8	68.2	66.3
Valley Blvd, West of San Pablo St.	2612	2516	72.4	68.8	66.9	71.6	68.1	66.2

	CNEL			
Summary	50 ft. from ROW		At ROW	
Roadway/Segment	Project Increment	Cumulative Increment	Project Increment	Cumulative Increment
San Pablo St., between Alcazar St. and Valley Blvd	0.4	2.6	0.5	2.7
Valley Blvd., East of San Pablo St.	0.2	0.9	0.2	0.9
Valley Blvd, West of San Pablo St.	0.1	0.9	0.1	0.8

Predicted Exisiting Noise Levels Table

		CNEL	
Roadway/Segment	ROW	50 Feet	100 Feet
San Pablo St., between Alcazar St. and Valley Blvd	60.1	55.4	53.2
Valley Blvd., East of San Pablo St.	70.9	67.3	65.4
Valley Blvd, West of San Pablo St.	70.8	67.2	65.3

Predicted Future Noise Levels Table

Roadway/Segment	Existing	Future No Project	Future With Project	Project Increment	Cumulative Increment
San Pablo St., between Alcazar St. and Valley Blvd	55.4	57.6	58.0	0.4	2.6
Valley Blvd., East of San Pablo St.	67.3	68.0	68.2	0.2	0.9
Valley Blvd, West of San Pablo St.	67.2	68.0	68.1	0.1	0.9

Existing								
	Traffic Volumes		Leq			CNEL		
Roadway/Segment	AM	PM	ROW	50 Feet	100 Feet	ROW	50 Feet	100 Feet
Zonal Ave., East of San Pablo St.	1159	1036	68.3	63.6	61.4	67.6	62.8	60.6
Zonal Ave., between Biggy St. and San Pablo St.	1079	1020	68.0	63.3	61.1	67.3	62.5	60.3
Zonal Ave., between Mission Rd. and Biggy St.	1034	1043	67.9	63.1	60.9	67.1	62.4	60.2
Biggy St., North of Zonal Ave	468	312	62.8	58.1	55.8	62.0	57.3	55.1
San Pablo St., between Zonal Ave. and Norfolk St.	626	587	64.0	59.3	57.1	63.3	58.6	56.4
Future No Project								
	Traffic Volumes		Leq			CNEL		
Roadway/Segment	AM	PM	ROW	50 Feet	100 Feet	ROW	50 Feet	100 Feet
Zonal Ave., East of San Pablo St.	1182	988	68.4	63.7	61.5	67.7	62.9	60.7
Zonal Ave., between Biggy St. and San Pablo St.	969	799	67.5	62.8	60.6	66.8	62.1	59.9
Zonal Ave., between Mission Rd. and Biggy St.	1034	943	67.8	63.1	60.9	67.1	62.3	60.1
Biggy St., North of Zonal Ave	533	356	63.3	58.6	56.4	62.6	57.9	55.7
San Pablo St., between Zonal Ave. and Norfolk St.	792	699	65.1	60.3	58.1	64.3	59.6	57.4
Future With Project								
	Traffic Volumes		Leq			CNEL		
Roadway/Segment	AM	PM	ROW	50 Feet	100 Feet	ROW	50 Feet	100 Feet
Zonal Ave., East of San Pablo St.	1255	1088	68.7	63.9	61.7	67.9	63.2	61.0
Zonal Ave., between Biggy St. and San Pablo St.	969	799	67.5	62.8	60.6	66.8	62.1	59.9
Zonal Ave., between Mission Rd. and Biggy St.	1034	943	67.8	63.1	60.9	67.1	62.3	60.1
Biggy St., North of Zonal Ave	533	356	63.3	58.6	56.4	62.6	57.9	55.7
San Pablo St., between Zonal Ave. and Norfolk St.	865	799	65.5	60.7	58.5	64.7	60.0	57.8

	CNEL			
Summary	50 ft. from ROW		At ROW	
Roadway/Segment	Project Increment	Cumulative Increment	Project Increment	Cumulative Increment
Zonal Ave., East of San Pablo St.	0.3	0.4	0.2	0.3
Zonal Ave., between Biggy St. and San Pablo St.	0.0	-0.4	0.0	-0.5
Zonal Ave., between Mission Rd. and Biggy St.	0.0	-0.1	0.0	0.0
Biggy St., North of Zonal Ave	0.0	0.6	0.0	0.6
San Pablo St., between Zonal Ave. and Norfolk St.	0.4	1.4	0.4	1.4

Predicted Exisiting Noise Levels Table

		CNEL	
Roadway/Segment	ROW	50 Feet	100 Feet
Zonal Ave., East of San Pablo St.	67.6	62.8	60.6
Zonal Ave., between Biggy St. and San Pablo St.	67.3	62.5	60.3
Zonal Ave., between Mission Rd. and Biggy St.	67.1	62.4	60.2
Biggy St., North of Zonal Ave	62.0	57.3	55.1
San Pablo St., between Zonal Ave. and Norfolk St.	63.3	58.6	56.4

Predicted Future Noise Levels Table

Roadway/Segment	Existing	Future No Project	Future With Project	Project Increment	Cumulative Increment
Zonal Ave., East of San Pablo St.	62.8	62.9	63.2	0.3	0.4
Zonal Ave., between Biggy St. and San Pablo St.	62.5	62.1	62.1	0.0	-0.4
Zonal Ave., between Mission Rd. and Biggy St.	62.4	62.3	62.3	0.0	-0.1
Biggy St., North of Zonal Ave	57.3	57.9	57.9	0.0	0.6
San Pablo St., between Zonal Ave. and Norfolk St.	58.6	59.6	60.0	0.4	1.4

Existing								
	Traffic Volumes		Leq			CNEL		
Roadway/Segment	AM	PM	ROW	50 Feet	100 Feet	ROW	50 Feet	100 Feet
Eastlake St., West of San Pablo St.	386	377	61.9	57.2	55.0	61.2	56.5	54.3
Norfolk St., East of San Pablo St.	139	152	57.9	53.2	51.0	57.1	52.4	50.2
San Pablo St., between Eastlake/Norfolk St. and Alcaz	612	557	63.9	59.2	57.0	63.2	58.5	56.3
Alcazar St., West of San Pablo St.	453	440	62.6	57.9	55.7	61.9	57.2	55.0
Alcazar St., East of San Pablo St.	884	841	65.5	60.8	58.6	64.8	60.1	57.9
Future No Project								
	Traffic Volumes		Leq			CNEL		
Roadway/Segment	AM	PM	ROW	50 Feet	100 Feet	ROW	50 Feet	100 Feet
Eastlake St., West of San Pablo St.	443	460	62.7	58.0	55.8	62.0	57.2	55.0
Norfolk St., East of San Pablo St.	240	273	60.4	55.7	53.5	59.7	55.0	52.8
San Pablo St., between Eastlake/Norfolk St. and Alcaz	759	655	64.9	60.2	57.9	64.1	59.4	57.2
Alcazar St., West of San Pablo St.	597	592	63.8	59.1	56.9	63.1	58.4	56.2
Alcazar St., East of San Pablo St.	1227	1179	67.0	62.2	60.0	66.2	61.5	59.3
Future With Project								
	Traffic Volumes		Leq			CNEL		
Roadway/Segment	AM	PM	ROW	50 Feet	100 Feet	ROW	50 Feet	100 Feet
Eastlake St., West of San Pablo St.	443	460	62.7	58.0	55.8	62.0	57.2	55.0
Norfolk St., East of San Pablo St.	240	273	60.4	55.7	53.5	59.7	55.0	52.8
San Pablo St., between Eastlake/Norfolk St. and Alcaz	832	755	65.3	60.6	58.3	64.5	59.8	57.6
Alcazar St., West of San Pablo St.	664	644	64.3	59.6	57.4	63.5	58.8	56.6
Alcazar St., East of San Pablo St.	1396	1358	67.5	62.8	60.6	66.8	62.1	59.8

	CNEL			
Summary	50 ft. from ROW		At ROW	
Roadway/Segment	Project Increment	Cumulative Increment	Project Increment	Cumulative Increment
Eastlake St., West of San Pablo St.	0.0	0.7	0.0	0.8
Norfolk St., East of San Pablo St.	0.0	2.6	0.0	2.6
San Pablo St., between Eastlake/Norfolk St. and Alcaz	0.4	1.3	0.4	1.3
Alcazar St., West of San Pablo St.	0.4	1.6	0.4	1.6
Alcazar St., East of San Pablo St.	0.6	2.0	0.6	2.0

Predicted Exisiting Noise Levels Table

		CNEL	
Roadway/Segment	ROW	50 Feet	100 Feet
Eastlake St., West of San Pablo St.	61.2	56.5	54.3
Norfolk St., East of San Pablo St.	57.1	52.4	50.2
San Pablo St., between Eastlake/Norfolk St. and Alcaz	63.2	58.5	56.3
Alcazar St., West of San Pablo St.	61.9	57.2	55.0
Alcazar St., East of San Pablo St.	64.8	60.1	57.9

Predicted Future Noise Levels Table

Roadway/Segment	Existing	Future No Project	Future With Project	Project Increment	Cumulative Increment
Eastlake St., West of San Pablo St.	56.5	57.2	57.2	0.0	0.7
Norfolk St., East of San Pablo St.	52.4	55.0	55.0	0.0	2.6
San Pablo St., between Eastlake/Norfolk St. and Alcaz	58.5	59.4	59.8	0.4	1.3
Alcazar St., West of San Pablo St.	57.2	58.4	58.8	0.4	1.6
Alcazar St., East of San Pablo St.	60.1	61.5	62.1	0.6	2.0

Existing								
	Traffic Volumes		Leq			CNEL		
Roadway/Segment	AM	PM	ROW	50 Feet	100 Feet	ROW	50 Feet	100 Feet
San Pablo St., between Alcazar St. and Valley Blvd	301	203	60.9	56.1	53.9	60.1	55.4	53.2
Valley Blvd., East of San Pablo St.	2193	2001	71.6	68.1	66.2	70.9	67.3	65.4
Valley Blvd, West of San Pablo St.	2131	1995	71.5	68.0	66.0	70.8	67.2	65.3
Future No Project								
	Traffic Volumes		Leq			CNEL		
Roadway/Segment	AM	PM	ROW	50 Feet	100 Feet	ROW	50 Feet	100 Feet
San Pablo St., between Alcazar St. and Valley Blvd	501	384	63.1	58.4	56.1	62.3	57.6	55.4
Valley Blvd., East of San Pablo St.	2555	2399	72.3	68.7	66.8	71.6	68.0	66.1
Valley Blvd, West of San Pablo St.	2545	2444	72.3	68.7	66.8	71.5	68.0	66.0
Future With Project								
	Traffic Volumes		Leq			CNEL		
Roadway/Segment	AM	PM	ROW	50 Feet	100 Feet	ROW	50 Feet	100 Feet
San Pablo St., between Alcazar St. and Valley Blvd	770	661	64.9	60.2	58.0	64.2	59.5	57.3
Valley Blvd., East of San Pablo St.	2622	2471	72.4	68.9	66.9	71.7	68.1	66.2
Valley Blvd, West of San Pablo St.	2708	2595	72.6	69.0	67.1	71.8	68.2	66.3

	CNEL			
Summary	50 ft. from ROW		At ROW	
Roadway/Segment	Project Increment	Cumulative Increment	Project Increment	Cumulative Increment
San Pablo St., between Alcazar St. and Valley Blvd	1.9	4.1	1.9	4.1
Valley Blvd., East of San Pablo St.	0.1	0.8	0.1	0.8
Valley Blvd, West of San Pablo St.	0.2	1.0	0.3	1.0

Predicted Exisiting Noise Levels Table

		CNEL	
Roadway/Segment	ROW	50 Feet	100 Feet
San Pablo St., between Alcazar St. and Valley Blvd	60.1	55.4	53.2
Valley Blvd., East of San Pablo St.	70.9	67.3	65.4
Valley Blvd, West of San Pablo St.	70.8	67.2	65.3

Predicted Future Noise Levels Table

Roadway/Segment	Existing	Future No Project	Future With Project	Project Increment	Cumulative Increment
San Pablo St., between Alcazar St. and Valley Blvd	55.4	57.6	59.5	1.9	4.1
Valley Blvd., East of San Pablo St.	67.3	68.0	68.1	0.1	0.8
Valley Blvd, West of San Pablo St.	67.2	68.0	68.2	0.2	1.0

Appendix F
Water and Sewer Service Reports

F-1 Water Service

F-1.1 Water Service Report

WATER INFRASTRUCTURE REPORT

USC HEALTH SCIENCES CAMPUS PROJECT
LOS ANGELES, CA
KPFF Job # 104950

May 5, 2005

OWNER:

UNIVERSITY OF SOUTHERN CALIFORNIA
925 W 35th Street
Los Angeles, CA 90089

PREPARED BY:

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ATTACHMENT A - Los Angeles DWP Water Supply Assessment

1.0 Description of Existing Domestic and Fire Water Infrastructure

The planned USC Health Sciences Campus Project consists of seven building sites total, six of which could be developed with buildings (Development Sites A, B, D, E, F, and G), and five Development Sites that could be developed with parking facilities (Development Sites B, C, D, E, and F). Five of the potential Development Sites (Development Sites A, B, E, F, and G) are adjacent to San Pablo Street between Valley Boulevard and Norfolk Street with one of the potential Development Sites (Development Site D) located to the east on Biggy Street. A parking structure may be developed on Zonal Avenue, approximately 300-feet to the southeast of the intersection of Mission Road and Zonal Avenue (Development Site C). Collectively the sites lie to the northeast of the Los Angeles County-USC Medical Center.

Water service to all of the seven proposed Development Sites is provided by the City of Los Angeles Department of Water and Power.

City of Los Angeles Department of Water and Power mains exist on San Pablo Street, Alcazar Street, Eastlake Avenue, Biggy Street and Zonal Avenue. Table W1 below is an inventory of available water mains that lie adjacent to the proposed Development Sites.

1.1 Water Service for Development Site A

One 10-inch and one 16-inch diameter DWP ductile iron water service pipes flank proposed Development Site A on Eastlake Avenue and San Pablo Street, respectively.

The 10-inch line in Eastlake is located 22-feet west of the eastern Eastlake Avenue right-of-way then offsets to approximately 15-feet east to the western right-of-way as the street curves towards San Pablo Street. After the curve is completed the line then offsets again to 21-feet north of the south Eastlake Avenue right-of-way line.

In San Pablo Street the 16-inch diameter water service line lies 21-feet east of the west San Pablo Street right-of-way.

1.2 Water Service for Development Site B

A total of two DWP water service lines are located adjacent to Development Site B. In San Pablo Street, a 16-inch diameter line is located 21-feet east of the west right-of-way line. In Alcazar Street an eight inch diameter line is located 18-feet north of the south right-of-way line and moving towards the east, the line is offset 15-feet north of the south right-of-way line.

1.3 Water Service for Development Site C

The parking structure that may be developed on Development Site C is situated adjacent to one 12-inch diameter water main located 16-feet south of the north Zonal Avenue right-of-way line.

1.4 Water Service for Development Site D

Development Site D is situated adjacent to one 12-inch diameter DWP water service line in Zonal Avenue located 20-feet south of the north right-of-way line.

1.5 Water Service for Development Site E

Development Site E is flanked by two DWP water service lines. To the west one 16-inch diameter line is located in San Pablo Street 17-feet to the east of the west right-of-way line. To the south the of the site in Alcazar Street, one eight-inch diameter water line lies approximately 15-feet north of the south right-of-way line. This line offsets to 18-feet north of the south right-of-way line as the line approaches San Pablo Street.

1.6 Water Service for Development Site F

A single 16-inch diameter line is located adjacent to Development Site F. As previously mentioned, this line is offset 17-feet east of the west right-of-way line in San Pablo Street.

1.7 Water Service for Development Site G

Water service lines flank the west, north and east sides of proposed Development Site G on Eastlake Avenue, Alcazar and San Pablo Streets, respectively. As previously mentioned, a 10-inch diameter line is located in Eastlake Avenue, 22-feet east of the west right-of-way line. In Alcazar Street, a six inch diameter main is located 15-feet north of the south right-of-way line. A 16-inch diameter line is located 21-feet east of the west right-of-way line in San Pablo Street.

Table W1 – Summary of Area Water Service Lines

Street	Diameter (inches)	Pipe Material	Location in ROW[1]	Year Const.	Sites Potentially Served
Eastlake Avenue	10	Ductile Iron	22' E/W	1910	A,G
San Pablo Street	16	Ductile Iron	21' E/W	1992	A,B,G
San Pablo Street	16	Ductile Iron	17' E/W	1993	E,F
Alcazar Street	6	AC	15' N/S	1984	G
Alcazar Street	8	Ductile Iron	18' N/S	1992	B,E
Alcazar Street	8	Ductile Iron	15' N/S	1966	B,E
Biggy Street	12	Mono	20' S/N	1952	D
Zonal Avenue	12	Del	16' S/N	1977	C

[1] Distance from street right of way (ROW) line, e.g. the 10-inch main in Eastlake Avenue lies 22-feet East of the Western right of way line.

2.0 Fire Service

2.1 Fire Hydrants for Development Site A

Five City of Los Angeles fire hydrants lie adjacent to Development Site A. One 2-1/2-inch by 4-inch double and one 4-inch double fire hydrant are located on the east side of Eastlake Avenue, two 2-1/2-inch by 4-inch double fire hydrants lie on the south side of Norfolk Avenue, and one 2-1/2-inch by 4-inch double lies on the east side of San Pablo Avenue.

2.2 Fire Hydrants for Development Site B

Development Site B is in close proximity of four City of Los Angeles fire hydrants. Two fire hydrants are located on San Pablo Street, one is located on the east side of the street approximately 205-feet south of the property and the other is located approximately 200-feet to the north-west on the west side of the street. Two more fire hydrants are located on the south side of Alcazar Street with one located directly adjacent to the north-west corner of the property and one located approximately 50-feet to the east of the property.

2.3 Fire Hydrants for Development Site C

Three City of Los Angeles fire hydrants are located along Zonal Avenue in close proximity to Development Site C. Two are located directly adjacent to the site on the north side of Zonal and one is located directly across the street.

One fire hydrant is located approximately 310-feet north of Biggy Street and three more are located on the north-west, south-west and south-east corners of Zonal Avenue and Mission Road.

2.4 Fire Hydrants for Development Site D

Development Site D is in close proximity of three City of Los Angeles fire hydrants. Two are located along the north side of Biggy Street approximately 110-feet east and 100 west of the site limits. A third fire hydrant is located approximately 150-feet south-west of the site on the west side of Zonal Avenue.

2.5 Fire Hydrants for Development Site E

Development Site E is within close proximity of five City of Los Angeles fire hydrants, three of which are located directly across from the site on the south side of Alcazar Street and two are located directly across on the east side of San Pablo Street.

2.6 Fire Hydrants for Development Site F

One City of Los Angeles fire hydrant is located directly adjacent to the site on San Pablo Street and one is located approximately 40-feet south of the site on the west side of San Pablo Street.

2.7 Fire Hydrants for Development Site G

Development Site G is located directly adjacent to one City of Los Angeles fire hydrant located on Alcazar Street. One fire hydrant is located approximately 135-feet east of the site on the south-east corner of the intersection of San Pablo and Alcazar Streets.

On San Pablo Avenue a fire hydrant is located 200-feet north of the site on the west side of San Pablo Avenue and another is located approximately 240-feet to the south of the site on the east side of San Pablo Avenue.

A fifth fire hydrant is located approximately 170-feet west of Development Site G on the west side of Eastlake Avenue in the intersection of Eastlake and Alcazar.

3.0 Existing Flow Levels and System Capacity

The water system is a combined domestic and fire water supply system that is an integral network of pipelines located in all City streets. Presently Development Sites A, B, C, D, and E are parking lots and require water for irrigation purposes only. Site F is a vacant lot and is assumed to have a limited water demand. Development Site G is the location for The Center for Health Professionals and is the only site with an existing structure located upon it and thus is the only site with a water demand.

A Service Advisory Request (SAR) application has been filed with the LADWP requesting the availability of water service to the proposed Project.

Discussions between KPFF and Inspector Terrance O'Connell of the Los Angeles Fire Department have indicated that from initial checks pressure and flow in the area around the proposed Development Sites is good and therefore favorable to providing the required 6000 to 9000 GPM flowing simultaneously from four adjacent fire hydrants.

Also, there is an indication that adequate water pressure exists in the water mains because adjoining land uses, such as the adjacent multi-floor medical office and research facilities, are currently being served by the water system infrastructure.

4.0 Assessment of Water System Capacity

City water mains are designed to meet fire flow requirements established by the Fire Department based on the adjoining land use. For the proposed Project, the existing water mains are of sufficient diameter and the water pressure is adequate to provide the anticipated fire flow requirement.

Mains larger than eight-inches in diameter generally serve areas larger than the adjoining properties. All of the proposed development sites are adjacent to lines at least 10 to 16-inches in diameter and thus the existing water infrastructure system is anticipated to be adequate to provide domestic and fire service to the existing use of the property.

The California Urban Water Management Planning Act requires water suppliers, such as the LADWP, to develop water management plans every five years to identify short-term and long-term water demand management measures to meet growing water demands during normal, dry, and multi-dry years. The plan includes descriptions of conservation efforts and alternative sources of water including recycling.

Details of the City of Los Angeles Department of Water and Power (LADWP) efforts to promote efficient use and management of its water resources are contained in its Year 2000 Urban Water Management Plan. The Fiscal Year 2003-2004 Annual Update provides an update for the fiscal year ending June 30,2004.

For the fiscal year ending June 30, 2004, LADWP supplied 690,450 acre-feet of water, a four percent increase over FYE 2003. The Annual Update for FYE 2002 indicates that even higher levels of annual water demand occurred in the late eighties.

The Fiscal Year 2003-2004 Annual Update is available over the internet. The Annual Update demonstrates that LADWP is providing for future growth in population in its service area and in providing for an increasing demand for water. The plan for meeting the increasing demand for water relies on continued conservation measures, increased use of recycled water as well as reliance on the three primary sources of water, the Los Angeles Aqueduct, local groundwater and water purchases from the Metropolitan Water District.

"LADWP has met the immediate water needs of its customers and is well-positioned to continue to do so in the future. However, LADWP will continue to rely upon its investments in MWD to meet future needs that exceeds its own water resources."

5.0 System Improvements Proposed by the Project

The Project proposes no system improvements to the water infrastructure. The water mains adjoining the property site are adequately sized to serve the proposed Project.

Construction of the proposed buildings in the USC Health Sciences Campus would require only the construction of two services per structure within the public right-of-way. One service each for supplying domestic water and for supplying the fire sprinkler systems and on site fire water system. All water improvements with the public right-of-way would be constructed by LADWP.

Impacts due to construction of the services include traffic control and street resurfacing of the water service trenches. These impacts would be short term and standard practices and procedures would be employed which would reduce potential impacts attributable to these improvements to less than significant levels.

Regional improvements to the water system are planned by LADWP in order to respond to increased demand for water service and to comply with new water quality standards and would be funded by water service revenues or through the sale of bonds for capital improvements. It is not anticipated that construction of the Project would trigger additional improvements to the local water infrastructure.

6.0 Forecast of the Project's Water Demand

The projected domestic water demand from the proposed project is shown in table W2.

Table W2 - Anticipated Water Demand				
Use	Area (square feet)	Factor (GPD/unit)	Average Daily Flow (GPD)	Annual Consumption[1] (mil gal/year)
Development Scenario = 765,000 square feet				
Academic/Medical Research	720,000	250GPD/1000sf	180,000	65.70
Medical Clinic	45,000	250GPD/1000sf	11,250	4.11
Parking	840,000	20GPD/1000sf	16,800	6.13
Outdoor Water Use[2]			58,254	21.26
Total Water Demand			266,304	97.20
Development Scenario = 585,000 square feet				
Academic/Medical Research	465,000	250GPD/1000sf	116,250	42.43
Medical Clinic	120,000	250GPD/1000sf	30,000	10.95
Parking	840,000	20GPD/1000sf	16,800	6.13
Outdoor Water Use			45,654	16.66
Total Water Demand			208,704	76.18
Maximum Water Consumption = 266,304 gallons per day				
1) Annual water consumption assumes 365 days per year of consumption 2) Estimated to be 28% of consumption				

7.0 Analysis of Water Supply to Meet Project Demand

A Water Supply Assessment (WSA) has been issued for the Project by the LADWP, a copy of which is provided as Attachment A to this report. The WSA concludes that the LADWP has adequate supplies to meet the water demands of the proposed Project. Furthermore, the LADWP Urban Water Management Plan details a number of measures being undertaken to assure continued water service in the coming years to a growing population and an increased water demand. As such, Project impacts on water supply are concluded to be less than significant.

8.0 Availability of the Conveyance System to Meet Additional Demand

As stated earlier, the existing water piping infrastructure in the streets adjoining the proposed Development Sites is sized adequately to provide for fire flow requirements of 6,000 to 9,000 gpm from four hydrants flowing simultaneously with a residual pressure of 20 psi. As such, Project development would have a less than significant impact on the water distribution system that would serve the proposed Project.

Early discussions with the Fire Marshall's office of the Los Angeles Fire Department have indicated that the existing infrastructure is adequate to meet the anticipated fire flow requirements. This indication would be confirmed through an analysis performed by the Water Operations Division of the LADWP at the time an application has been filed and the Los Angles Fire Department has established their requirements for fire flows to the Project site.

9.0 Mitigation Measures Required to Reduce Project Impacts

Although development of the proposed Project is not anticipated to produce significant impacts to water supply services, the following measures would ensure that water resources would be conserved to the extent feasible:

- Water faucet fixtures with activators shall be installed that automatically shut off the flow of water when not in use.

- Automatic sprinkler systems shall be set to irrigate landscaping during early morning hours or during the evening to reduce water losses from evaporation. Sprinklers shall be reset to water less often in cooler months and during the rainfall season so that water is not wasted by excessive landscape irrigation.

10. Analysis of Cumulative Impacts

Related project development is situated such that the water infrastructure that would support the identified related projects would not utilize the water mains utilized by the proposed Project. As such, no cumulative impacts would occur. In addition, sufficient capacity is available in the upstream water lines to accommodate the increase in water flows generated by related project development as well as development of the proposed Project. As such, cumulative impacts on the water lines that would serve the related projects and the proposed Project are less than significant.

Since related projects are anticipated to be constructed in accordance with State and water conservation regulations and within the build-out scenario of the controlling Community Plans and City of Los Angeles General Plan Elements, no significant impacts due to cumulative water demand are anticipated. The proposed Project's connections to the water system would not create additional population or induce population growth directly or indirectly and, therefore, would not result in any impacts on water consumption. As such, cumulative impacts associated with improvements would be less than significant. Furthermore and as discussed above, LADWP, as a public water service provider, is required to prepare and periodically update an UWMP to plan and provide for water supplies to serve existing and projected demands. The UWMP prepared by LADWP accounts for existing development within the City as well as projected growth anticipated to occur through redevelopment of existing uses and development of new uses. Additionally, under the provisions of SB 610 (Costa) and SB 221 (Kuehl), LADWP is required to prepare a comprehensive water supply assessment for every new development “project” (as defined by Section 10912 of the Water Code) within its service area.

The types of projects subject to the requirements of SB 610 and SB 221 tend to be larger projects (i.e., residential projects with more than 500 dwelling units, shopping centers employing more than 1,000 persons or having more than 500,000 sq.ft. of floor space, commercial office building employing more than 1,000 persons or having more than 250,000 sq.ft. of floor space, etc.) that may, or may not, have been included within the growth projections of the UWMP. The water supply assessment for such projects, in conformance with the UWMP, evaluates the quality and reliability of existing and projected water supplies, as well as alternative sources of water supply and how they would be secured if needed. A WSA was prepared for the proposed Project by the LADWP, which concludes that adequate water supplies are available to meet the proposed Project’s potable water demand. Given that the UWMP plans and provides for water supplies to serve existing and projected needs, including those of future growth and development as may occur through related projects, and that the requirements of SB 610 and SB 221 provide means to ensure that the water supply needs of notable development projects have been carefully considered relative to LADWP’s ability to adequately meet future needs, it is anticipated that LADWP will be able to supply the demands of the proposed Project and related projects through the foreseeable future and no significant cumulative impacts related to water demand are anticipated.

Attachment A

Los Angeles DWP
Water Supply Assessment

RESOLUTION NO. 005 186

WHEREAS, in January 2005, the City of Los Angeles Department of City Planning, requested LADWP to conduct a water supply assessment for the USC Health Sciences Campus Project (Project) pursuant to California Water Code Sections 10910-10915; and

WHEREAS, LADWP has prepared a water supply assessment for the Project in compliance with California Water Code Sections 10910-10915; and

WHEREAS, LADWP's water supply system now serves the immediate Project area, and would serve the area of the proposed Project development; and

WHEREAS, LADWP estimates the annual increase in water demand from the Project site to be 277 acre-feet based on review of information submitted by the City of Los Angeles Department of City Planning; and

WHEREAS, the projected water demand associated with the Project is within the range of water demand projections anticipated in the City of Los Angeles' Year 2000 Urban Water Management Plan Update; and

WHEREAS, LADWP anticipates that its projected water supplies available during normal, single-dry, and multiple-dry water years as included in the 20-year projection contained in its Urban Water Management Plan can accommodate the projected water demand associated with the Project, in addition to the existing and planned future uses of LADWP's system.

NOW, THEREFORE, BE IT RESOLVED, that the LADWP Board of Water and Power Commissioners finds that LADWP can provide sufficient domestic water supplies to the Project and approves the water supply assessment prepared for the Project, now on file with the Secretary of the Board, and directs that the assessment and a certified copy of this resolution be transmitted to the City of Los Angeles Department of City Planning.

I HEREBY CERTIFY that the foregoing is a full, true, and correct copy of a resolution adopted by the Board of Water and Power Commissioners of the City of Los Angeles at its meeting held MAR 22 2005

Barbara E. Moschos
Secretary

APPROVED AS TO FORM AND LEGALITY
ROCKARD J. DELGADILLO, CITY ATTORNEY

FEB 2 6 2005

BY
JOSEPH A. BRAJEVICH
Deputy City Attorney

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LOS ANGELES DEPARTMENT OF WATER AND POWER WATER SUPPLY ASSESSMENT FOR THE USC HEALTH SCIENCES CAMPUS PROJECT

Prepared by the Los Angeles Department of Water and Power
Water Resources Business Unit

February 17, 2005

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City of Los Angeles Department of Water and Power Urban Water Management Plan Year 2000

"Report on Metropolitan's Water Supplies", dated March 25, 2003

Upper Los Angeles River Area Watermaster Report, dated May 2002

City of Los Angeles Department of Public Works, Bureau of Sanitation Sewer Generation Rates Table

California Department of Water Resources California's Groundwater Bulletin 118-80

Green Book for the Long-Term Groundwater Management Plan for the Owens Valley and Inyo County

Appendices

A. City of Los Angeles Department of City Planning letter, dated January 12, 2005, request for a Water Supply Assessment

B. Project Location Map

C. Water Supply Assessments Adopted by the LADWP Board of Commissioners

D. Groundwater Pumping Right Judgments

E. Water Supply Assessment Provisions – California Water Code Sections 10910-10915

F. Water Supply Assessment Checklist

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Introduction and Summary

Proposed projects subject to the California Environmental Quality Act require that the City or County identify any public water system that may supply water to the proposed project and request the public water system to determine whether the projected water demand associated with the proposed project was included as part of the most recently adopted Urban Water Management Plan per California Water Code Section 10910.

The City of Los Angeles Department of City Planning (Planning Department), serving as the lead agency for the proposed USC Health Sciences Campus Project (Project), has identified the Los Angeles Department of Water and Power (LADWP) as the public water system that will supply water to the Project. In response to the Planning Department's request for a water supply assessment, LADWP has performed an assessment contained herein for the proposed development scenario projected to have the greatest water use.

LADWP has served the City a safe and reliable water supply for over a century. Over time, the City's water supplies have evolved from primarily local groundwater to predominantly imported supplies. Today, the City delivers 85 percent of its water from imported sources. As such, LADWP has taken an active role in regional and statewide water management. An important part of water resource management for Los Angeles is water conservation, which is an essential and permanent practice needed for sustainability of regional water supplies. This water supply assessment assumes that the Project will comply with all local, state, and federal water use efficiency mandates that are in place.

Growth in water use is a normal occurrence within LADWP's service area. In developing its long-term water demand projections, LADWP considers this anticipated growth which is driven by various factors, most prominently growth in population. The findings made under this water supply assessment consider not only this proposed project, but also other future smaller uses of water within LADWP's service area that are not subject to water supply assessment statutes.

LADWP's water supply assessment finds that adequate water supplies will be available to meet the water demands of the Project. LADWP anticipates that the projected water demand from the Project can be met during normal, single-dry, and multiple-dry water years, in addition to the existing and planned future uses of LADWP's system.

This water supply assessment has been prepared to meet the applicable requirements of state law as set forth in California State Water Code Sections 10910-10915. Significant references and data for this assessment are from the City of Los Angeles Year 2000 Urban Water Management Plan (UWMP) and the Metropolitan Water District of Southern California's (MWD) report entitled, "Report on Metropolitan's Water Supplies", dated March 25, 2003. Both documents are incorporated by reference as though fully set forth and are available for viewing and printing through the respective agencies' internet website. Hard copies can be requested through the contact below:

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Los Angeles Department of Water and Power
111 North Hope Street, Room 1460
Los Angeles, California 90012-2607
Telephone (213) 367-0800

Project Description

The following project information was obtained from the Planning Department's water supply assessment request (see Appendix A). Attachments to the request letter are available for viewing upon request at LADWP.

Project Name: USC Health Sciences Campus

Planning Community: Northeast Los Angeles

The Project is a development of additional academic and medical-related facilities within the existing USC Health Sciences Campus. Two construction alternatives are proposed: (1) 720,000 square feet of academic and medical research facilities and 45,000 square feet of medical clinic facilities, and (2) 465,000 square feet of academic and medical facilities and 120,000 square feet of medical clinic facilities. The water supply assessment is based on Alternative (1) as it requires higher water consumption.

The location of the Project is shown in Appendix B.

Project Water Demand Estimate

The projected water demand increase for the Project is estimated to be approximately 277 acre-feet annually. Table I shows a breakdown of current and proposed types of uses and their corresponding estimated water uses. The types of uses are from the water supply assessment request in Appendix A. The projected water demand for the different uses comes from the Sewer Generation Rates table, developed by the City of Los Angeles Department of Public Works, Bureau of Sanitation. The Sewer Generation Rates table lists estimated sewage generated by various facilities, which is also used to approximate indoor water usage.

In this water supply assessment, LADWP independently calculated the anticipated demands from the above information using data provided by the requesting agency. The demand calculated by LADWP is then tracked against the growth reported in the UWMP as shown in Appendix C.

TABLE I

Use[1]	Quantity	Unit	Water Use Factor[2] (gpd/unit)	Water Use (gpd)	(afy)
Proposed					
Academic/Medical Research Facility	720,000	sf	0.25	180,000	202
Medical Clinic	45,000	sf	0.25	11,250	13
Auto Parking	840,000	sf	0.02	16,800	19
Outdoor Water Use[3]				58,254	44
			Total:	266,304	277

Notes:
[1] Provided by the Los Angeles Department of City Planning
[2] Based on City of Los Angeles Department of Public Works, Bureau of Sanitation Sewer Generation Rates table, dated 3/20/2004. Uses not listed are estimated by the closest type of use available in the table.
[3] Estimated to be 28% for commercial

gpd - gallons per day sf - square feet afy - acre-feet per year

Water Demand Forecast

LADWP's UWMP forecasts a 25-percent increase in water demand in its service area by the Year 2020, or an average of 1.3 percent annually. This corresponds to an estimated water demand of 800,000 acre-feet by the Year 2020, as shown on Table II. The forecast is based on population growth, growth among the customer class sectors, weather, and conservation. Customer class sectors are composed of various water use groups, namely single-family, multi-family, commercial, industrial, and governmental. Weather consideration takes into account both present and past temperature and precipitation data. This forecast assumes that normal weather conditions will occur in the future.

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TABLE II

[illegible]							
Water Use Groups	2000	2005	2010	2015	2020	Average Annual Growth Rate	Percent of Total 2020 Water Use
Retail Use							
Single-Family	226	234	240	249	260	0.8%	33%
Multifamily	196	216	240	260	283	2.2%	35%
Commercial	115	121	124	128	131	0.7%	16%
Industrial	24	26	27	28	30	1.3%	4%
Governmental	41	42	44	45	47	0.7%	6%
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Unaccounted Water	37	40	43	46	49	1.6%	6%
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

LADWP's UWMP used a service area-wide method in developing its water demand projections. This methodology does not rely on individual development demands to determine area-wide growth. Rather, the growth in water use for the entire service area was considered in developing long-term water projections for the City of Los Angeles to the Year 2020. As noted above, the driving factors for this growth are population, weather, and conservation. LADWP used anticipated growth in the various customer class sectors as provided by the Southern California Association of Governments (SCAG). The data used was based on SCAG's 1998 Regional Transportation Plan Forecast.

It should be noted that California law requires that the UWMP be updated every five years. This process entails, among other requirements, an update of water supply and water demand projections for water agencies. For the next update, LADWP will develop a revised demand forecast that will factor in the water demand for which all water supply assessments have been prepared as well as the future demands. Water supply planning will be based on meeting these long-term demands. An important part of this planning process is for LADWP to work collaboratively with the MWD to ensure that the City of Los Angeles' anticipated water demands are incorporated into MWD's long-term water resources development plan. This is a continuous regional effort that includes all of MWD's member agencies, and has resulted in reliable supplemental water supplies for the City from MWD. As discussed below, MWD has and continues to provide assurances that there is a reliable supply to meet water demands.

State law further regulates distribution of water in extreme drought conditions. Section 350-354 of the California Water Code states that when a governing body of a distributor of a public water supply declares a water shortage emergency within its service area, water will be allocated to meet needs for domestic use, sanitation, fire protection, and other priorities. This will be done equitably and without discrimination between customers using water for the same purpose(s).

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Water Supplies

The Los Angeles Aqueducts (LAA), local groundwater, and the Metropolitan Water District of Southern California (MWD) are the primary sources of water supplies for the City of Los Angeles. Table III shows LADWP water supplies over the last ten years from these sources:

TABLE III
LADWP Water Supply

Year	Los Angeles Aqueducts	Local Groundwater	MWD	Recycled Water	Total
1995	443,538	63,842	71,149	1,783	580,312
1996	421,800	111,528	81,289	1,694	616,311
1997	435,624	110,629	93,217	1,873	641,343
1998	466,836	80,003	56,510	1,326	604,675
1999	309,037	170,660	164,112	1,812	645,621
2000	265,183	87,946	336,116	2,200	681,445
2001	266,923	79,073	309,234	1,636	656,866
2002	179,338	92,376	410,329	1,945	683,988
2003	251,942	90,835	322,329	1,759	666,865
2004	202,547	71,831	391,834	1,774	667,986

Note: Units are in acre-feet

Los Angeles Aqueducts

Snowmelt runoff from the Eastern Sierra Nevada Mountains is collected and conveyed to the City of Los Angeles via the LAA. LAA supplies come primarily from snowmelt and secondarily from groundwater pumping, and can fluctuate yearly due to the varying hydrologic conditions. In recent years, LAA supplies have been less than historically normal because of environmental obligations to restore Mono Lake and mitigate dust from Owens Lake as well as less than normal Eastern Sierra Nevada snow pack.

The City holds water rights in the Eastern Sierra Nevada where LAA supplies originate. These supplies originate from both streams and from groundwater. In 1905, the City approved a bond measure for the purchase of land and water rights in the Owens River Valley. By 1913, the First Los Angeles Aqueduct began its deliveries of water to the City primarily from surface water diversions from the Owens River and its tributaries. Historically, these supplies were augmented from time to time by groundwater extractions from beneath the lands that the City had purchased in the Owens Valley.

In 1940, the First Los Angles Aqueduct was extended north to deliver Mono Basin water to the City pursuant to water rights permits and licenses granted by the State Water Resources Control Board. In 1970, the Second Los Angeles Aqueduct was completed increasing total delivery capacity of the LAA system to approximately 550,000 acre-feet per year. The Second Los Angeles Aqueduct was to be filled by completing the Mono Basin diversions originally authorized in 1940, by a more effective use of water for agricultural purposes on City-owned lands in the Owens Valley and Mono Basin and by increased groundwater pumping from the City's lands in the Owens Valley.

In 1972, Inyo County filed a California Environmental Quality Act lawsuit challenging the City's groundwater pumping program for the Owens Valley. The lawsuit was finally ended in 1997, with the County of Inyo and the City of Los Angeles entering into a long-term agreement for the management of groundwater in the Owens Valley. Pursuant to that agreement, entered as a judgment of the Superior Court in the County of Inyo (County of Inyo v. City of Los Angeles, Superior Court No. 12908) the City's groundwater pumping is regulated to the effect that the City may take as much water as it reasonably needs from groundwater sources so long as it does not cause unmitigated environmental harm in the Owens Valley. The details of this program and its requirements can be seen in the stipulated judgment on file in the Superior Court.

Further, in September 1994 by virtue of the public trust doctrine, the State Water Resources Control Board issued Decision No. 1631 which effectively reduced LADWP's Mono Basin water rights from 100,000 acre-feet a year to approximately 16,000 acre-feet a year. In brief, LADWP's ability to export Mono Basin water is now tied directly to the elevation of Mono Lake and flows of various streams that are tributary to Mono Lake. At present, the City expects to obtain on average 30,000 acre-feet a year from the Mono Basin.

In July 1998, LADWP and the Great Basin Unified Air Pollution Control District entered into a Memorandum of Agreement. It delineated the dust-producing areas of the Owens lakebed that needed to be controlled, specified measures required to control the dust, and outlined a timetable for implementation of the control measures. The Memorandum of Agreement was incorporated into a formal air quality control plan by the Great Basin Unified Air Pollution Control District and subsequently approved by the United States Environmental Protection Agency in October 1999.

Pursuant to the Memorandum of Agreement, a dust mitigation program is being implemented on the Owens Lake. An estimated 54,000 AF of water annually may ultimately be required to sustain the dust mitigation program.

The water supply analysis contained within this water supply assessment incorporates the current and projected reductions in LAA water deliveries due to Decision 1631, Owens Lake Dust Mitigation Program, and the Lower Owens River Project.

It is anticipated that future water deliveries from the aqueducts will continue to be subject to reduced levels as LADWP faces continuing environmental obligations in the Mono Basin and Owens Valley. Reduced deliveries from the LAA will require additional water purchases from MWD, as well as the development of supplemental water supplies to meet City demands.

Groundwater

LADWP extracts groundwater from various locations throughout the Owens Valley and four local groundwater basins. LADWP owns extensive property in the Owens Valley. LADWP appropriates groundwater from beneath its lands for use in the Owens Valley and in Los Angeles. It has a long-term groundwater management plan in place. Additionally, LADWP holds adjudicated extraction rights in four local groundwater basins: San Fernando, Sylmar, Central, and West Coast.

The Owens Valley, located on the eastern slope of the Sierra Nevada Mountains, encompasses approximately 3,300 square miles of drainage area. LADWP has extracted the following quantities of groundwater from the Owens Valley in the last five run-off years (April1 – March 31):

- 1999-2000 63,675 acre-feet
- 2000-2001 67,795 "
- 2001-2002 73,349 "
- 2002-2003 82,281 "
- 2003-2004 87,726 "

51,574 acre-feet, 63,675 acre-feet, 67,795 acre-feet, 73,349 acre-feet, and 82,281 acre-feet of water in the past five run-off years (April 1 – March 31) from 1998-99 to 2002-03, respectively. Owens Valley is not identified as an overdrafted basin in the California Department of Water Resources California's Groundwater Bulletin 118-80. Further, Bulletin 118-80 does not project the Owens Valley to become overdrafted if present groundwater management conditions continue.

In 1990, the City of Los Angeles and Inyo County as part of the preparation of the long-term groundwater management agreement, prepared the "Green Book for the Long-Term Groundwater Management Plan for the Owens Valley and Inyo County". It contains plans and procedures to prevent overdraft conditions from groundwater pumping as well as to manage vegetation in the Owens Valley.

The San Fernando and Sylmar basins are subject to the judgment in City of San Fernando vs. the City of Los Angeles. Pumping is reported to the court-appointed Upper Los Angeles River Area (ULARA) Watermaster. The Central and West Coast Basins are also subject to court judgments. Pumping is reported to the California Department of Water Resources (DWR) who acts as Watermaster. Table IV shows LADWP's legal entitlements in the four groundwater basins.

TABLE IV
Local Groundwater Basin Entitlements

Local Groundwater Basin	Native Safe Yield Credit	Import Return Credit	Total Native+Import	Stored Water Credit as of 10/1/04	Allowable Pumping in Water Year '04-'05
San Fernando	43,660	43,094	86,754	287,493	374,247
Sylmar	3,255	-	3,255	6,303	9,558
Central	15,000	-	15,000	3,000	18,000
West Coast	1,503	-	1,503	-	1,503
Total	63,418	43,094	107,512	296,796	403,308

Note: Units are in acre-feet

The San Fernando Basin is the largest of four basins within ULARA. The basin consists of 112,000 acres of land and comprises 91.2 percent of the ULARA valley fill. LADWP has accumulated 287,493 acre-feet (AF) of stored water credit in the San Fernando Basin as of October 2004. This is water LADWP can withdraw from the basin during normal and dry years or in an emergency, in addition to LADWP's approximately 86,754 AF annual entitlement in the basin. The majority of LADWP's groundwater is extracted from the San Fernando basin. Sylmar Basin is located in the northern part of the ULARA, consisting of 5,600 acres and comprises 4.6 percent of the ULARA valley fill. LADWP

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has an annual entitlement of 3,255 acre-feet and a stored credit of 6,303 acre-feet as of October 2004.

The court decision on pumping rights in the ULARA, was implemented in a judgment on January 26, 1979. Enclosed with the assessment are copies of those pages from the judgment showing the entitlements (see Appendix D). Further information about the ULARA basin is in the ULARA Watermaster Report. The ULARA Watermaster report and the judgment are available for review at the office of the ULARA Watermaster.

LADWP additionally has adjudicated rights to extract groundwater from the Central and West Coast Basins, respectively. Annual entitlements to the Central and West Coast Basins are 15,000 acre-feet and 1,503 acre-feet, respectively. Due to poor water quality, LADWP does not pump water from the West Coast Basin. See Appendix D for copies of relevant portions of the judgments. The judgments are available for review at DWR.

For the period of April 2004 to March 2005, LADWP intends to extract 86,918 acre-feet, 4,345 acre-feet, and 13,397 acre-feet from the San Fernando, Sylmar, and Central Basins, respectively. LADWP plans to continue to maximize production from its groundwater basins in the coming years to offset reductions in imported supplies. Maximizing extraction from the basins will however be limited by water quality and overdraft protection. Both LADWP and DWR have programs in place to monitor wells to prevent overdrafting. LADWP's groundwater pumping practice is based on a "safe yield" operation. The objective, over a period of years, is to extract an amount of groundwater equal to
the native and imported water that recharges. Extractions by LADWP from the San Fernando, Sylmar, Central, and West Coast Basins for the last 5 years are shown on Table V.

TABLE V
Local Groundwater Basin Supply

Water Year (Oct-Sep)	San Fernando	Sylmar	Central	West Coast
1999-2000	98,016	2,634	10,513	0
2000-2001	65,409	2,606	11,893	0
2001-2002	66,823	1,240	8,639	0
2002-2003	78,045	3,662	9,811	0
2003-2004	72,235	2,634	15,907	0

Note: Units are in acre-feet

Metropolitan Water District of Southern California (MWD)

MWD is the largest water wholesaler for domestic and municipal uses in Southern California. As one of 26 member agencies, LADWP purchases water from MWD to supplement LADWP supplies from local groundwater and the LAA. MWD imports its water supplies from Northern California through the State Water Project's California Aqueduct and from the Colorado River through MWD's own Colorado River Aqueduct. LADWP will continue to rely on MWD to meet its current and future supplemental water needs.

All 26-member agencies have preferential rights to purchase water from MWD. Pursuant to Section 135 of the MWD Act, " Each member public agency shall have a preferential right to purchase from the district for distribution by such agency, or any public utility therein empowered by such agency for the purpose, for domestic and municipal uses within the agency a portion of the water served by the district which shall, from time to time, bear the same ratio to all of the water supply of the district as the total accumulation of amounts paid by such agency to the district on tax assessments and otherwise, excepting purchase of water, toward the capital cost and operating expense of the district's works shall bear to the total payments received by the district on account of tax assessments and otherwise, excepting purchase of water, toward such capital cost and operating expense.". This is known as a preferential right. As of June 30, 2004, LADWP has preferential rights to purchase 21.66 percent of MWD's total water supply.

LADWP has worked with MWD in developing a framework for allocating water supplies during periods of shortage as well as surplus. MWD has a Water Surplus and Drought Management Plan that provides such a framework. LADWP intends to work within the framework established through the Water Surplus and Drought Management Plan in acquiring its drought supplies from MWD in the future.

MWD's long-term plans to meet its member agencies' reliability needs are through water transfer programs, outdoor conservation measures, and development of additional local resources, such as recycling, brackish water desalination, and seawater desalination. Additionally, MWD has more than 4.0 million acre-feet of storage capacity available in reservoirs and banking/transfer programs.

A report issued by MWD dated March 25, 2003 titled, "Report on Metropolitan's Water Supplies", states the following: "If all imported water supply programs and local projects proceed as planned, without changes in demand projections, reliability would be assured beyond 20 years." The report also goes on to say, "...Metropolitan has a comprehensive supply plan to provide sufficient supplemental water supplies and to provide prudent supply reserve over the next 20 years and beyond ...Demand forecasts and supply capabilities have been compared over the next 20 years under varying hydrologic conditions. These comparisons determine supplies that can be reasonably relied upon to meet projected supplemental demands and to provide reserves that can assure a 'margin of safety' to mitigate against uncertainties in demand projections and supply program risks."

MWD established a policy objective for water supply reliability as part of its Integrated Resources Plan (IRP). The policy objective is: Through the implementation of the IRP, Metropolitan and its member agencies will have the full capability to meet full-service demands at the retail level at all times.

Table VI shows MWD's projected supply and demand under normal, dry, and multiple-dry years. LADWP has provided significant input to MWD in developing this analysis, which includes the City of Los Angeles' projected water requirements from MWD. In fact, MWD's projections are 6 to 16 percent higher than member agencies projections. This difference indicates that MWD's supplies provide a level of margin of safety or flexibility to accommodate potential delays to planned projects.

TABLE VI
Metropolitan Water District Supply and Demand Forecast

	Normal Year				Single-Dry Year				Multiple-Dry Year			
	2005	2010	2015	2020	2006	2010	2015	2020	2005	2010	2015	2020
Current Supplies:												
Colorado River	0.695	0.735	0.719	0.707	0.721	0.833	0.833	0.833	0.721	0.833	0.833	0.833
California Aqueduct	1.781	1.783	1.724	1.715	0.997	0.997	0.822	0.822	1.290	1.376	1.146	1.420
In-Basin Storage	-	-	-	-	0.730	0.790	0.788	0.758	0.455	0.532	0.530	0.513
Supplies Under Development												
Colorado River	0.322	0.229	0.261	0.350	0.209	0.231	0.417	0.417	0.167	0.417	0.417	0.417
California Aqueduct	0.020	0.065	0.220	0.220	0.020	0.195	0.390	0.390	0.020	0.195	0.390	0.390
In-Basin Storage	-	-	-	-	-	0.089	0.200	0.200	-	0.089	0.200	0.200
Supply	2.818	2.812	2.924	2.995	2.678	3.135	3.450	3.420	2.654	3.442	3.517	3.473
Demand	1.970	1.887	2.055	2.274	2.169	2.096	2.267	2.488	2.245	2.176	2.321	2.534
Potential Reserve	0.848	0.926	0.869	0.721	0.508	1.039	1.184	0.932	0.603	1.266	1.196	0.939

Notes: Figures are from MWD's "Report on Metropolitan's Water Supplies", dated March 25, 2003.
Units are in million acre-feet per year.
Supply represents expected supply capability for resource programs.
Demand is based on SCAG 98 RTP, SANDAG 1998 forecasts and member agency projections of local supplies.

Based on its March 25, 2003 report, MWD anticipates the following future water supplies:

<u>Colorado River Aqueduct Deliveries:</u>

Available by 2005:
- Basic Apportionment (Priority 4)
- IID/MWD Conservation Program
- Priority 5 Apportionment
- Coachella & All-American Canal Lining Projects
- Off Aqueduct Storage
  - Hayfield Storage Program
  - Central Arizona Banking Demonstration Program

Under Development:
- IID/MWD Conservation Program (including Coachella Option)
- Interim Surplus Guidelines
- IID/SDCWA Transfer
- PVID Land Management Program
- Off-Aqueduct Storage/Transfer Programs
  - Lower Coachella Valley Groundwater Storage Program
  - Chuckwalla Storage Program
  - Central Arizona Banking Program

<u>California Aqueduct Deliveries:</u>

Available by 2005:
- SWP Deliveries
- San Luis Reservoir Carryover Storage
- Advance Delivery with Coachella Valley WD and Desert WA
- Semitropic Water Banking and Exchange Program
- Arvin-Edison Water Management Program
- San Bernardino Valley MWD Program
- Kern Delta WD Program
- Market Transfer Options

Under Development: Delta Improvements (CALFED Implementation)
Additional Transfers/Storage (San Bernardino Conjunctive Use Program, Westside Valley Transfers, and Eastside Valley Transfers)

In-Basin Storage Deliveries:

Available by 2005: MWD Surface Storage (DVL, Lakes Matthews and Skinner)
Flexible Storage in Castaic Lake and Lake Perris
Groundwater Conjunctive Use Programs
- Long-Term Seasonal Storage Programs
- North Las Posas Storage Program

Under Development: Groundwater Conjunctive Use Programs
- Raymond Basin Storage Programs
- Proposition 13 Storage Programs
- Additional Programs

MWD reports that current water supplies and supplies under development are expected to exceed water demands from its member agencies through the Year 2020 under normal, single-dry, and multiple-dry year conditions. Their report also states, "...with the addition of all water supplies that are under development, Metropolitan would have the total capability (existing and planned supplies) to meet 100 percent of its member agencies' projected supplemental demands (consumptive and replenishment) through 2030 even under a repeat of the worst drought."

The findings of this water supply assessment were developed based on MWD's stated ability to reliably provide water to LADWP. Furthermore, based on MWD's current long-term water resources outlook, LADWP presently does not anticipate the need to formally invoke its preferential rights over the next 20 years.

Secondary Sources and Other Considerations

Water conservation and recycling will play an increasing role in meeting future water demands. LADWP has implemented conservation and recycling programs with efforts under way to further promote and increase the level of these programs. LADWP is committed to supply a higher percentage of the City's water demand through conservation and recycling. LADWP also plans to tap into a new water source – seawater desalination. LADWP's seawater desalination project is expected to generate at least 11,200 acre-feet per year of high quality drinking water beginning in approximately 2010. This project has been included in LADWP's 10-year Capital Improvement Program.

Water Conservation in Los Angeles

LADWP implements water conservation programs to ensure that the residents and businesses of Los Angeles use water wisely and efficiently. Due to conservation, water use has not increased in Los Angeles over the last 20 years despite a population increase of approximately 700,000 people. Some of LADWP's successful programs include the toilet replacement program, ultra-low-flush toilet rebate program, high-efficiency clothes washer rebate program, technical assistance program, and commercial water conservation rebate program. All new developments within LADWP's service area must comply with all existing ordinances that require installation of water-efficient plumbing devices in their facilities.

Water Recycling in Los Angeles

Water recycling offers a reliable, economically feasible, and environmentally sensitive way to augment the City's water supply. Recycled water is used for irrigation, industrial cooling, habitat development, and recreation as well as to act as a barrier against seawater intrusion. LADWP is committed to promoting the use of recycled water. LADWP's recycling projects include the Harbor Water Recycling Project, East Valley Water Recycling Project, Westside Water Recycling Project, Griffith Park/California Department of Transportation, Los Angeles Greenbelt Project, Japanese Garden, Wildlife Lake, and Balboa Lake. LADWP encourages the use of recycled water as a means to maintain a sustainable water supply for its customer base.

Rates

Capital cost to finance the delivery of water supply to LADWP's service area is supported through customer-billed water rates. The LADWP Board of Commissioners (Board) sets the rates subject to approval of the City Council by ordinance.

The Board is obligated by the City Charter to establish water rates and collect charges in an amount sufficient to service the water system indebtedness and to meet its expenses of operation and maintenance.

The water service rate structure contains water procurement adjustments under which the cost of purchased water, including water purchased from MWD, demand-side management programs such as water conservation programs, and reclaimed water projects are recovered. In addition, the rate structure contains a water quality improvement adjustment to recover expenditures to upgrade and equalize water quality throughout the City of Los Angeles and to construct facilities to meet state and federal water quality standards, including the payment of debt service on bonds issued for such purposes.

LADWP Board-approved capital program expenditures are either financed through the sale of revenue bonds or the cost of the program is transferred to LADWP customers through rate adjustments.

Normal, Dry, and Multiple Dry Year Demands

Based on the UWMP, projected water supply and demand during normal, dry, and multiple-dry years are shown in Tables VII and VIII. The Year 2000 UWMP-based data shown below have been adjusted to reflect the most current water resource information for the City. These adjustments include:

1) The potential reduction in Los Angeles Aqueduct supplies of 25,000 acre-feet to account for additional water requirements to address environmental issues in the Owens Valley.
2) Projected groundwater supplies have also been adjusted downward due to the elimination or postponement of groundwater recharge projects using recycled water – namely the recharge portion of the East Valley Water Recycling Project and the Headworks Water Recycling Project. During single and multiple-dry years, LADWP can extract groundwater from the San Fernando Basin to increase local groundwater yield up to the levels shown in Tables VII and VIII through the use of stored water credit.
3) LADWP is developing a seawater desalination program that will create a minimum of 11,200 acre-feet of water per year for its service area by 2010. LADWP plans to expand this program to fully realize the benefits of desalinated water as a supplemental water resource..
4) The remaining balance will be made up through additional purchases from the MWD.

LADWP anticipates adequate water supplies to serve its service area's needs under normal, single-dry, and multiple-dry year conditions through 2020.

TABLE VII
Normal and Single-Dry Year Projected Water Demand and Supply

Supply Source	Normal Year				Single-Dry Year			
	2005	2010	2015	2020	2005	2010	2015	2020
Los Angeles Aqueducts	296,000	296,000	296,000	296,000	135,000	135,000	135,000	135,000
Local Wells	108,000	108,000	108,000	108,000	135,000	135,000	135,000	135,000
MWD	267,350	284,400	318,150	354,450	442,350	461,400	497,150	536,450
Recycled Water	7,650	18,400	23,650	29,350	7,650	18,400	23,650	29,350
Seawater Desalination	-	11,200	11,200	11,200	-	11,200	11,200	11,200
Total Supply	679,000	718,000	757,000	799,000	720,000	761,000	802,000	847,000
Total Demand	679,000	718,000	757,000	799,000	720,000	761,000	802,000	847,000

Notes: Units are in acre-feet.
Year 2000 UWMP estimated 42,000 acre-feet required to control dust at the Owens Lake. This estimate has since been revised to 67,000 acre-feet and as a result lowered future LAA deliveries by 25,000 acre-feet (reflected in the table above).
Local well supplies represent an aggregate of LADWP's four groundwater basins – San Fernando, Sylmar, Central, and West Coast.
Single-dry year LAA supplies based on 90% exceedance deliveries (i.e., deliveries exceeded on average 9 out of 10 years).
Single-dry year demand reflects a 6 percent increase from normal year demand.
Recycle water production remains unchanged from normal year yield.

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TABLE VIII
Multiple-Dry Year Projected Water Demand and Supply

Supply Source	2005			2010			2015			2020		
	2006	2007	2008	2011	2012	2013	2016	2017	2018	2021	2022	2023
Los Angeles Aqueducts	194,000	128,000	131,000	194,000	128,000	131,000	194,000	128,000	131,000	194,000	128,000	131,000
Local Wells	135,000	125,000	125,000	135,000	125,000	125,000	135,000	125,000	125,000	135,000	125,000	125,000
MWD	369,550	462,350	456,350	388,100	471,300	475,500	423,450	507,050	511,550	461,450	545,450	550,450
Recycled Water	7,650	7,650	7,650	18,400	18,400	18,400	23,650	23,650	23,650	29,350	29,350	29,350
Seawater Desalination	-	-	-	11,200	11,200	11,200	11,200	11,200	11,200	11,200	11,200	11,200
Total Supply	706,200	713,000	720,000	746,700	753,900	761,100	787,300	794,900	802,400	831,000	839,000	847,000
Total Demand	706,200	713,000	720,000	746,700	753,900	761,100	787,300	794,900	802,400	831,000	839,000	847,000

Notes: Units are in acre-feet.
Years 1, 2, and 3 are estimated based on a repeat of the driest three consecutive years on record, 1959-1960, in the Eastern Sierra Nevada watershed. Drier than normal weather in the Los Angeles Basin is assumed.
LAA supply estimates from Year 2000 UWMP reduced by 25,000 acre-feet to reflect additional requirements to control dust at the Owens Lake.
Recycle water production remains unchanged from normal year yield.
Total demand increases consistent with multiple dry year scenarios projected in Year 2000 UWMP.

Findings

The proposed USC Health Sciences Campus Project is estimated to increase water demand within the Project site by 277 acre-feet annually based on review of information submitted by the City of Los Angeles Department of City Planning.

The 277 acre-feet increase falls within the available and projected water supplies for normal, single-dry, and multiple-dry years through the year 2020 and within the 20-year water demand growth projected in LADWP's year 2000 UWMP. LADWP finds that it will be able to meet the demand of the Project as well as existing and planned future uses of LADWP's system.

F-1.2 LADWP Supply Assessment Letter

RESOLUTION NO. 005 186

WHEREAS, in January 2005, the City of Los Angeles Department of City Planning, requested LADWP to conduct a water supply assessment for the USC Health Sciences Campus Project (Project) pursuant to California Water Code Sections 10910-10915; and

WHEREAS, LADWP has prepared a water supply assessment for the Project in compliance with California Water Code Sections 10910-10915; and

WHEREAS, LADWP's water supply system now serves the immediate Project area, and would serve the area of the proposed Project development; and

WHEREAS, LADWP estimates the annual increase in water demand from the Project site to be 277 acre-feet based on review of information submitted by the City of Los Angeles Department of City Planning; and

WHEREAS, the projected water demand associated with the Project is within the range of water demand projections anticipated in the City of Los Angeles' Year 2000 Urban Water Management Plan Update; and

WHEREAS, LADWP anticipates that its projected water supplies available during normal, single-dry, and multiple-dry water years as included in the 20-year projection contained in its Urban Water Management Plan can accommodate the projected water demand associated with the Project, in addition to the existing and planned future uses of LADWP's system.

NOW, THEREFORE, BE IT RESOLVED, that the LADWP Board of Water and Power Commissioners finds that LADWP can provide sufficient domestic water supplies to the Project and approves the water supply assessment prepared for the Project, now on file with the Secretary of the Board, and directs that the assessment and a certified copy of this resolution be transmitted to the City of Los Angeles Department of City Planning.

I HEREBY CERTIFY that the foregoing is a full, true, and correct copy of a resolution adopted by the Board of Water and Power Commissioners of the City of Los Angeles at its meeting held MAR 22 2005

Barbara E. Moschos
Secretary

APPROVED AS TO FORM AND LEGALITY
ROCKARD J. DELGADILLO, CITY ATTORNEY

FEB 28 2005

BY
JOSEPH A. BRAJEVICH
Deputy City Attorney

LOS ANGELES DEPARTMENT OF WATER AND POWER
WATER SUPPLY ASSESSMENT
FOR THE USC HEALTH SCIENCES CAMPUS PROJECT

Prepared by the Los Angeles Department of Water and Power
Water Resources Business Unit

February 17, 2005

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References
  City of Los Angeles Department of Water and Power Urban Water Management Plan Year 2000
  "Report on Metropolitan's Water Supplies", dated March 25, 2003
  Upper Los Angeles River Area Watermaster Report, dated May 2002
  City of Los Angeles Department of Public Works, Bureau of Sanitation Sewer Generation Rates Table
  California Department of Water Resources California's Groundwater Bulletin 118-80
  Green Book for the Long-Term Groundwater Management Plan for the Owens Valley and Inyo County

Appendices
  A. City of Los Angeles Department of City Planning letter, dated January 12, 2005, request for a Water Supply Assessment
  B. Project Location Map
  C. Water Supply Assessments Adopted by the LADWP Board of Commissioners
  D. Groundwater Pumping Right Judgments
  E. Water Supply Assessment Provisions – California Water Code Sections 10910-10915
  F. Water Supply Assessment Checklist

Introduction and Summary

Proposed projects subject to the California Environmental Quality Act require that the City or County identify any public water system that may supply water to the proposed project and request the public water system to determine whether the projected water demand associated with the proposed project was included as part of the most recently adopted Urban Water Management Plan per California Water Code Section 10910.

The City of Los Angeles Department of City Planning (Planning Department), serving as the lead agency for the proposed USC Health Sciences Campus Project (Project), has identified the Los Angeles Department of Water and Power (LADWP) as the public water system that will supply water to the Project. In response to the Planning Department's request for a water supply assessment, LADWP has performed an assessment contained herein for the proposed development scenario projected to have the greatest water use.

LADWP has served the City a safe and reliable water supply for over a century. Over time, the City's water supplies have evolved from primarily local groundwater to predominantly imported supplies. Today, the City delivers 85 percent of its water from imported sources. As such, LADWP has taken an active role in regional and statewide water management. An important part of water resource management for Los Angeles is water conservation, which is an essential and permanent practice needed for sustainability of regional water supplies. This water supply assessment assumes that the Project will comply with all local, state, and federal water use efficiency mandates that are in place.

Growth in water use is a normal occurrence within LADWP's service area. In developing its long-term water demand projections, LADWP considers this anticipated growth which is driven by various factors, most prominently growth in population. The findings made under this water supply assessment consider not only this proposed project, but also other future smaller uses of water within LADWP's service area that are not subject to water supply assessment statutes.

LADWP's water supply assessment finds that adequate water supplies will be available to meet the water demands of the Project. LADWP anticipates that the projected water demand from the Project can be met during normal, single-dry, and multiple-dry water years, in addition to the existing and planned future uses of LADWP's system.

This water supply assessment has been prepared to meet the applicable requirements of state law as set forth in California State Water Code Sections 10910-10915. Significant references and data for this assessment are from the City of Los Angeles Year 2000 Urban Water Management Plan (UWMP) and the Metropolitan Water District of Southern California's (MWD) report entitled, "Report on Metropolitan's Water Supplies", dated March 25, 2003. Both documents are incorporated by reference as though fully set forth and are available for viewing and printing through the respective agencies' internet website. Hard copies can be requested through the contact below:

Los Angeles Department of Water and Power
111 North Hope Street, Room 1460
Los Angeles, California 90012-2607
Telephone (213) 367-0800

Project Description

The following project information was obtained from the Planning Department's water supply assessment request (see Appendix A). Attachments to the request letter are available for viewing upon request at LADWP.

Project Name: USC Health Sciences Campus

Planning Community: Northeast Los Angeles

The Project is a development of additional academic and medical-related facilities within the existing USC Health Sciences Campus. Two construction alternatives are proposed: (1) 720,000 square feet of academic and medical research facilities and 45,000 square feet of medical clinic facilities, and (2) 465,000 square feet of academic and medical facilities and120,000 square feet of medical clinic facilities. The water supply assessment is based on Alternative (1) as it requires higher water consumption.

The location of the Project is shown in Appendix B.

Project Water Demand Estimate

The projected water demand increase for the Project is estimated to be approximately 277 acre-feet annually. Table I shows a breakdown of current and proposed types of uses and their corresponding estimated water uses. The types of uses are from the water supply assessment request in Appendix A. The projected water demand for the different uses comes from the Sewer Generation Rates table, developed by the City of Los Angeles Department of Public Works, Bureau of Sanitation. The Sewer Generation Rates table lists estimated sewage generated by various facilities, which is also used to approximate indoor water usage.

In this water supply assessment, LADWP independently calculated the anticipated demands from the above information using data provided by the requesting agency. The demand calculated by LADWP is then tracked against the growth reported in the UWMP as shown in Appendix C.

TABLE I

Use[1]	Quantity	Unit	Water Use Factor[2] (gpd/unit)	Water Use (gpd)	Water Use (afy)
Proposed					
Academic/Medical Research Facility	720,000	sf	0.25	180,000	202
Medical Clinic	45,000	sf	0.25	11,250	13
Auto Parking	840,000	sf	0.02	16,800	19
Outdoor Water Use[3]				58,254	44
			Total:	**266,304**	**277**

Notes:

[1] Provided by the Los Angeles Department of City Planning

[2] Based on City of Los Angeles Department of Public Works, Bureau of Sanitation Sewer Generation Rates table, dated 3/20/2004. Uses not listed are estimated by the closest type of use available in the table.

[3] Estimated to be 28% for commercial

gpd - gallons per day   sf - square feet   afy - acre-feet per year

Water Demand Forecast

LADWP's UWMP forecasts a 25-percent increase in water demand in its service area by the Year 2020, or an average of 1.3 percent annually. This corresponds to an estimated water demand of 800,000 acre-feet by the Year 2020, as shown on Table II. The forecast is based on population growth, growth among the customer class sectors, weather, and conservation. Customer class sectors are composed of various water use groups, namely single-family, multi-family, commercial, industrial, and governmental. Weather consideration takes into account both present and past temperature and precipitation data. This forecast assumes that normal weather conditions will occur in the future.

TABLE II

Projected Water Demand, AF per year x 1,000							
Water Use Groups	2000	2005	2010	2015	2020	Average Annual Growth Rate	Percent of Total 2020 Water Use
Retail Use							
Single-Family	226	234	240	249	260	0.8%	33%
Multifamily	196	216	240	260	283	2.2%	35%
Commercial	115	121	124	128	131	0.7%	16%
Industrial	24	26	27	28	30	1.3%	4%
Governmental	41	42	44	45	47	0.7%	6%
Total Retail Use	602	639	675	710	751	1.2%	94%
Unaccounted Water	37	40	43	46	49	1.6%	6%
Total Water Use	639	679	718	756	800	1.3%	100%

LADWP's UWMP used a service area-wide method in developing its water demand projections. This methodology does not rely on individual development demands to determine area-wide growth. Rather, the growth in water use for the entire service area was considered in developing long-term water projections for the City of Los Angeles to the Year 2020. As noted above, the driving factors for this growth are population, weather, and conservation. LADWP used anticipated growth in the various customer class sectors as provided by the Southern California Association of Governments (SCAG). The data used was based on SCAG's 1998 Regional Transportation Plan Forecast.

It should be noted that California law requires that the UWMP be updated every five years. This process entails, among other requirements, an update of water supply and water demand projections for water agencies. For the next update, LADWP will develop a revised demand forecast that will factor in the water demand for which all water supply assessments have been prepared as well as the future demands. Water supply planning will be based on meeting these long-term demands. An important part of this planning process is for LADWP to work collaboratively with the MWD to ensure that the City of Los Angeles' anticipated water demands are incorporated into MWD's long-term water resources development plan. This is a continuous regional effort that includes all of MWD's member agencies, and has resulted in reliable supplemental water supplies for the City from MWD. As discussed below, MWD has and continues to provide assurances that there is a reliable supply to meet water demands.

State law further regulates distribution of water in extreme drought conditions. Section 350-354 of the California Water Code states that when a governing body of a distributor of a public water supply declares a water shortage emergency within its service area, water will be allocated to meet needs for domestic use, sanitation, fire protection, and other priorities. This will be done equitably and without discrimination between customers using water for the same purpose(s).

Water Supplies

The Los Angeles Aqueducts (LAA), local groundwater, and the Metropolitan Water District of Southern California (MWD) are the primary sources of water supplies for the City of Los Angeles. Table III shows LADWP water supplies over the last ten years from these sources:

TABLE III
LADWP Water Supply

Year	Los Angeles Aqueducts	Local Groundwater	MWD	Recycled Water	Total
1995	443,538	63,842	71,149	1,783	580,312
1996	421,800	111,528	81,289	1,694	616,311
1997	435,624	110,629	93,217	1,873	641,343
1998	466,836	80,003	56,510	1,326	604,675
1999	309,037	170,660	164,112	1,812	645,621
2000	255,183	87,946	336,116	2,200	681,445
2001	266,923	79,073	309,234	1,636	656,866
2002	179,338	92,376	410,329	1,945	683,988
2003	251,942	90,835	322,329	1,759	666,865
2004	202,547	71,831	391,834	1,774	667,986

Note: Units are in acre-feet

Los Angeles Aqueducts

Snowmelt runoff from the Eastern Sierra Nevada Mountains is collected and conveyed to the City of Los Angeles via the LAA. LAA supplies come primarily from snowmelt and secondarily from groundwater pumping, and can fluctuate yearly due to the varying hydrologic conditions. In recent years, LAA supplies have been less than historically normal because of environmental obligations to restore Mono Lake and mitigate dust from Owens Lake as well as less than normal Eastern Sierra Nevada snow pack.

The City holds water rights in the Eastern Sierra Nevada where LAA supplies originate. These supplies originate from both streams and from groundwater. In 1905, the City approved a bond measure for the purchase of land and water rights in the Owens River Valley. By 1913, the First Los Angeles Aqueduct began its deliveries of water to the City primarily from surface water diversions from the Owens River and its tributaries. Historically, these supplies were augmented from time to time by groundwater extractions from beneath the lands that the City had purchased in the Owens Valley.

In 1940, the First Los Angles Aqueduct was extended north to deliver Mono Basin water to the City pursuant to water rights permits and licenses granted by the State Water Resources Control Board. In 1970, the Second Los Angeles Aqueduct was completed increasing total delivery capacity of the LAA system to approximately 550,000 acre-feet per year. The Second Los Angeles Aqueduct was to be filled by completing the Mono Basin diversions originally authorized in 1940, by a more effective use of water for agricultural purposes on City-owned lands in the Owens Valley and Mono Basin and by increased groundwater pumping from the City's lands in the Owens Valley.

In 1972, Inyo County filed a California Environmental Quality Act lawsuit challenging the City's groundwater pumping program for the Owens Valley. The lawsuit was finally ended in 1997, with the County of Inyo and the City of Los Angeles entering into a long-term agreement for the management of groundwater in the Owens Valley. Pursuant to that agreement, entered as a judgment of the Superior Court in the County of Inyo (County of Inyo v. City of Los Angeles, Superior Court No. 12908) the City's groundwater pumping is regulated to the effect that the City may take as much water as it reasonably needs from groundwater sources so long as it does not cause unmitigated environmental harm in the Owens Valley. The details of this program and its requirements can be seen in the stipulated judgment on file in the Superior Court.

Further, in September 1994 by virtue of the public trust doctrine, the State Water Resources Control Board issued Decision No. 1631 which effectively reduced LADWP's Mono Basin water rights from 100,000 acre-feet a year to approximately 16,000 acre-feet a year. In brief, LADWP's ability to export Mono Basin water is now tied directly to the elevation of Mono Lake and flows of various streams that are tributary to Mono Lake. At present, the City expects to obtain on average 30,000 acre-feet a year from the Mono Basin.

In July 1998, LADWP and the Great Basin Unified Air Pollution Control District entered into a Memorandum of Agreement. It delineated the dust-producing areas of the Owens lakebed that needed to be controlled, specified measures required to control the dust, and outlined a timetable for implementation of the control measures. The Memorandum of Agreement was incorporated into a formal air quality control plan by the Great Basin Unified Air Pollution Control District and subsequently approved by the United States Environmental Protection Agency in October 1999.

Pursuant to the Memorandum of Agreement, a dust mitigation program is being implemented on the Owens Lake. An estimated 54,000 AF of water annually may ultimately be required to sustain the dust mitigation program.

The water supply analysis contained within this water supply assessment incorporates the current and projected reductions in LAA water deliveries due to Decision 1631, Owens Lake Dust Mitigation Program, and the Lower Owens River Project.

It is anticipated that future water deliveries from the aqueducts will continue to be subject to reduced levels as LADWP faces continuing environmental obligations in the Mono Basin and Owens Valley. Reduced deliveries from the LAA will require additional water purchases from MWD, as well as the development of supplemental water supplies to meet City demands.

Groundwater

LADWP extracts groundwater from various locations throughout the Owens Valley and four local groundwater basins. LADWP owns extensive property in the Owens Valley. LADWP appropriates groundwater from beneath its lands for use in the Owens Valley and in Los Angeles. It has a long-term groundwater management plan in place. Additionally, LADWP holds adjudicated extraction rights in four local groundwater basins: San Fernando, Sylmar, Central, and West Coast.

The Owens Valley, located on the eastern slope of the Sierra Nevada Mountains, encompasses approximately 3,300 square miles of drainage area. LADWP has extracted the following quantities of groundwater from the Owens Valley in the last five run-off years (April1 – March 31):

- 1999-2000 63,675 acre-feet
- 2000-2001 67,795 "
- 2001-2002 73,349 "
- 2002-2003 82,281 "
- 2003-2004 87,726 "

51,574 acre-feet, 63,675 acre-feet, 67,795 acre-feet, 73,349 acre-feet, and 82,281 acre-feet of water in the past five run-off years (April 1 – March 31) from 1998-99 to 2002-03, respectively. Owens Valley is not identified as an overdrafted basin in the California Department of Water Resources California's Groundwater Bulletin 118-80. Further, Bulletin 118-80 does not project the Owens Valley to become overdrafted if present groundwater management conditions continue.

In 1990, the City of Los Angeles and Inyo County as part of the preparation of the long-term groundwater management agreement, prepared the "Green Book for the Long-Term Groundwater Management Plan for the Owens Valley and Inyo County". It contains plans and procedures to prevent overdraft conditions from groundwater pumping as well as to manage vegetation in the Owens Valley.

The San Fernando and Sylmar basins are subject to the judgment in City of San Fernando vs. the City of Los Angeles. Pumping is reported to the court-appointed Upper Los Angeles River Area (ULARA) Watermaster. The Central and West Coast Basins are also subject to court judgments. Pumping is reported to the California Department of Water Resources (DWR) who acts as Watermaster. Table IV shows LADWP's legal entitlements in the four groundwater basins.

TABLE IV
Local Groundwater Basin Entitlements

Local Groundwater Basin	Native Safe Yield Credit	Import Return Credit	Total Native+Import	Stored Water Credit as of 10/1/04	Allowable Pumping in Water Year '04-'05
San Fernando	43,660	43,094	86,754	287,493	374,247
Sylmar	3,255	-	3,255	6,303	9,558
Central	15,000	-	15,000	3,000	18,000
West Coast	1,503	-	1,503	-	1,503
Total	63,418	43,094	107,512	296,796	403,308

Note: Units are in acre-feet

The San Fernando Basin is the largest of four basins within ULARA. The basin consists of 112,000 acres of land and comprises 91.2 percent of the ULARA valley fill. LADWP has accumulated 287,493 acre-feet (AF) of stored water credit in the San Fernando Basin as of October 2004. This is water LADWP can withdraw from the basin during normal and dry years or in an emergency, in addition to LADWP's approximately 86,754 AF annual entitlement in the basin. The majority of LADWP's groundwater is extracted from the San Fernando basin. Sylmar Basin is located in the northern part of the ULARA, consisting of 5,600 acres and comprises 4.6 percent of the ULARA valley fill. LADWP has an annual entitlement of 3,255 acre-feet and a stored credit of 6,303 acre-feet as of October 2004.

The court decision on pumping rights in the ULARA, was implemented in a judgment on January 26, 1979. Enclosed with the assessment are copies of those pages from the judgment showing the entitlements (see Appendix D). Further information about the ULARA basin is in the ULARA Watermaster Report. The ULARA Watermaster report and the judgment are available for review at the office of the ULARA Watermaster.

LADWP additionally has adjudicated rights to extract groundwater from the Central and West Coast Basins, respectively. Annual entitlements to the Central and West Coast Basins are 15,000 acre-feet and 1,503 acre-feet, respectively. Due to poor water quality, LADWP does not pump water from the West Coast Basin. See Appendix D for copies of relevant portions of the judgments. The judgments are available for review at DWR.

For the period of April 2004 to March 2005, LADWP intends to extract 86,918 acre-feet, 4,345 acre-feet, and 13,397 acre-feet from the San Fernando, Sylmar, and Central Basins, respectively. LADWP plans to continue to maximize production from its groundwater basins in the coming years to offset reductions in imported supplies. Maximizing extraction from the basins will however be limited by water quality and overdraft protection. Both LADWP and DWR have programs in place to monitor wells to prevent overdrafting. LADWP's groundwater pumping practice is based on a "safe yield" operation. The objective, over a period of years, is to extract an amount of groundwater equal to
the native and imported water that recharges. Extractions by LADWP from the San Fernando, Sylmar, Central, and West Coast Basins for the last 5 years are shown on Table V.

TABLE V
Local Groundwater Basin Supply

Water Year (Oct-Sep)	San Fernando	Sylmar	Central	West Coast
1999-2000	98,016	2,634	10,513	0
2000-2001	65,409	2,606	11,893	0
2001-2002	66,823	1,240	8,639	0
2002-2003	78,045	3,662	9,811	0
2003-2004	72,235	2,634	15,907	0

Note: Units are in acre-feet

Metropolitan Water District of Southern California (MWD)

MWD is the largest water wholesaler for domestic and municipal uses in Southern California. As one of 26 member agencies, LADWP purchases water from MWD to supplement LADWP supplies from local groundwater and the LAA. MWD imports its water supplies from Northern California through the State Water Project's California Aqueduct and from the Colorado River through MWD's own Colorado River Aqueduct. LADWP will continue to rely on MWD to meet its current and future supplemental water needs.

All 26-member agencies have preferential rights to purchase water from MWD. Pursuant to Section 135 of the MWD Act, " Each member public agency shall have a preferential right to purchase from the district for distribution by such agency, or any public utility therein empowered by such agency for the purpose, for domestic and municipal uses within the agency a portion of the water served by the district which shall, from time to time, bear the same ratio to all of the water supply of the district as the total accumulation of amounts paid by such agency to the district on tax assessments and otherwise, excepting purchase of water, toward the capital cost and operating expense of the district's works shall bear to the total payments received by the district on account of tax assessments and otherwise, excepting purchase of water, toward such capital cost and operating expense." This is known as a preferential right. As of June 30, 2004, LADWP has preferential rights to purchase 21.66 percent of MWD's total water supply.

LADWP has worked with MWD in developing a framework for allocating water supplies during periods of shortage as well as surplus. MWD has a Water Surplus and Drought Management Plan that provides such a framework. LADWP intends to work within the framework established through the Water Surplus and Drought Management Plan in acquiring its drought supplies from MWD in the future.

MWD's long-term plans to meet its member agencies' reliability needs are through water transfer programs, outdoor conservation measures, and development of additional local resources, such as recycling, brackish water desalination, and seawater desalination. Additionally, MWD has more than 4.0 million acre-feet of storage capacity available in reservoirs and banking/transfer programs.

A report issued by MWD dated March 25, 2003 titled, "Report on Metropolitan's Water Supplies", states the following: "If all imported water supply programs and local projects proceed as planned, without changes in demand projections, reliability would be assured beyond 20 years." The report also goes on to say, "...Metropolitan has a comprehensive supply plan to provide sufficient supplemental water supplies and to provide prudent supply reserve over the next 20 years and beyond ...Demand forecasts and supply capabilities have been compared over the next 20 years under varying hydrologic conditions. These comparisons determine supplies that can be reasonably relied upon to meet projected supplemental demands and to provide reserves that can assure a 'margin of safety' to mitigate against uncertainties in demand projections and supply program risks."

MWD established a policy objective for water supply reliability as part of its Integrated Resources Plan (IRP). The policy objective is: Through the implementation of the IRP, Metropolitan and its member agencies will have the full capability to meet full-service demands at the retail level at all times.

Table VI shows MWD's projected supply and demand under normal, dry, and multiple-dry years. LADWP has provided significant input to MWD in developing this analysis, which includes the City of Los Angeles' projected water requirements from MWD. In fact, MWD's projections are 6 to 16 percent higher than member agencies projections. This difference indicates that MWD's supplies provide a level of margin of safety or flexibility to accommodate potential delays to planned projects.

TABLE VI
Metropolitan Water District Supply and Demand Forecast

	Normal Year				Single-Dry Year				Multiple-Dry Year			
	2005	2010	2015	2020	2005	2010	2015	2020	2005	2010	2015	2020
Current Supplies												
Colorado River	0.695	0.735	0.719	0.707	0.721	0.833	0.833	0.833	0.721	0.833	0.833	0.833
California Aqueduct	1.781	1.783	1.724	1.715	0.997	0.997	0.822	0.822	1.290	1.376	1.146	1.120
In-Basin Storage	-	-	-	-	0.730	0.790	0.788	0.758	0.455	0.532	0.530	0.513
Supplies Under Development												
Colorado River	0.322	0.229	0.261	0.350	0.209	0.231	0.417	0.417	0.167	0.417	0.417	0.417
California Aqueduct	0.020	0.065	0.220	0.220	0.020	0.195	0.390	0.390	0.020	0.195	0.390	0.390
In-Basin Storage	-	-	-	-	-	0.089	0.200	0.200	-	0.089	0.200	0.200
Supply	2.818	2.812	2.924	2.995	2.678	3.135	3.450	3.420	2.654	3.442	3.517	3.473
Demand	1.970	1.887	2.055	2.274	2.169	2.096	2.267	2.488	2.245	2.176	2.321	2.534
Potential Reserve	0.848	0.926	0.869	0.721	0.508	1.039	1.184	0.932	0.603	1.266	1.196	0.939

Notes: Figures are from MWD's "Report on Metropolitan's Water Supplies", dated March 25, 2003.
Units are in million acre-feet per year.
Supply represents expected supply capability for resource programs.
Demand is based on SCAG 98 RTP, SANDAG 1998 forecasts and member agency projections of local supplies.

Based on its March 25, 2003 report, MWD anticipates the following future water supplies:

Colorado River Aqueduct Deliveries:

Available by 2005:
- Basic Apportionment (Priority 4)
- IID/MWD Conservation Program
- Priority 5 Apportionment
- Coachella & All-American Canal Lining Projects
- Off Aqueduct Storage
  - Hayfield Storage Program
  - Central Arizona Banking Demonstration Program

Under Development:
- IID/MWD Conservation Program (Including Coachella Option)
- Interim Surplus Guidelines
- IID/SDCWA Transfer
- PVID Land Management Program
- Off-Aqueduct Storage/Transfer Programs
  - Lower Coachella Valley Groundwater Storage Program
  - Chuckwalla Storage Program
  - Central Arizona Banking Program

California Aqueduct Deliveries:

Available by 2005:
- SWP Deliveries
- San Luis Reservoir Carryover Storage
- Advance Delivery with Coachella Valley WD and Desert WA
- Semitropic Water Banking and Exchange Program
- Arvin-Edison Water Management Program
- San Bernardino Valley MWD Program
- Kern Delta WD Program
- Market Transfer Options

Under Development: Delta Improvements (CALFED Implementation)
Additional Transfers/Storage (San Bernardino Conjunctive Use Program, Westside Valley Transfers, and Eastside Valley Transfers)

<u>In-Basin Storage Deliveries:</u>

Available by 2005: MWD Surface Storage (DVL, Lakes Matthews and Skinner)
Flexible Storage in Castaic Lake and Lake Perris
Groundwater Conjunctive Use Programs
- Long-Term Seasonal Storage Programs
- North Las Posas Storage Program

Under Development: Groundwater Conjunctive Use Programs
- Raymond Basin Storage Programs
- Proposition 13 Storage Programs
- Additional Programs

MWD reports that current water supplies and supplies under development are expected to exceed water demands from its member agencies through the Year 2020 under normal, single-dry, and multiple-dry year conditions. Their report also states, "...with the addition of all water supplies that are under development, Metropolitan would have the total capability (existing and planned supplies) to meet 100 percent of its member agencies' projected supplemental demands (consumptive and replenishment) through 2030 even under a repeat of the worst drought."

The findings of this water supply assessment were developed based on MWD's stated ability to reliably provide water to LADWP. Furthermore, based on MWD's current long-term water resources outlook, LADWP presently does not anticipate the need to formally invoke its preferential rights over the next 20 years.

Secondary Sources and Other Considerations

Water conservation and recycling will play an increasing role in meeting future water demands. LADWP has implemented conservation and recycling programs with efforts under way to further promote and increase the level of these programs. LADWP is committed to supply a higher percentage of the City's water demand through conservation and recycling. LADWP also plans to tap into a new water source – seawater desalination. LADWP's seawater desalination project is expected to generate at least 11,200 acre-feet per year of high quality drinking water beginning in approximately 2010. This project has been included in LADWP's 10-year Capital Improvement Program.

Water Conservation in Los Angeles

LADWP implements water conservation programs to ensure that the residents and businesses of Los Angeles use water wisely and efficiently. Due to conservation, water use has not increased in Los Angeles over the last 20 years despite a population increase of approximately 700,000 people. Some of LADWP's successful programs include the toilet replacement program, ultra-low-flush toilet rebate program, high-efficiency clothes washer rebate program, technical assistance program, and commercial water conservation rebate program. All new developments within LADWP's service area must comply with all existing ordinances that require installation of water-efficient plumbing devices in their facilities.

Water Recycling in Los Angeles

Water recycling offers a reliable, economically feasible, and environmentally sensitive way to augment the City's water supply. Recycled water is used for irrigation, industrial cooling, habitat development, and recreation as well as to act as a barrier against seawater intrusion. LADWP is committed to promoting the use of recycled water. LADWP's recycling projects include the Harbor Water Recycling Project, East Valley Water Recycling Project, Westside Water Recycling Project, Griffith Park/California Department of Transportation, Los Angeles Greenbelt Project, Japanese Garden, Wildlife Lake, and Balboa Lake. LADWP encourages the use of recycled water as a means to maintain a sustainable water supply for its customer base.

Rates

Capital cost to finance the delivery of water supply to LADWP's service area is supported through customer-billed water rates. The LADWP Board of Commissioners (Board) sets the rates subject to approval of the City Council by ordinance.

The Board is obligated by the City Charter to establish water rates and collect charges in an amount sufficient to service the water system indebtedness and to meet its expenses of operation and maintenance.

The water service rate structure contains water procurement adjustments under which the cost of purchased water, including water purchased from MWD, demand-side management programs such as water conservation programs, and reclaimed water projects are recovered. In addition, the rate structure contains a water quality improvement adjustment to recover expenditures to upgrade and equalize water quality throughout the City of Los Angeles and to construct facilities to meet state and federal water quality standards, including the payment of debt service on bonds issued for such purposes.

LADWP Board-approved capital program expenditures are either financed through the sale of revenue bonds or the cost of the program is transferred to LADWP customers through rate adjustments.

Normal, Dry, and Multiple Dry Year Demands

Based on the UWMP, projected water supply and demand during normal, dry, and multiple-dry years are shown in Tables VII and VIII. The Year 2000 UWMP-based data shown below have been adjusted to reflect the most current water resource information for the City. These adjustments include:

1) The potential reduction in Los Angeles Aqueduct supplies of 25,000 acre-feet to account for additional water requirements to address environmental issues in the Owens Valley.
2) Projected groundwater supplies have also been adjusted downward due to the elimination or postponement of groundwater recharge projects using recycled water – namely the recharge portion of the East Valley Water Recycling Project and the Headworks Water Recycling Project. During single and multiple-dry years, LADWP can extract groundwater from the San Fernando Basin to increase local groundwater yield up to the levels shown in Tables VII and VIII through the use of stored water credit.
3) LADWP is developing a seawater desalination program that will create a minimum of 11,200 acre-feet of water per year for its service area by 2010. LADWP plans to expand this program to fully realize the benefits of desalinated water as a supplemental water resource.
4) The remaining balance will be made up through additional purchases from the MWD.

LADWP anticipates adequate water supplies to serve its service area's needs under normal, single-dry, and multiple-dry year conditions through 2020.

TABLE VII
Normal and Single-Dry Year Projected Water Demand and Supply

Supply Source	Normal Year				Single-Dry Year			
	2005	2010	2015	2020	2005	2010	2015	2020
Los Angeles Aqueducts	296,000	296,000	296,000	296,000	135,000	135,000	135,000	135,000
Local Wells	108,000	108,000	108,000	108,000	135,000	135,000	135,000	135,000
MWD	267,350	284,400	318,150	354,450	442,350	461,400	497,150	536,450
Recycled Water	7,650	18,400	23,650	29,350	7,650	18,400	23,650	29,350
Seawater Desalination	-	11,200	11,200	11,200	-	11,200	11,200	11,200
Total Supply	679,000	718,000	757,000	799,000	720,000	761,000	802,000	847,000
Total Demand	679,000	718,000	757,000	799,000	720,000	761,000	802,000	847,000

Notes: Units are in acre-feet.
Year 2000 UWMP estimated 42,000 acre-feet required to control dust at the Owens Lake. This estimate has since been revised to 67,000 acre-feet and as a result lowered future LAA deliveries by 25,000 acre-feet (reflected in the table above).
Local well supplies represent an aggregate of LADWP's four groundwater basins – San Fernando, Sylmar, Central, and West Coast.
Single-dry year LAA supplies based on 90% exceedance deliveries (i.e., deliveries exceeded on average 9 out of 10 years).
Single-dry year demand reflects a 6 percent increase from normal year demand.
Recycle water production remains unchanged from normal year yield.

TABLE VIII
Multiple-Dry Year Projected Water Demand and Supply

Supply Source	2005			2010			2015			2020		
	2006	2007	2008	2011	2012	2013	2016	2017	2018	2021	2022	2023
Los Angeles Aqueducts	194,000	128,000	131,000	194,000	128,000	131,000	194,000	128,000	131,000	194,000	128,000	131,000
Local Wells	135,000	125,000	125,000	135,000	125,000	125,000	135,000	125,000	125,000	135,000	125,000	125,000
MWD	369,550	452,350	456,350	388,100	471,300	475,500	423,450	507,050	511,550	461,450	545,450	550,450
Recycled Water	7,650	7,650	7,650	18,400	18,400	18,400	23,650	23,650	23,650	29,350	29,350	29,350
Seawater Desalination	-	-	-	11,200	11,200	11,200	11,200	11,200	11,200	11,200	11,200	11,200
Total Supply	706,200	713,000	720,000	746,700	753,900	761,100	787,300	794,900	802,400	831,000	839,000	847,000
Total Demand	706,200	713,000	720,000	746,700	753,900	761,100	787,300	794,900	802,400	831,000	839,000	847,000

Notes: Units are in acre-feet.
Years 1, 2, and 3 are estimated based on a repeat of the driest three consecutive years on record, 1959-1960, in the Eastern Sierra Nevada watershed. Drier than normal weather in the Los Angeles Basin is assumed.
LAA supply estimates from Year 2000 UWMP reduced by 25,000 acre-feet to reflect additional requirements to control dust at the Owens Lake.
Recycle water production remains unchanged from normal year yield.
Total demand increases consistent with multiple dry year scenarios projected in Year 2000 UWMP.

Findings

The proposed USC Health Sciences Campus Project is estimated to increase water demand within the Project site by 277 acre-feet annually based on review of information submitted by the City of Los Angeles Department of City Planning.

The 277 acre-feet increase falls within the available and projected water supplies for normal, single-dry, and multiple-dry years through the year 2020 and within the 20-year water demand growth projected in LADWP's year 2000 UWMP. LADWP finds that it will be able to meet the demand of the Project as well as existing and planned future uses of LADWP's system.

DEPARTMENT OF
CITY PLANNING
200 N. SPRING STREET, ROOM 525
LOS ANGELES, CA 90012-4801

CITY OF LOS ANGELES
CALIFORNIA

JAMES K. HAHN
MAYOR

WATER SYSTEM
JAN 14 2005
EXECUTIVE OFFICE

WATER RESOURCES
BUSINESS UNIT
JAN 14 2005

January 12, 2005

Mr. Gerard Gewe / Mr. James McDaniel
Assistant General Manager – Water
Department of Water and Power
111 North Hope Street, Room 1455
Los Angeles, CA 90012

ALVIN BAUTISTA
JAN 31 2005
DATE

Mr. Gewe,

Pursuant to SB 610, the Department of City Planning is requesting that your Department prepare a water supply assessment for the proposed project described below. The Department of City Planning is currently preparing a Draft Environmental Impact Report (EIR) for the subject site and we need to include the water supply assessment in the Draft EIR. We have included for your use a copy of the proposed development sites, radius map and vicinity map.

Project Name: University of Southern California (USC) Health Sciences Campus Project **(ENV-2004-1950-EIR)**

Project Address: USC Health Sciences Campus (Northeast Los Angeles Community Plan Area)

Project Description: General Plan amendment, zone change, Height District change, zoning variance, and Development Agreement to permit the development of additional academic and medical-related (e.g., medical research, medical clinic, etc.) facilities within its existing Health Sciences Campus (HSC) in Northeast Los Angeles (the "Project"). A total of up to 765,000 square feet of development is proposed, consisting of 720,000 square feet of academic and medical research facilities, and 45,000 square feet of medical clinic facilities. Additional medical clinic facilities may be developed in lieu of academic and medical research facilities. A maximum of 120,000 square feet of medical clinic floor area is proposed. Should this occur, the amount of academic and medical research facilities would be reduced to 465,000 square feet, for an overall total of 585,000 square feet of development. As such, the Project proposes the development of between 585,000 and 765,000 square feet of floor area. The environmental analysis conducted for the Project addresses the development of the full range of floor area (i.e., 585,000 to 765,000 square feet) and uses (i.e., academic, medical research and medical clinic).

1/14/05 - TOM ERB FOR NECESSARY ATTENTION
KM

ANTICIPATED WATER DEMAND

Water Demand:

Development Scenario = 765,000 square feet

Academic/Medical Research = (250 Gallons per day/1000 sf)(720,000) = 180,000 gallons per day
Medical Clinic = (250 Gallons per day/1000 sf)(45,000) = 11,250 gallons per day
Parking = (20 Gallons per day/1000 sf)(840,000) = 16,800 gallons per day
Outdoor Water Use (28% of consumption) = 58,254 gallons per day

Total Water Demand for 765,000 square-foot Development Scenario = 266,304 gallons per day

Development Scenario = 585,000 square feet

Academic/Medical Research = (250 Gallons per day/1000 sf)(465,000) = 116,250 gallons per day
Medical Clinic = (250 Gallons per day/1000 sf)(120,000) = 30,000 gallons per day
Parking = (20 Gallons per day/1000 sf)(840,000) = 16,800 gallons per day
Outdoor Water Use (28% of consumption) = 45,654 gallons per day

Total Water Demand for 765,000 square-foot Development Scenario = 208,704 gallons per day

Maximum Water Consumption = 266,304 gallons per day

(Note: All water consumption factors are sewer generation rates provided by Mr. Michael Kantor, City of Los Angeles, Bureau of Engineering, December 7, 2004.)

If you have any questions regarding this request, please contact Jimmy Liao at (213) 978-1331.

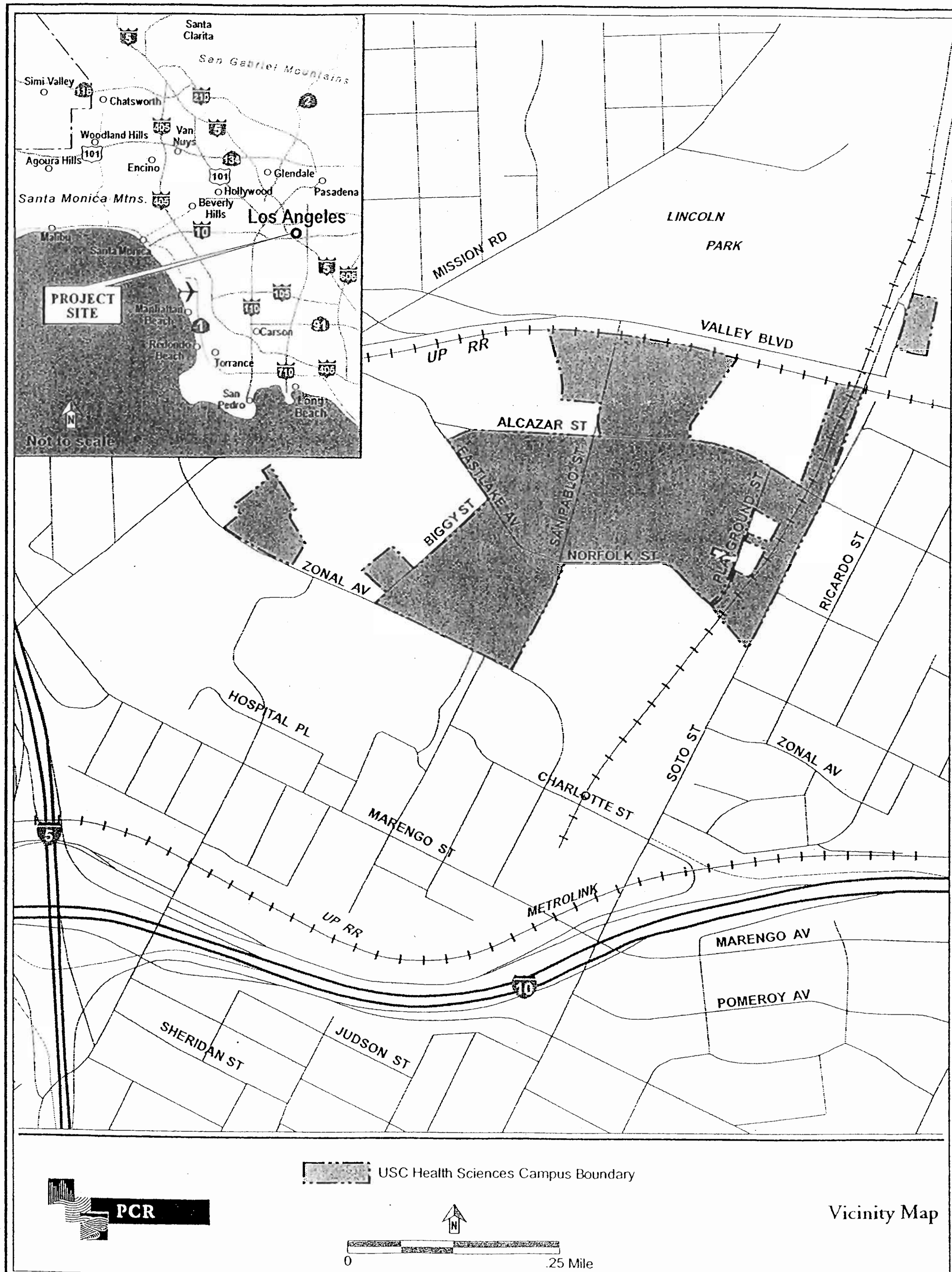
Con Howe
Director of Planning

Emily Gabel-Luddy

Emily Gabel-Luddy
Associate Zoning Administrator
Division of Land / Environmental Review

Enclosures

cc: Councilmember Antonio Villaraigosa
Con Howe, Director of Planning
Bob Sutton, Deputy Director of Planning
Dave Gay, Principal City Planner


Santa Clarita
San Gabriel Mountains
Simi Valley
Chatsworth
Woodland Hills
Van Nuys
Agoura Hills
Encino
Glendale
Hollywood
Pasadena
Santa Monica Mtns.
Beverly Hills
Los Angeles
Malibu
Santa Monica
PROJECT SITE
Manhattan Beach
Carson
Redondo Beach
Torrance
San Pedro
Long Beach
Not to scale
LINCOLN PARK
MISSION RD
VALLEY BLVD
UP RR
ALCAZAR ST
EASTLAKE AV
SAN PABLO ST
PLAYGROUND ST
BIGGY ST
NORFOLK ST
ZONAL AV
RICARDO ST
HOSPITAL PL
SOTO ST
CHARLOTTE ST
MARENGO ST
METROLINK
UP RR
MARENGO AV
POMEROY AV
SHERIDAN ST
JUDSON ST
USC Health Sciences Campus Boundary
PCR
N
0
.25 Mile
Vicinity Map

Appendix B

CITY OF LOS ANGELES
DEPARTMENT OF WATER AND POWER
WATER SUPPLY ASSESSMENT WORKSHEET

This worksheet estimates water demands arising from water supply assessment request from developers.
Water Supply Assessments are performed in compliance with California Water Code Sections 10910-10915.

Assess. Number	Project	LADWP Board Action Date	(A) Present Baseline Water Use (afy)	(B) Projected Total Water Use (afy)	(C) = (B) - (A) Net Increase/Decrease Over Baseline Use (afy)
1	Los Angeles Airport Master Plan Project	4/17/2001	2,311	2,703	392
2	2000 Avenue of the Stars Project	5/7/2002	61	82	21
3	Hollywood Redevelopment Plan Amendment Project	6/4/2002	836	2,858	2,022
4	9th & Flower - Central Business District Redevelopment Area	6/4/2002	30	275	246
5	UCLA Long Range Redevelopment Plan	7/2/2002	2,733	3,239	506
6	Manchester and Lincoln Project	7/16/2002	91	109	18
7	Corbin and Nordhoff Project	8/6/2002	100	436	336
8	Las Lomas (conditional assessment subject to City annexation)	9/17/2002	0	3,831	3,831
9	Archstone Warner Center	10/15/2002	18	110	92
10	Mountain View Village	7/1/2003	0	124	124
11	Los Angeles World Airports Master Plan Alternative "D" (supersedes Assess. No. 1)	7/1/2003	2,826	3,798	972
12	County of Los Angeles Hall of Justice Renovation and Reuse Project	8/25/2003	280	138	-142
13	Los Angeles Harbor College Facilities Master Plan Project	8/25/2003	229	281	52
14	Los Angeles Valley College Facilities Master Plan Project	8/25/2003	346	405	59
15	Village at Playa Vista	8/25/2003	1	746	745
16	Las Lomas (supersedes Assess. No. 8)	*9/21/2004*	0	4,252	4,252
17	Westside Medical Park	10/21/2003	25	338	313
18	Central Los Angeles High School #11 and Vista Hermos Park	10/21/2003	0	51	51
19	USC Galen Center and Athletic Pavilion	12/17/2003	1	96	95
20	Orsini 2	3/2/2004	3	134	131
21	Cascade Ranch	3/2/2004	0	188	188
22	Olympic & Soto Project	11/2/2004	76	407	331
23	Il Villaggio Toscano Project	*3/15/2005*	22	123	100
24	USC Health Sciences Campus	*3/15/2004*	0	277	277

Notes:

(1) Projected and planned for increase in water use is contained in LADWP's Year 2000 Urban Water Management Plan. The Plan estimates for a 25% increase (160,000 acre-feet) from year 2000 through 2020.

(2) Present Baseline Water Use is the most recent water use for the Project site, prior to the proposed (re)development.

(3) Projected Total Water Use is based on proposed (re)development usage, using factors in the City of Los Angeles Bureau of Sanitation Sewer Generation Rates table.

(4) Column (C) is the net increase/decrease in demand with respect to the Present Baseline Water Use shown in Column (A). The water demand projection in LADWP's Year 2000 Urban Water Management Plan is based on citywide growth in water use. When taken in its entire sum, the projects to date (but see the Las Lomas assessment) in this table are within the anticipated and planned for growth in water use in the City of Los Angeles. All projects above are within the anticipated and planned for citywide growth rate of 25% through year 2020. These projects and other growth and use not subject to a Water Supply Assessment within LADWP's service area will be factored into the next Urban Water Management Plan update in 2005.

(5) Assessment No. 24 will be considered by the LADWP Board of Commissioners at the March 15, 2005 meeting.

(6) Definition: afy - acre feet per year.

each meets the hydrologic definition of "basin." The extractions of water in the respective basins affect the other water users within that basin but do not significantly or materially affect the ground water levels in any of the other basins. The underground reservoirs of Eagle Rock, Verdugo and Sylmar Basins are independent of one another and of the San Fernando Basin.

4.2.4 Safe Yield and Native Safe Yield. The safe yield and native safe yield, stated in acre feet, of the three largest basins for the year 1964-65 was as follows:

Basin	Safe Yield	Native Safe Yield
San Fernando	90,680	43,660
Sylmar	6,210	3,850
Verdugo	7,150	3,590

The safe yield of Eagle Rock Basin is derived from imported water delivered by Los Angeles. There is no measurable native safe yield.

4.2.5 Separate Basins -- Separate Rights. The rights of the parties to extract ground water within ULARA are separate and distinct as within each of the several ground water basins within said watershed.

4.2.6 Hydrologic Condition of Basins. The several basins within ULARA are in varying hydrologic conditions, which result in different legal consequences.

4.2.6.1 San Fernando Basin. The first full year of overdraft in San Fernando Basin was 1954-55. It remained in overdraft continuously until 1968, when an injunction herein became effective. Thereafter, the causing said water to be so stored shall have a right to extract an equivalent amount of ground water from San Fernando Basin. The right to extract waters attributable to such storage practices is an undivided right to a quantity of water in San Fernando Basin equal to the amount of such Stored Water to the credit of any party, as reflected in Watermaster records.

5.2.1.3 <u>Calculation of Import Return Water and Stored Water Credits</u>. The extraction rights of Los Angeles, Glendale, Burbank and San Fernando in San Fernando Basin in any year, insofar as such rights are based upon import return water, shall only extend to the amount of any accumulated import return water credit of such party by reason of imported water delivered after September 30, 1977. The annual credit for such import return water shall be calculated by Watermaster based upon the amount of delivered water during the preceding water year, as follows:

Los Angeles:	20.8% of all delivered water (including reclaimed water) to valley fill lands of San Fernando Basin.
San Fernando:	26.3% of all imported and reclaimed water delivered to valley-fill lands of San Fernando Basin.
Burbank:	20.0% of all delivered water (including reclaimed water) to San Fernando Basin and its tributary hill and mountain areas.

LAGERLOF, SENICAL, DRESCHER & SWIFT
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(818) 793-9400 or (213) 385-4345

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

CENTRAL AND WEST BASIN WATER REPLENISHMENT DISTRICT, etc., Plaintiff, v. CHARLES E. ADAMS, et al., Defendants. CITY OF LAKEWOOD, a municipal corporation, Cross-Complaint, v. CHARLES E. ADAMS, et al., Cross-Defendants.	No. 786,656 SECOND AMENDED JUDGMENT (Declaring and establishing water rights in Central Basin and enjoining extractions therefrom in excess of specified quantities.)

The above-entitled matter duly and regularly came on for trial in Department 73 of the above-entitled Court (having been transferred thereto from Department 75 by order of the presiding Judge), before the Honorable Edmund M. Moor, specially

SB 257081 v1: 06774.0096

Watermaster Reports on file with this Court and the records of the Plaintiff. This tabulation does not take into account additions or subtractions from any Allowed Pumping Allocation of a producer for the 1978-79 water year, nor other adjustments not representing change in fee title to water rights, such as leases of water rights, nor does it include the names of lessees of landowners where the lessees are exercising the water rights. The exercise of all water rights is subject, however, to the provisions of this Judgment is hereinafter contained. All of said rights are of the same legal force and effect and are without priority with reference to each other. Each party whose name is hereinafter set forth in the tabulation set forth in Appendix "2" of this judgment, and after whose name there appears under the column "Total Water Right" the figure "0" owns no rights to extract any ground water from Central Basin, and has no right to extract any ground water from Central Basin.

(b) Defendant The City of Los Angeles is the owner of the right to extract fifteen thousand (15,000) acre feet per annum of ground water from Central Basin. Defendant Department of Water and Power of the City of Los Angeles has no right to extract ground water from Central Basin except insofar as it has the right, power, duty or obligation on behalf of defendant The City of Los Angeles to exercise the water rights in Central Basin of defendant The City of Los Angeles. The exercise of said rights are subject, however, to the provisions of this judgment hereafter contained, including but not limited to, sharing with

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Law Offices of Wayne K. Lemieux
200 N. Westlake Boulevard, Suite 102
Westlake Village, CA 91362
(805) 495-4770

Attorneys for West Basin
Municipal Water District

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

CALIFORNIA WATER SERVICE COMPANY, ET AL., Plaintiffs v. CITY OF COMPTON, ET AL. Defendants	)	NO. 506806 MEMORANDUM OF POINTS AND AUTHORITIES IN SUPPORT OF PETITION TO PERMIT INTERVENTION OF WEST BASIN MUNICIPAL WATER DISTRICT AND IMPLEMENTATION OF THE DOMINGUEZ DESALTER

PRELIMINARY

The Judgment herein enjoins production of water from the West Coast Basin (hereinafter "Basin") in excess of the amount which the producer is adjudged to own (hereinafter "adjudicated rights"). West Basin Municipal Water District (hereinafter "District") is not a party to this action and owns no adjudicated rights but desires to implement a project to demonstrate the feasibility of extracting and treating brackish water for sale to Dominguez Water Corporation (hereinafter "Dominguez").

This petition is presented by the District and Dominguez to allow the District to intervene and to allow the District to operate a demonstration project more particularly described

PARTY AND SUCCESSOR, IF ANY		ADJUDICATED RIGHT IN ACRE FEET, ANNUALLY
LERMENS, EVELYN (Formerly Alfred Lermens)		0.7
LENZINER, EMMA L. sued as Mrs. E.L. Leuziner		1.4
LINDERMAN, ABRAHAM Second West Coast Basin Judgment		0
LISTON, LAWRENCE Sold to R. Harris and L. Harris	0.7 -0.7	0
LITTLE, WILLIAM Sold to Watt Industrial Properties	0.1 -0.1	0
LIZZA, PAT		0
LOCHMAN, ERNEST C. LOCHMAN, WALTER Second West Coast Basin Judgment		0
LONG, BEN Persilla Long, sued as Pricilla Long		0
LONG, JOHN		0
LONG BEACH, CITY OF		0.7
LOPES, FRANK		3.7
LOPEZ, MANUEL one Rudolph E. Lopez		0
LOS ANGELES, CITY OF		1503.0
LOS ANGELES CITY SCHOOL DISTRICT		0
LOS ANGELES COUNTY (ALONDRA PARK) Successor to Los Angeles, a County Flood Control District	28.7 39.0	67.7
LOS ANGELES COUNTY FLOOD CONTROL DISTRICT Successor in part to A.H. Smith et al Oil Company Sold to Los Angeles County- Alondra Park	37.6 1.4 -39.0	0 131.2

10910. (a) Any city or county that determines that a project, as defined in Section 10912, is subject to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) under Section 21080 of the Public Resources Code shall comply with this part.

(b) The city or county, at the time that it determines whether an environmental impact report, a negative declaration, or a mitigated negative declaration is required for any project subject to the California Environmental Quality Act pursuant to Section 21080.1 of the Public Resources Code, shall identify any water system that is, or may become as a result of supplying water to the project identified pursuant to this subdivision, a public water system, as defined in Section 10912, that may supply water for the project. If the city or county is not able to identify any public water system that may supply water for the project, the city or county shall prepare the water assessment required by this part after consulting with any entity serving domestic water supplies whose service area includes the project site, the local agency formation commission, and any public water system adjacent to the project site.

(c) (1) The city or county, at the time it makes the determination required under Section 21080.1 of the Public Resources Code, shall request each public water system identified pursuant to subdivision (b) to determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted urban water management plan adopted pursuant to Part 2.6 (commencing with Section 10610).

(2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g).

(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

(4) If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.

(d) (1) The assessment required by this section shall include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts.

(2) An identification of existing water supply entitlements, water rights, or water service contracts held by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall be demonstrated by providing information related to all of the following:

(A) Written contracts or other proof of entitlement to an identified water supply.

(B) Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system.

(C) Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply.

(D) Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.

(e) If no water has been received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts, the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall also include in its water supply assessment pursuant to subdivision (c), an identification of the other public water systems or water service contractholders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts, to the same source of water as the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has identified as a source of water supply within its water supply assessments.

(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment:

(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.

(2) A description of any groundwater basin or basins from which the proposed project will be supplied. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(5) An analysis of the sufficiency of the groundwater from the

basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project. A water supply assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

(g) (1) Subject to paragraph (2), the governing body of each public water system shall submit the assessment to the city or county not later than 90 days from the date on which the request was received. The governing body of each public water system, or the city or county if either is required to comply with this act pursuant to subdivision (b), shall approve the assessment prepared pursuant to this section at a regular or special meeting.

(2) Prior to the expiration of the 90-day period, if the public water system intends to request an extension of time to prepare and adopt the assessment, the public water system shall meet with the city or county to request an extension of time, which shall not exceed 30 days, to prepare and adopt the assessment.

(3) If the public water system fails to request an extension of time, or fails to submit the assessment notwithstanding the extension of time granted pursuant to paragraph (2), the city or county may seek a writ of mandamus to compel the governing body of the public water system to comply with the requirements of this part relating to the submission of the water supply assessment.

(h) Notwithstanding any other provision of this part, if a project has been the subject of a water supply assessment that complies with the requirements of this part, no additional water supply assessment shall be required for subsequent projects that were part of a larger project for which a water supply assessment was completed and that has complied with the requirements of this part and for which the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has concluded that its water supplies are sufficient to meet the projected water demand associated with the proposed project, in addition to the existing and planned future uses, including, but not limited to, agricultural and industrial uses, unless one or more of the following changes occurs:

(1) Changes in the project that result in a substantial increase in water demand for the project.

(2) Changes in the circumstances or conditions substantially affecting the ability of the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), to provide a sufficient supply of water for the project.

(3) Significant new information becomes available which was not known and could not have been known at the time when the assessment was prepared.

10911. (a) If, as a result of its assessment, the public water system concludes that its water supplies are, or will be, insufficient, the public water system shall provide to the city or county its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies. If the city or county, if either is required to comply with this part pursuant to subdivision (b), concludes as a result of its assessment, that water supplies are, or will be, insufficient, the city or county shall include in its water supply assessment its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies. Those plans may include, but are not limited to, information concerning all of the following:

(1) The estimated total costs, and the proposed method of financing the costs, associated with acquiring the additional water supplies.

(2) All federal, state, and local permits, approvals, or entitlements that are anticipated to be required in order to acquire and develop the additional water supplies.

(3) Based on the considerations set forth in paragraphs (1) and (2), the estimated timeframes within which the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), expects to be able to acquire additional water supplies.

(b) The city or county shall include the water supply assessment provided pursuant to Section 10910, and any information provided pursuant to subdivision (a), in any environmental document prepared for the project pursuant to Division 13 (commencing with Section 21000) of the Public Resources Code.

(c) The city or county may include in any environmental document an evaluation of any information included in that environmental document provided pursuant to subdivision (b). The city or county shall determine, based on the entire record, whether projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses. If the city or county determines that water supplies will not be sufficient, the city or county shall include that determination in its findings for the project.

10912. For the purposes of this part, the following terms have the following meanings:

(a) "Project" means any of the following:

(1) A proposed residential development of more than 500 dwelling units.

(2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.

(3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.

(4) A proposed hotel or motel, or both, having more than 500 rooms.

(5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.

(6) A mixed-use project that includes one or more of the projects specified in this subdivision.

(7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

(b) If a public water system has fewer than 5,000 service connections, then "project" means any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of the public water system's existing service connections, or a mixed-use project that would demand an amount of water equivalent to, or greater than, the amount of water required by residential development that would represent an increase of 10 percent or more in the number of the public water system's existing service connections.

(c) "Public water system" means a system for the provision of piped water to the public for human consumption that has 3000 or more service connections. A public water system includes all of the following:

(1) Any collection, treatment, storage, and distribution facility under control of the operator of the system which is used primarily in connection with the system.

(2) Any collection or pretreatment storage facility not under the

control of the operator that is used primarily in connection with the system.

(3) Any person who treats water on behalf of one or more public water systems for the purpose of rendering it safe for human consumption.

10914. (a) Nothing in this part is intended to create a right or entitlement to water service or any specific level of water service.

(b) Nothing in this part is intended to either impose, expand, or limit any duty concerning the obligation of a public water system to provide certain service to its existing customers or to any future potential customers.

(c) Nothing in this part is intended to modify or otherwise change existing law with respect to projects which are not subject to this part.

(d) This part applies only to a project for which a notice of preparation is submitted on or after January 1, 1996.

10915. The County of San Diego is deemed to comply with this part if the Office of Planning and Research determines that all of the following conditions have been met:

(a) Proposition C, as approved by the voters of the County of San Diego in November 1988, requires the development of a regional growth management plan and directs the establishment of a regional planning and growth management review board.

(b) The County of San Diego and the cities in the county, by agreement, designate the San Diego Association of Governments as that review board.

(c) A regional growth management strategy that provides for a comprehensive regional strategy and a coordinated economic development and growth management program has been developed pursuant to Proposition C.

(d) The regional growth management strategy includes a water element to coordinate planning for water that is consistent with the requirements of this part.

(e) The San Diego County Water Authority, by agreement with the San Diego Association of Governments in its capacity as the review board, uses the association's most recent regional growth forecasts for planning purposes and to implement the water element of the strategy.

(f) The procedures established by the review board for the development and approval of the regional growth management strategy, including the water element and any certification process established to ensure that a project is consistent with that element, comply with the requirements of this part.

(g) The environmental documents for a project located in the County of San Diego include information that accomplishes the same purposes as a water supply assessment that is prepared pursuant to Section 10910.

Water Supply Assessment Checklist

Water Code Section	Water Supply Assessment Content	Page # in WSA
10910(c)(2)	Incorporate data from UWMP.	1-16
10910(d)(1)	Identification of existing water supply entitlements, water rights, or water service contracts relevant to identified water supply for proposed project, and description of quantity of water received in prior years.	7-16
10910(d(2)(A)	Written contracts or other proof of entitlement to an identified water supply.	7-13
10910(d)(2)(B)	Capital outlay program for financing the delivery of a water supply that has been adopted.	14
10910(d)(2)(C)	Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply.	7-8
10910(d)(2)(D)	Any necessary regulatory approval to deliver/convey the water supply.	7-8
10910(f)(1)	Review of any information contained in the UWMP relevant to the identified water supply for the proposed project.	1-16
10910(f)(2)	Description of any groundwater basin(s) from which proposed project will be supplied. For basins with adjudicated groundwater pumping rights, include a copy of the order/decree adopted by the court or the board and a description of quantity of groundwater public water system has the legal right to pump under the order/decree.	8-10, Attachment D
10910(f)(3)	Description and analysis of amount and location of groundwater pumped for the past 5 years from any groundwater basin from which the proposed project will be supplied.	8-10
10910(f)(4)	Description and analysis of amount and location of groundwater that is projected to be pumped from any basin to provided water to the proposed project.	8-10, 16
10910(f)(5)	Analysis of sufficiency of groundwater from the basins from which the proposed project will be supplied to meet projected water demand of the proposed project.	8-10, 16

F-2 Sewer Service Report

SANITARY SEWER INFRASTRUCTURE REPORT

USC HEALTH SCIENCES CAMPUS PROJECT
LOS ANGELES, CA
KPFF Job # 104950

May 5, 2005

OWNER:

UNIVERSITY OF SOUTHERN CALIFORNIA
925 W 35th Street
Los Angeles, CA 90089

PREPARED BY:

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Los Angeles, CA 90045
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7.0 References 12

ATTACHMENT A - Sewer Gauging Study

ATTACHMENT B - Haestad FlowMaster Calculation

ATTACHMENT C - Sewer Gauging Locations

1.0 Description of Existing Sanitary Sewer Infrastructure

The planned USC Health Sciences Campus Project consists of seven building sites total, six of which could be developed with buildings (Development Sites A, B, D, E, F, and G), and five Development Sites that could be developed with parking facilities (Development Sites B, C, D, E, and F). Five of the potential Development Sites (Development Sites A, B, E, F, and G) are adjacent to San Pablo Street between Valley Boulevard and Norfolk Street with one of the potential Development Sites (Development Site D) located to the east on Biggy Street. A parking structure may be developed on Zonal Avenue, approximately 300-feet to the southeast of the intersection of Mission Road and Zonal Avenue (Development Site C). Collectively the sites lie to the northeast of the Los Angeles County-USC Medical Center.

Sanitary sewer service to the entire proposed project area is provided by the City of Los Angeles. Sewer mains exist in all the periphery streets surrounding the seven proposed Development Sites.

The existing local collector sanitary sewer system serving the proposed Development Sites is made up of a combination of smaller six and eight inch diameter branch lines for the local area service and larger 12 and 15-inch diameter trunk lines used for collecting and conveying discharge from these and other tributary branch lines. The local collector system conveys sewage flows to trunk lines and outfall sewers that dispose of the sewage to Hyperion Wastewater Treatment Plant operated by the Bureau of Sanitation. The wastewater treatment facilities at the Hyperion Treatment Plant have undergone recent upgrades to augment treatment capacity and to enhance water quality. These improvements are planned to meet the needs of the increasing population of the City of Los Angeles with increasing sewage generation into the future.

1.1 Sewer Service for Development Site A

Development site A is adjacent to three City of Los Angeles vitrified clay sanitary sewer lines, two are located along Eastlake Avenue and one along San Pablo Street.

To the west of Development Site A on Eastlake Avenue both a six inch and 15-inch line lie 30-feet and 16-feet respectively east of the west right of way line. The six inch line begins with a slope of 2.14% near the site then increases to an eight inch line further downstream at Biggy Street with a minimum slope of 0.40%. The 15-inch line comes in from Biggy Street to a manhole located in the intersection of Eastlake Avenue and Biggy Street then runs to the northwest along Eastlake Avenue. Both lines along Eastlake Avenue flow from southeast to northwest.

To the east of Development Site A an eight inch line flowing from south to north is located 10-feet to the east of the San Pablo Street centerline. Adjacent to the site the line has a slope of 1.68% but eventually drains to the eight inch line on Eastlake Avenue with a minimum slope of 0.40%.

1.2 Sewer Service for Development Site B

Two City of Los Angeles vitrified clay pipe sanitary sewer lines are adjacent to development site B. One eight inch line located 10-feet east of the San Pablo Street centerline has a slope of 3.92% adjacent to the site and a minimum slope of 0.40% further downstream. This line is also adjacent to proposed Development Site A. A larger 15-inch line is located 20-feet north of the centerline along Alcazar Street. This line has a slope of 1.88% adjacent to the site and has a minimum slope of at least 0.62% further downstream where it drains to a 15-inch line on Eastlake Avenue. This line drains from east to west.

1.3 Sewer Service for Development Site C

A parking structure providing up to 2800 parking spaces may be located on Development Site C , which lies adjacent to one 15-inch diameter vitrified clay sanitary sewer pipe. This pipe is located approximately 23.67-feet to the west of the eastern right-of-way of Zonal Avenue. The line flows from the south-east to the northwest along Zonal Avenue.

1.4 Sewer Service for Development Site D

A single eight inch vitrified sanitary sewer exists adjacent to Development Site D. The sewer line is located 30-feet south of the north Biggy Street right-of-way line. The line flows from the west to the east towards Eastlake Avenue. The line has a minimum slope of at least 0.40%.

1.5 Sewer Service for Development Site E

An existing eight inch diameter vitrified clay sanitary sewer line runs beneath Development Site E. The section of line running beneath Development Site E has a slope of 1.60%, further downstream it is found that the line increases to a 12-inch diameter line but the slope is reduced to 0.24%.

Along Alcazar Street to the south of the site a 15-inch diameter vitrified clay pipe is located 20-feet south of the north right-of-way line. The slope of the pipe immediately adjacent to Development Site E is 1.88% with flow going to the west towards Eastlake Avenue. The line eventually ties into the 18-inch line in Eastlake Avenue where the slope drops to a minimum of 0.62%.

1.6 Sewer Service for Development Site F

Development Site F is adjacent to San Pablo Street, which adjoins the easterly boundary of this Development Site. San Pablo Street does not have any existing public sewers along its right-of-way. The only available City of Los Angeles sewer in the vicinity is located in the southern portion of the site. This line is a 10-inch diameter vitrified clay pipe that is located approximately 150-feet north of the north Alcazar Street right-of-way. Directly adjacent to Development Site F this line has a slope of 0.68%. This line also runs beneath Development Site E and as mentioned above this line increases in diameter further downstream but the slope drops to at least 0.24%.

1.7 Sewer Service for Development Site G

A total of five City of Los Angeles vitrified clay pipe sanitary sewers are located around Development Site G; two are located to the west in Eastlake Avenue, two are located to the north in Alcazar Street, and one is located to the east in San Pablo Street.

In Eastlake Avenue an eight inch line with a slope of 1.50% is located 16-feet east of the west Eastlake Avenue right-of-way line. The second line is a 15-inch diameter pipe located 30-feet east of the west Eastlake Avenue right-of-way line. Both lines also potentially serve Development Site A with minimum slopes of at least 0.40% and 0.62% encountered further downstream on the eight-inch and 15-inch diameter lines respectively.

In Alcazar Street, an eight-inch diameter line and a 15-inch diameter line are located 30-feet north and 60-feet north of the Alcazar Street right-of-way. The eight inch line has a slope of 0.40% and connects to the eight inch diameter line in Eastlake Avenue. The 15-inch line has a slope of 1.88% and connects to the 15-inch diameter line in Eastlake Avenue. Both lines flow from east to west.

The eight inch diameter line in San Pablo Street is located 30-feet west of the eastern San Pablo Street right-of-way line. This line has a slope of 3.92% adjacent to the proposed Development Site G and connects to the aforementioned eight inch line in Alcazar street.

Table S1 – Summary of Nearby Sewer Service Lines

Street	Diameter[1] (inches)	Pipe Material	Location in ROW[2]	Year Const.	Sites Potentially Served
Eastlake Avenue	6/8	VCP	30' E/W	1905	A,G
Eastlake Avenue	15	VCP	16' E/W	1965	A,G
San Pablo St	8	VCP	28.5’ W/E	1924	A
San Pablo St	8	VCP	30' W/E	1905	B,G
Alcazar Street	15	VCP	20' S/N	1965	B,E,G
Alcazar Street	8	VCP	30' N/S	1905	G
Alcazar Street[3]	8	VCP	150' N/N	1915	E
Alcazar Street[3]	10	VCP	170' N/N	1915	F
Biggy Street	8	VCP	30' S/N	1910	D
Zonal Avenue	15	VCP	23.67' W/E	1974	C

[1] All available diameters are listed for lines increasing in size adjacent to a given site, e.g. the six inch diameter line located in Eastlake Avenue increases to an eight inches further downstream.
[2] Distance from street right of way (ROW) line, e.g. the 6-inch main in Eastlake Avenue lies 30-feet East of the Western right of way line.
[3] Line runs adjacent to Alcazar Street but outside of right of way.

2.0 Forecast of the Project's Sewage Generation

Project development could occur within a range defined by the following two development scenarios. The first scenario has a total building floor area of 765,000 square feet, consisting of 720,000 square feet of academic and medical research facilities and 45,000 square feet of medical clinic uses. The second scenario calls for a building area of 585,000 square feet, wherein the amount of academic and medical research square footage is reduced to 465,000 square feet in exchange for increasing the medical clinic square footage from 45,000 square feet to 120,000 square feet. Both scenarios may include parking structure(s) consisting of up to 840,000 square feet. The projected sewage generation from the proposed Project is shown in Table S2.

Table S2 – Projected Sewage Generation

Use	Size (sq ft)	Factor[1] (GPD/1000 sq ft)	Average Daily Flow (GPD)	Annual Consumption[2] (mil gal/year)
Development Scenario = 765,000 square feet[3]				
Academic/Medical Research	720,000	250	180,000	65.7
Medical Clinic	45,000	250	11,250	4.11
Parking	840,000	20	16,800	6.13
Total Proposed Project			208,050	75.94
Development Scenario = 585,000 square feet[3]				
Academic/Medical Research	465,000	250	116,250	42.43
Medical Clinic	120,000	250	30,000	10.95
Parking	840,000	20	16,800	6.13
Total Proposed Project			163,050	59.51
Maximum Sewage Generation = 208,050 gallons per day				

[1] *Assumed to be 100% of water consumption.*
[2] *Assumes 365 day operation per year.*
[3] *Square footage devoted to pedestrian circulation not included.*

3.0 Existing Flow Levels and System Capacity

Seven sewer availability requests were submitted to the City of Los Angeles Bureau of Engineering in January, 2005. Flow measurement studies were conducted on the various sewer lines that serve the Project site. These studies were performed by the City of Los Angeles Bureau of Engineering during January and March of 2005. The locations of these studies were chosen to provide information regarding the sewer lines that would serve the proposed Development Sites. The flow measurements for each manhole indicate typical flow depths within a given sewer line recorded over a five to seven day period. See Attachment A for the flow measurement study results.

Peak flows within a particular sewer line are estimated by using Manning's equation for open channel flow. Flow in a given line is back-calculated by considering the depth of flow (taken form the apparent peak recorded flow depth), the adjacent pipe slopes, and the assumed Manning's roughness coefficient for vitrified clay sewer pipes (n = 0.011). These calculations were performed using Haestad Methods FlowMaster software. A summary of these calculations can be found in Attachment B. [Haestad, 1986]

Per City of Los Angeles Bureau of Engineering sewer design criteria, flow within a given sewer line is acceptable when the depth of flow is 50 percent or less of the diameter of the line during peak flow periods. [LA BOE, 2005]

The manhole locations where each of the flow measurement studies were performed are indicated on a map found in Attachment C. A summary of these flow measurement results can be found in Table S3. The following example is an analysis of the eight inch line in Eastlake Avenue.

3.1 Example of sewer capacity analysis

A flow measurement study was done on the eight-inch line in Eastlake Avenue (SIMMS manhole no. 49515106. The manhole is located in the intersection of Eastlake Avenue and Alcazar Street and is therefore adjacent to or downstream of Development Sites A and G. Thus, sites A and G are potentially served by this line.

From the flow measurement study it is found that the existing peak depth of flow is approximately 1.65-inches, or 21 percent of full pipe flow. Considering the adjacent pipe slope and assumed pipe roughness coefficient this translates into a flow rate within the sewer line of approximately 0.163 CFS.

Considering an estimated sewage generation of 250 GPD per 1000 square feet of floor area, the maximum potential building floor area of 565,000 square feet on sites A and G would result in an additional sewage flow of 141,500 GPD or 0.219 CFS. Therefore the addition of this projected sewage flow on this sewer line would result in 0.382 CFS. Using Manning's equation, this results in a potential flow depth of 2.5 inches and thus increasing the depth of flow within the pipe to 32 percent. This increase in flow depth due to the 565,000 square feet is acceptable by City of Los Angeles Bureau of

Engineering design criteria, which states design depth of flow for a given sewer line shall not be greater than 50 percent of pipe diameter.

3.2 Analysis of Sewer Capacity

Based on the data presented in Table S3, the peak sewer flows generated by the proposed Project would not exceed their respective design capacities, except for the 15-inch sewer line in Zonal Avenue. As such, Project development would result in less than significant impacts with regard to these sewer lines. With regard to the 15-inch sewer line in Zonal Avenue that would serve Development Site C, the existing peak flows in this line exceed 50 percent full pipe flow. Response from the City of Los Angeles Bureau of Engineering indicates that this line is relatively old and was not designed to the current standards. Notwithstanding, the relatively small additional flow projected to be generated by Development Site C represents less than 0.5 percent of the 11.65 CFS current peak flow within this line. Furthermore, the 15-inch diameter vitrified clay pipe line increases to 27-inches north (downstream) of the manhole adjacent to Site C (SIMMS manhole no. 51502007). Although the diameter is considerably larger, the slope of line decreases significantly from 0.0332 to 0.0016. Thus a small benefit is gained by connecting Site C to the 27-inch diameter line in lieu of the 15-inch diameter section upstream of the manhole.

Due to the limited increase in flows that would occur under the proposed Project within either the 15-inch or 27-inch sections of this particular line, Project impacts are concluded to be less than significant.

In conclusion, the sewer capacity analysis has shown that sufficient capacity exists in all existing sewer lines discussed in this report to support all of the potential build out scenarios given for the proposed Project.

Table S3 - Analysis of Sewer Lines											
Street	Diameter (IN)	Sites served[1]	Max floor area (SF)	Sewage[2] generation (GDP/1,000SF)	Max estimated generation (GPD)	Existing Flow (IN)	Existing Flow (CFS)[3]	Design capacity (CFS)	Incremental increase (CFS)[4]	Future Flow (CFS)	Future Flow (IN)
Eastlake Avenue	18	A, B, E, F, G,	765,000	250	191,250	5.2	1.72	5.41	0.300	2.02	5.6
Biggy Street	8	D	200,000	250	50,000	0.7	0.011	0.45	0.080	0.091	1.7
Alcazar Street[5]	10	E & F	765,000	250	191,250	1.7	0.093	1.07	0.300	0.393	3.0
Alcazar Street	8	G	100,000	250	25,000	3.7	0.310	0.45	0.039	0.349	3.9
Alcazar Street	15	B, E, & G	765,000	250	191,250	3.4	0.930	5.23	0.300	1.23	3.8
Eastlake Avenue	8	A & G	565,000	250	141,250	1.7	0.163	0.87	0.219	0.382	2.5
Zonal Avenue	15	C	840,000	20	42,000	10.5	11.65	6.96	0.065	11.72	10.6

[1] *Maximum potential floor on each development site is used to present a conservative analysis for each line. The analysis is conservative in that the total Project would not exceed 765,000 square feet. Table 3 also assumes that the maximum potential floor area for each development site would flow into only one line. However, depending on line capacity, where multiple lines serve a Development Site, sewage flow may be divided between the lines and the maximum flow into each line would be less than shown. For instance, the daily flow from Development Site A may be divided between lines in Eastlake Avenue and San Pablo Street and, as such, would generate less flow to each line than shown above.*

[2] *GPD = Gallons Per Day (sewage generated daily) per 1000 square feet of floor space.*

[3] *CFS = Cubic Feet per Second (the rate of flow in sewer mains)*

[4] *CFS generated by the Project.*

[5] *Sewer line runs adjacent to Alcazar Street approximately 150 feet to 170 feet to the north of the Alcazar Street right of way.*

4.0 System Improvements Required to Support the Project

The proposed Project would not require any system improvements to the public sanitary sewer system. The collection sewer mains adjoining the Seven Development Sites are adequately sized to serve the proposed Project. Although many of these collection mains are constructed on minimum slopes, the peak flows expected from the proposed Project would not cause the sewer system to flow more than half full.

Considering the results of the sewer gauging study, construction of the proposed Development Sites at USC Health Sciences Campus would require only sewer laterals from the public sewers in the streets. Those portions of the sewer laterals constructed within the public right-of-way would be conducted in accordance with standard practices and procedures which would reduce potential impacts attributable to these improvements to less than significant levels.

The proposed Project represents an incremental part of the increasing sewage flows provided for by the recent improvements to the Hyperion wastewater treatment facility. Regional wastewater facilities are at least partially funded through the collection of fees. The Sewerage Facilities Charge is collected by the City of Los Angeles from owners/developers of new land uses with the City. The University may be subject to the payment of a Sewerage Facilities Charge for the proposed Project. Fees may be offset by credits for any existing/prior uses.

In conclusion, adequate capacity is available both in the sewer lines that would serve the Project Site and at the Hyperion wastewater treatment facility. Therefore, Project impacts on sewer capacity are less than significant.

5.0 Mitigation Measures Recommended to Reduce Project Impacts

Although development of the proposed Project is not anticipated to produce significant impacts to sanitary sewer services, the following measures would ensure that sewage generation would be reduced to the extent possible:

1. Prior to the issuance of a certificate of occupancy, a determination shall be made regarding the capacity of the sewer pipeline between each proposed Development Site and the trunk sewer. If service is discovered to be less than adequate, the Applicant shall be required to upgrade the connections to the mains and/or provide an alternative solution, in order to appropriately serve the Project.

2. The Applicant shall comply with procedural requirements of City ordinances regulating connections to the City sewer system

3. All necessary on-site infrastructure improvements shall be constructed to meet the requirements of the Department of Building and Safety.

4. The Applicant shall apply for and comply with all necessary permits, including Industrial Wastewater Discharge Permits, if required.

6.0 Analysis of Cumulative Impacts

Related project development is situated such that sewage flows from the identified related projects would not utilize the sewer lines analyzed in Table S3. As such, no cumulative impacts would occur. In addition, sufficient capacity is available in the downstream sewer lines to accommodate the increase in sewage flows generated by related project development as well as development of the proposed Project. As such, cumulative impacts on the sewer lines that would serve the related projects and the proposed Project are less than significant.

In relation to broad growth and demand, all related projects would be subject to the City's Sewer Allocation program for the Hyperion Treatment System (HTS). This program limits additional discharge according to a pre-established percentage rate. The Los Angeles Department of Public Works must first determine if there is allotted sewer capacity available for any project prior to accepting building plans for approval. If the allotment for a particular time period is filled, the project is placed on a waiting list until adequate treatment capacity has been determined. Under the allocation program, HTS has capacity to serve a particular rate of growth and prevent the occurrence of significant cumulative impacts relative to treatment capacity.

7.0 References

[Haestad, 1986] *FlowMaster for Windows Version 6.1*, Haestad Methods Inc., 1986.

[LA BOE, 2005] *Sewer Design Manual*, City of Los Angeles Bureau of Engineering, http://eng.lacity.org/techdocs/sewer-ma/index.htm , 2005.

Attachment A

Sewer Gauging Study

Wastewater Engineering Services Division
2714 Media Center Drive
Los Angeles, CA 90065

FAX 323-342-6210

City of Los Angeles
Bureau of Sanitation

RECEIVED KPFF
CC:

FEB 11 2005

Fax

JOB # 104950
FILE # SF

To:	Eric Paulsen	From:	Mark Ryan
Fax:	310.665.9075	Pages:	10 incl. this sheet
Phone:		Date:	11 Feb. 05
Re:		CC:	

☐ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply

• Comments:

Sewer Availability

Gauging & Processing

A-2

OPEN CHANNEL USING MANNING'S EQUATION

Q=1.486AR^(2/3)S^(1/2)/n   Date: 02/03/05

Project Location/Address: 1633 N San Pablo Street

at MH # 495-15-093)

INPUT

Pipe Size Diameter (inches):	10
Pipe Slope:	0.0068
Manning Coefficient: 0.014	0.014

d/D	OUTPUT depth(d) (in.)	flow(Q) (cfs)	flow(Q) (gpm)	flow(Q) (gpd)	velocity(v) (fps)
0.10	1.0	0.04	16	22,646	1.23
0.15	1.5	0.08	37	52,731	1.59
0.20	2.0	0.15	66	94,933	1.89
0.25	2.5	0.23	103	148,460	2.15
0.30	3.0	0.33	147	212,329	2.39
0.35	3.5	0.44	198	285,122	2.59
0.40	4.0	0.57	254	365,385	2.77
0.45	4.5	0.70	314	451,661	2.94
0.50	5.0	0.84	376	542,123	3.08
0.55	5.5	0.98	441	635,053	3.20
0.60	6.0	1.13	506	728,320	3.30
0.65	6.5	1.27	569	820,014	3.38
0.70	7.0	1.40	630	907,653	3.44
0.75	7.5	1.53	687	988,645	3.49
0.80	8.0	1.64	736	1,059,869	3.51
0.85	8.5	1.73	776	1,117,293	3.50
0.90	9.0	1.79	802	1,155,454	3.46
0.95	9.5	1.80	809	1,164,871	3.37
1.00	10.0	1.68	753	1,084,247	3.08

Sewer Map No.	495-15
Wye Map No.	

1633 N San Pablo Street.xls

SPECIAL GAUGING REQUEST FORM

Requested By: BOS/ WESD
(Division/District)

Date of Request: 10-Jan-05

W.O. No: SZC11331
(including Task & Sub-task)

Project Name: Sewer Availability for San Pablo, Alcazar and Biggy offices

Project Engineer: Belal Tamimi/ Alan Tran

Tel No: 323-342-6263

Survey #:

(To be used by survey only)

Duration: 5 days

S - Map(s) #: 515-03, 495-15, 495-14

Y - Map(s) #:

Item #	SIMMS #	Size	Shape	Slope	Location Description
1	*515-03-021*	8	CR	0.004	Zonal Ave/ Block 1300
	ID# 51503030515030210				
2	*495-15-087*	18	CR	0.0076	Eastlake Ave/ Block 1600
	ID# 4951509049515087				
3	*495-15-093*	10	CR	0.0068	San Pablo Street/ Block 1500
	ID# 4951509449515093				
4	*495-15-137*	8	CR	0.004	Alcazar Street/ Block 1500
	ID# 4951510849515137				
5	*495-15-105*	15	CR	0.0188	Alcazar Street/ Block 1500
	ID# 4951514149515105				
6	*495-14-158*	24	CR	0.0028	Alhambra Ave/ Block 2700
	ID# 4951418049514158				
7					
8					

SEND TO: Ann Hoang, WCSD, (323) 342-6032
GAUGINGREQUEST@SAN.LACITY.ORG

A-4

Gauging Field Data Sheet

for Sigma 950

#18132

	Gauging_ID Survey_ID SIMMS No.	Pipe Size Slope Invert	Rim to Water Set: Pick up:	Liquid Depth Set: Pick up: (on machine)	d/D	Set date: time: by:	Pick up date: time: by:	Serial/Program # Battery # Sensor # Temp:	DTU # Data cell #
ALT 1	515-03-~~024~~ 002	8 in S=0.004 7.04 ft	7.01 ft 7.01 ft	0.36 in 0.36 in 0.48 in	05 05 % 06	05/01/20 11:10 BRUCE	05/01/26 9:41 BRUCE	# 304 #H (12.9) # I	#586 #6
2	RESET 595-15-087	18 in S=0.0076 20.63 ft	20.20 ft 20.25 ft	5.16 in 4.56 in 4.76 in	29 25 % 26	05/01/26 12:52 BRUCE	05/01/31 2:40 BRUCE	#299 #B(12.8) #U	#586 #1
3	495-15-093	10 in S=0.0068 18.61 ft	18.49 ft 18.47 ft	1.44 in 1.68 in 1.31 in	14 17 % 13	05/01/20 10:02 BRUCE	05/01/26 9:59 BRUCE	#12AZA #W (12.9) #6	#586 #8
4	495-15-137	8 in S=0.004 11.40 ft	11.20 ft 11.17 ft	2.40 in 2.76 in 2.51 in	30 34 % 31	05/01/20 10:27 BRUCE	05/01/26 9:51	# 13A17 # 5 (12.9) #20	#586 #7
5	495-15-105	15 in S=0.0188 23.32 ft	23.07 ft 23.06 ft	3.00 in 3.12 in 3.01 in	20 21 % 20	05/01/20 9:32 BRUCE	05/01/26 9:30 BRUCE	# 316 #L (12.6) #R	#586 #5
* 6	NOT SET 495-14-158	24 in S=0.0028 ft	ft ft	in in in	%	05/01/20 : BRUCE	/ /	# # ( ) #	# #

Comments: #1 ALT) 1ST DOWN M.H. 021 IS DRY, SURGING
#6) IN R/R RIGHT OF WAY ON TRACKS
#2) RESET

* Date format = yy / mm / dd
* Liquid depth = (Invert - Rim to water) X 12
* d/D = (Liquid depth / Pipe size) X 100%

Page #
1 OF 2

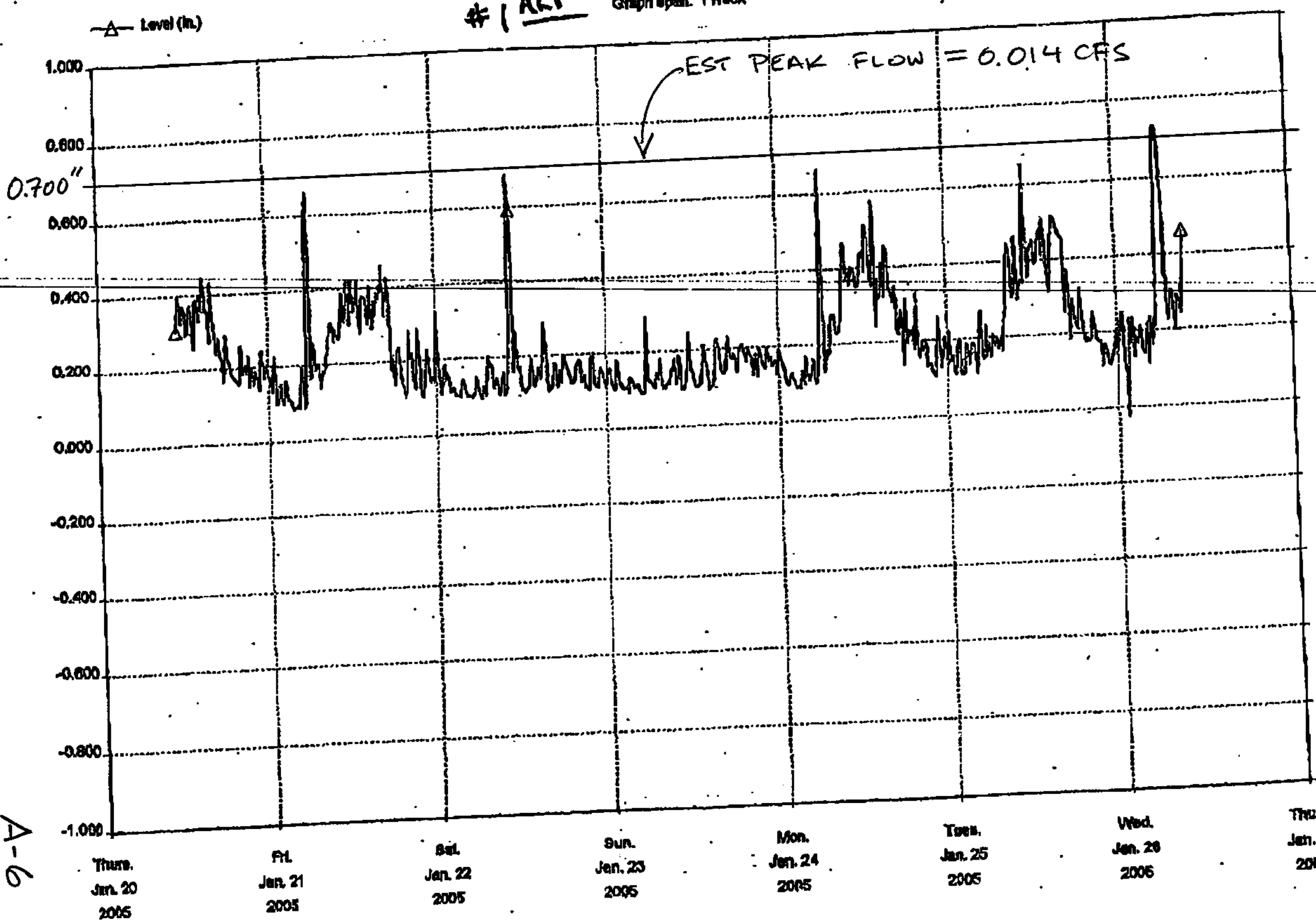
A-5

SPECIAL GAUGING

Site Id: 51503021 File name: 01260930.F68

#1 ALT

S=0.004
Ø = 8" VCP



A-6

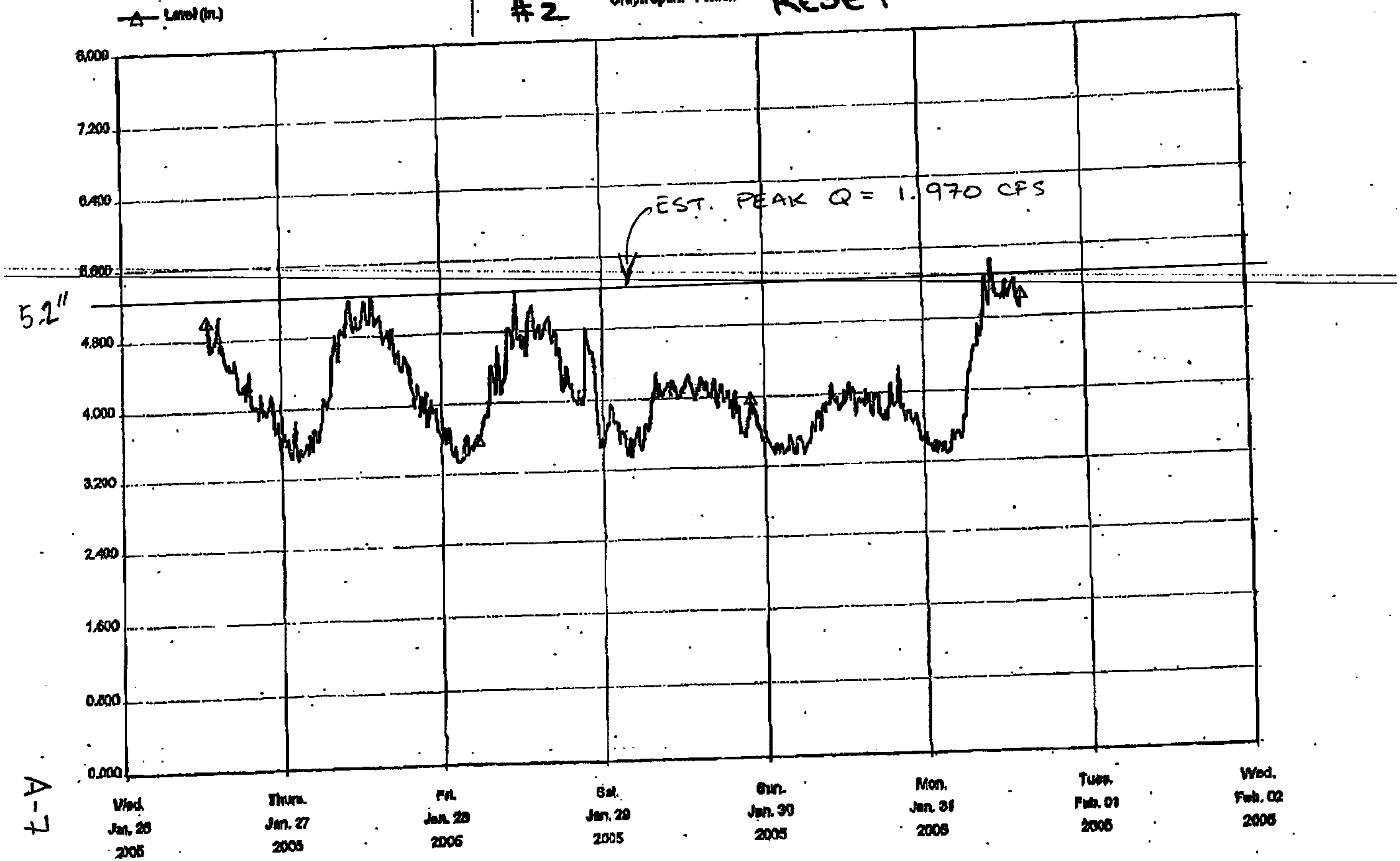
SPECIAL GAUGING

Site Id: 59515087 File name: 01311430.F64

Graph span: 1 week

#2 RESET

S = 0.0076
Ø = 18" VCP



A-7

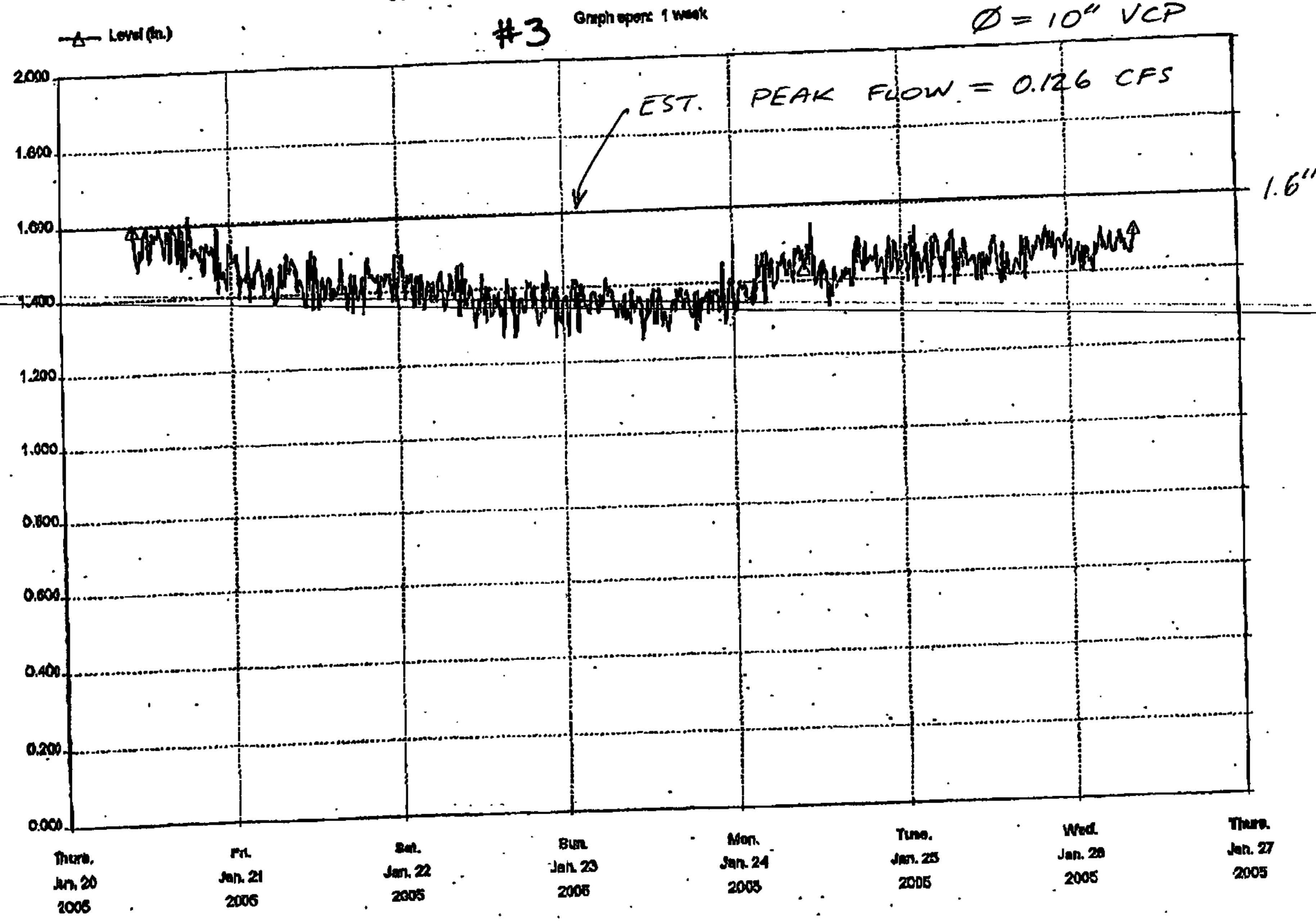
SPECIAL GAUGING

Site Id: 49515093 File name: 01260945.A2A

#3

S= 0.0068

Ø = 10" VCP



A-8

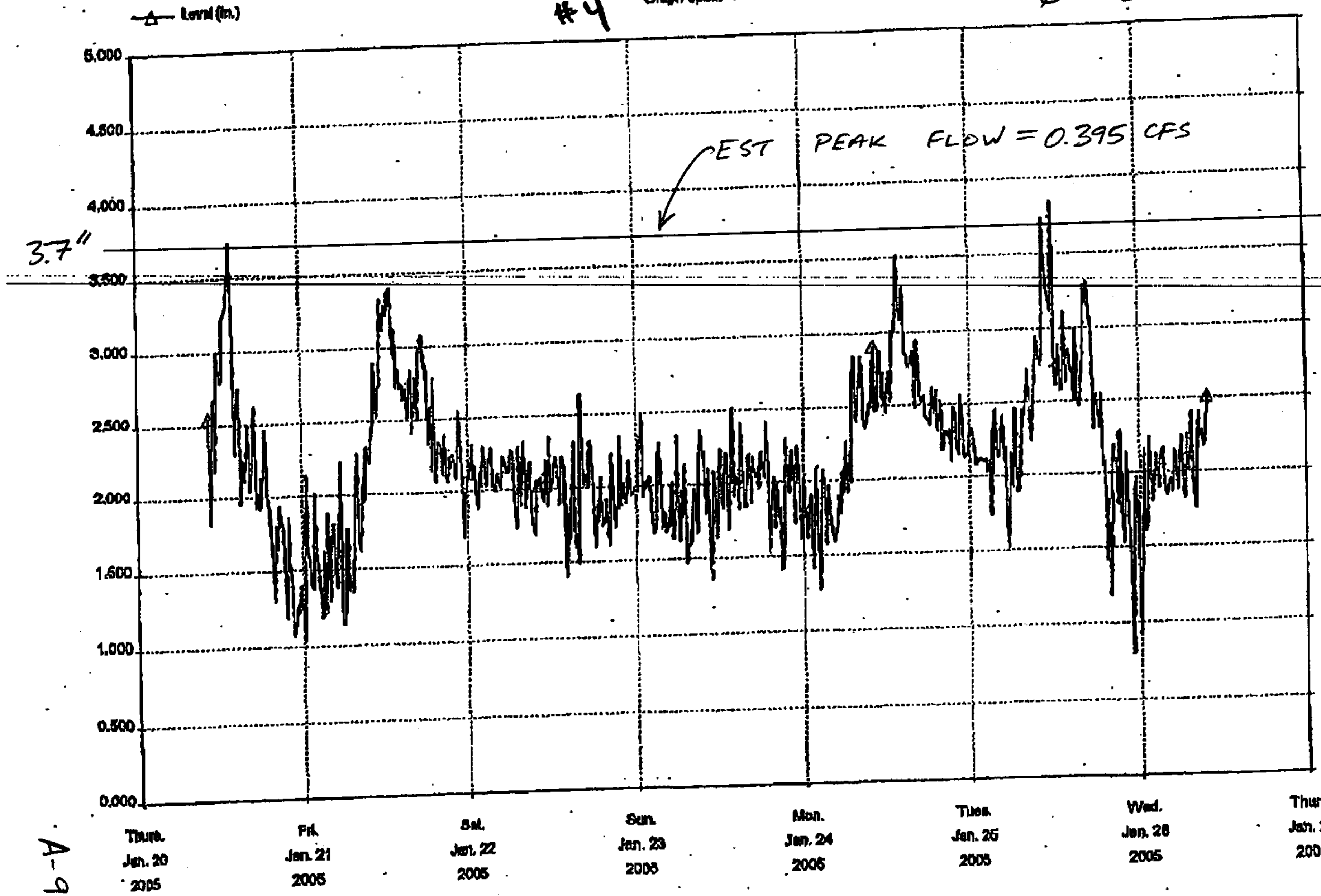
SPECIAL GAUGING

Site Id: 49515137   File name: 01260945.A17

Graph span: 1 week

#4

S = 0.004
Ø = 8" VCP

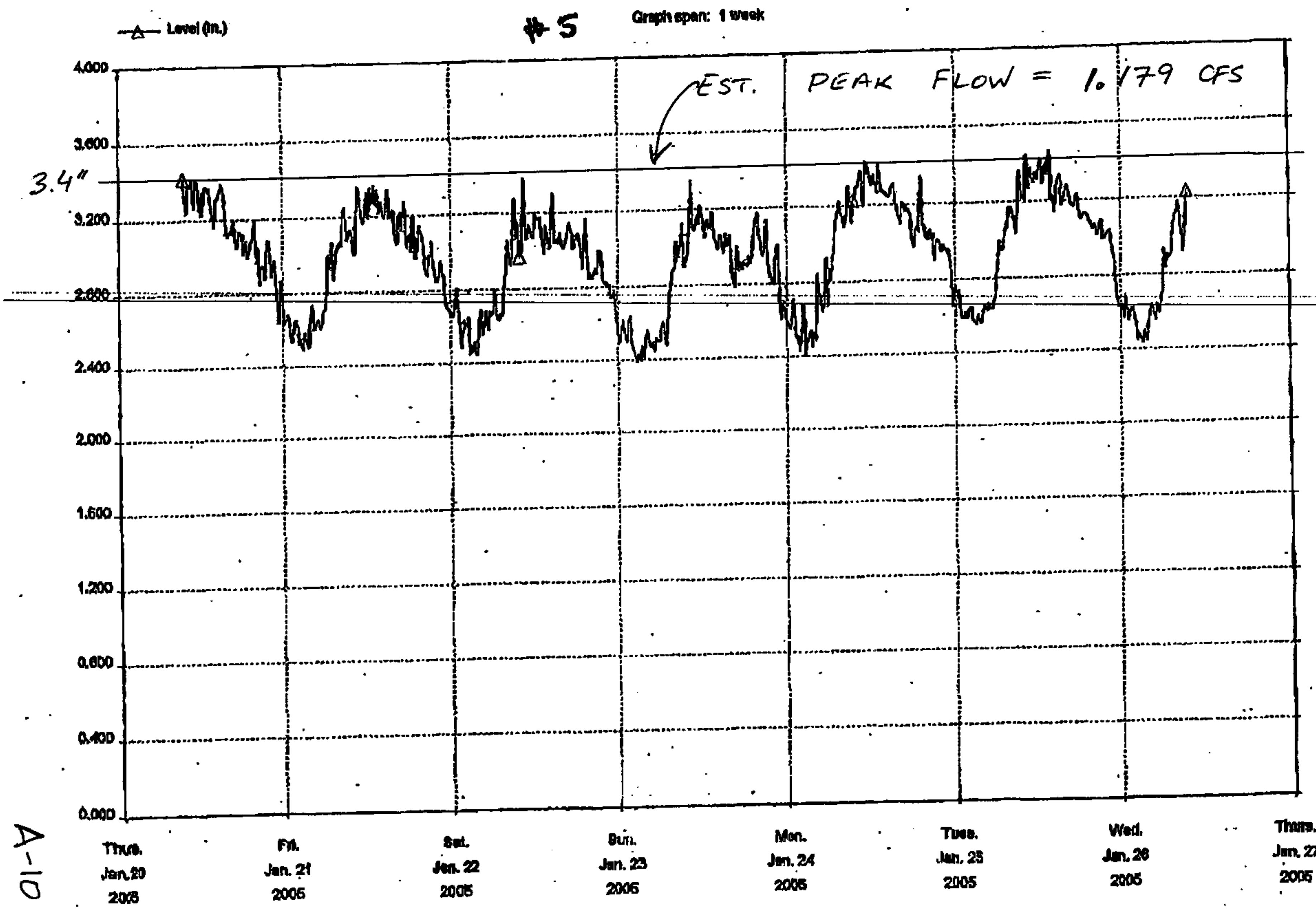


A-9

SPECIAL GAUGING

Site Id: 49515105 File name: 01280930.GAS

#5



A-10

Notes

20 Dec 02

Capacity / Availability Process

Steps:

- Check Flow Amount: (Item 10 on form, or re-calculate using SFC Rates Table)
- Use NavLA for Slope (Print Map & Sewer Pipe Report)
- Use Manning Equation (Print)

DONE; or…

- Check maps for pipe diameters, check D/S flow % (d/D), and check Gauging Data reference book (Blue Book)

DECISION; Sign & Fax

ADDENDUM: 17 Jan 03

If flow is > 10,000, check sewer maps for 2 miles (ref: gauging data in "Blue Book", i.e., *Collection System Planning Reference Notebook*)… (if no data and 3% d/D or less, then OK; if > 3% then possible field measurement).

Wastewater Engineering Services Division
2714 Media Center Drive
Los Angeles, CA 90065

FAX 323-342-6210

City of Los Angeles
Bureau of Sanitation

RECEIVED KPFF - L.A.
CC:

MAR 11 2005

JOB # 104950
FILE # SF

Fax

To: Eric Paulsen **From:** Mark Ryan / Alan Tran

Fax: 310-665-9075 **Pages:** 5 incl. this sheet

Phone: **Date:** 11 Mar. 05

Re: **CC:**

☐ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply

• **Comments:**

Gauging Results

1501 San Pablo St.

A-12

SPECIAL GAUGING REQUEST FORM

PRIORITY I

Requested By: BOS/ WESD
(Division/District)

Date of Request: 2-Mar-05

W.O. No: SZC11331
(Including Task & Sub-task)

Project Name: Sewer Availability for 1501 San Pablo Street

Project Engineer: Belal Tamimi/ Alan Tran

Tel No: 323-342-6263

Survey #: 18237

(To be used by survey only)

Duration: 5 days

S - Map(s) #: 495-15, 515-02

Y - Map(s) #: 132A221-B, 5050-1

Item #	SIMMS #	Size	Shape	Slope	Location Description
1	*495-15-106*	8	CR	0.015	E. Lake Avenue / Block 1400
	Pipe ID: 4951512949515106				
2	*515-02-007*	15	CR	0.0332	Zonal Avenue / Block 1800
	Pipe ID: 5150213751502007				
3					
4					
5					
6					
7					
8					

SEND TO: Anh Hoang, WCSD, (323) 342-6032
GAUGINGREQUEST@SAN.LACITY.ORG

A-13

#18237

Gauging Field Data Sheet for Sigma 950 5 DAYS

	Gauging_ID Survey_ID SIMMS No.	Pipe Size Slope Invert	Rim to Water Set: Pick up:	Liquid Depth Set: Pick up: (on machine)	d/D	Set date: time: by:	Pick up date: time: by:	Serial/ Program # Battery # Sensor # Temp:	DTU # Data cell #
1	495-15-106	8 in S=0.015 11.24 ft	11.13 ft 11.13 ft	1.32 in 1.32 in 1.41 in	17 17 % 18	05/03/04 10:01 LACUESTA	05/03/09 8:53 BRUCE	# 19A2F # E (12.6V) # 30	# 586 # 1
2	515-02-007	15 in S=0.0332 26.18 ft	25.27 ft 25.27 ft	10.92 in 10.92 in 9.81 in	73 73 % 65	05/03/04 11:17 LACUESTA	05/03/09 9:09 BRUCE	# 296 # TI (12.6) # 5	# 586 # 2
3		in ft	ft ft	in in in	%	/ /	/ /	# # ( ) #	# #

Comments:

* Date format = yy / mm / dd * Liquid depth = (Invert – Rim to water) X 12 * d/D = (Liquid depth / Pipe size) X 100%	Page #

A-14

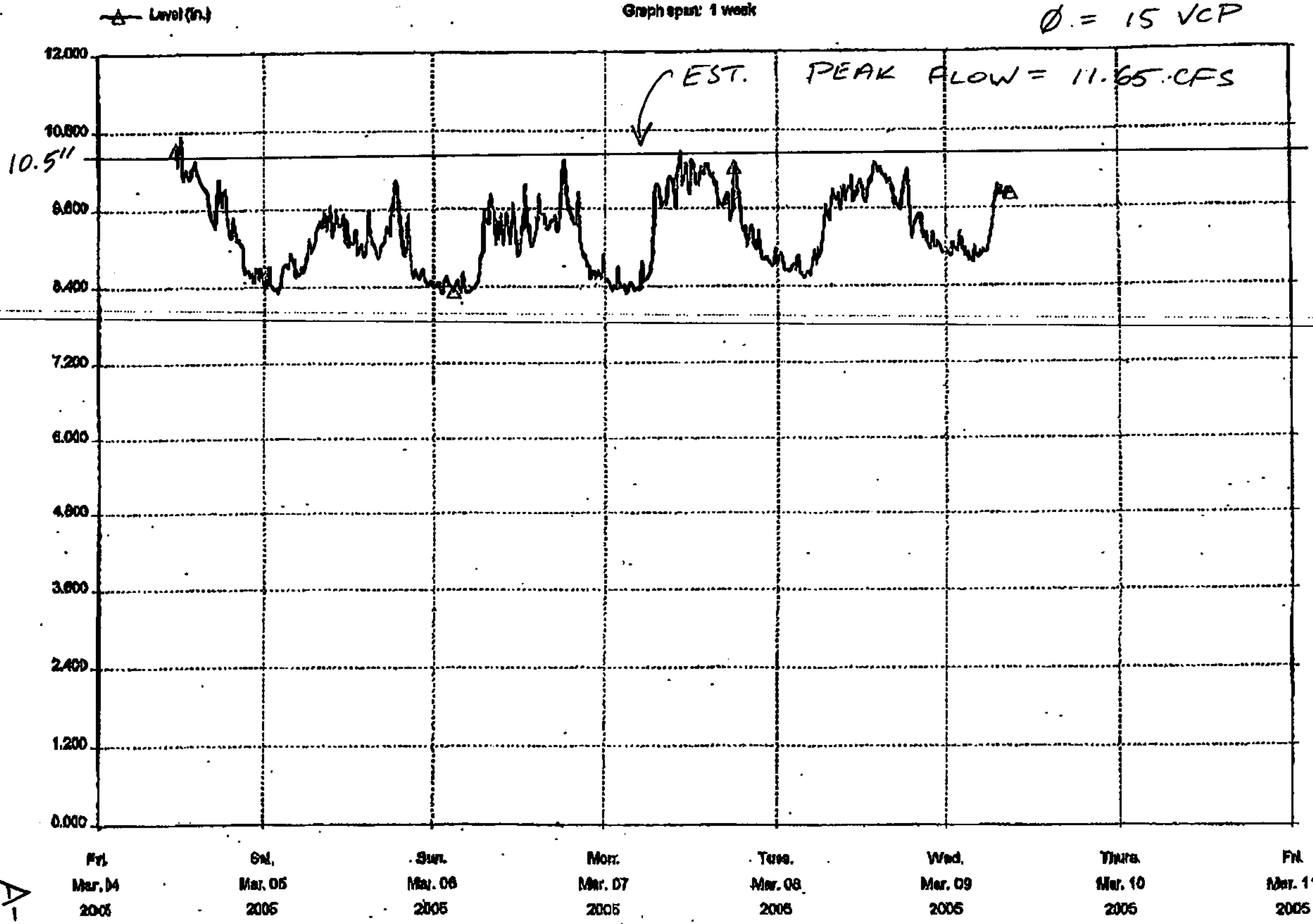
SPECIAL GAUGING

Site Id: 51502007 File name: 03090900.F6Z

$S = 0.0332$

$\emptyset = 15$ VCP

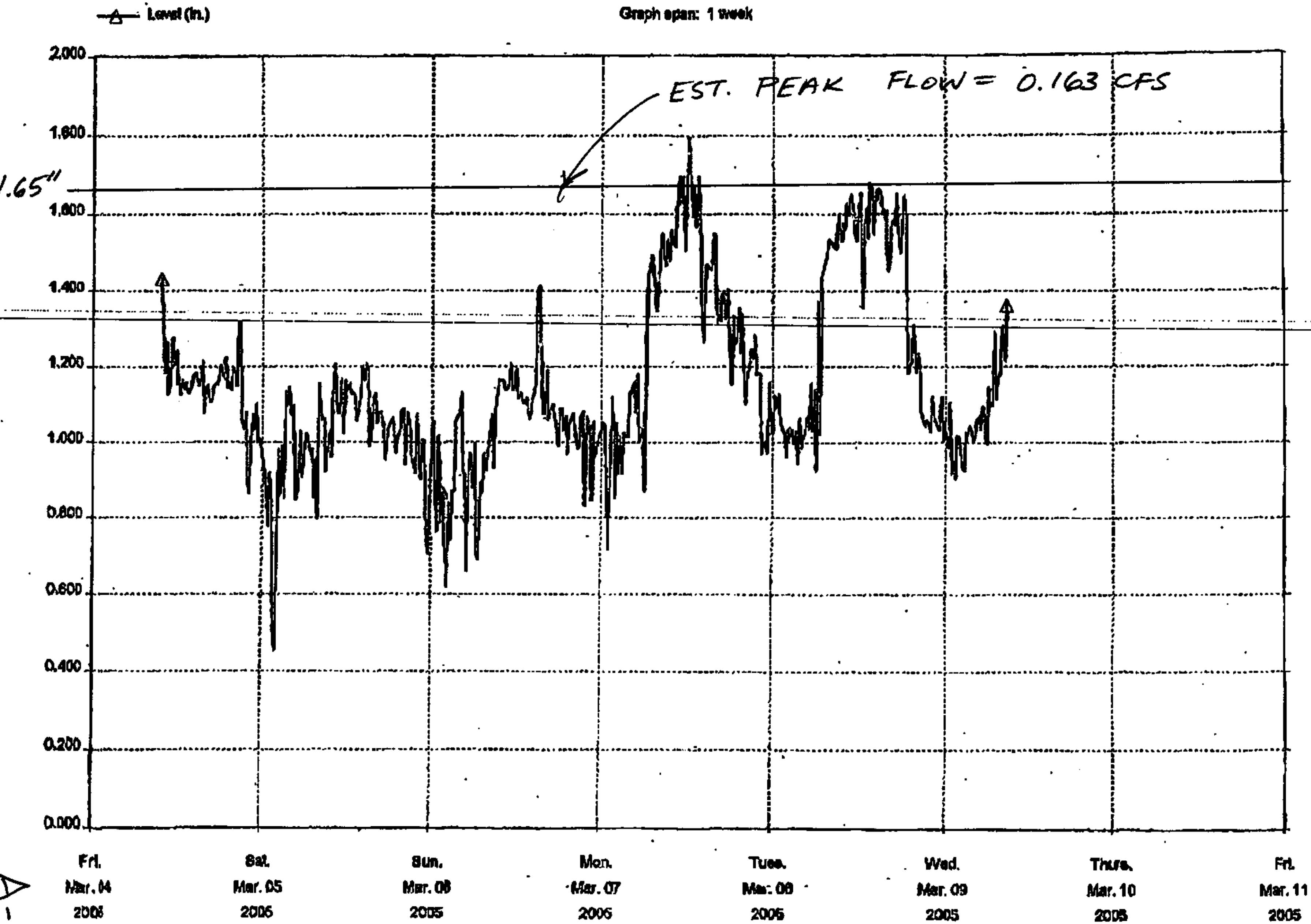
Graph span: 1 week



A-15

SPECIAL GAUGING

Site Id: 49515106 File name: 03090845.A2F



A-16

Attachment B

Haestad FlowMaster Calculations

Circular Report

Label	Mannings Coefficient	Channel Slope (ft/ft)	Diameter (in)	Discharge (cfs)	Depth (in)	Flow Area (ft²)	Critical Depth (ft)	Percent Full (%)	Velocity (ft/s)	Velocity Head (ft)	Specific Energy (in)	Discharge Full (cfs)	Flow Type
49515093	0.011	0.006800	10.0	0.126	1.7	0.1	0.15	16.5	2.14	0.07	2.5	2.135	Supercritical
49515105	0.011	0.018800	15.0	1.179	3.4	0.2	0.43	22.7	5.65	0.50	9.3	10.467	Supercritical
49515106	0.011	0.015000	8.0	0.163	1.7	0.1	0.18	20.6	3.14	0.15	3.5	1.749	Supercritical
49515137	0.011	0.004000	8.0	0.395	3.7	0.2	0.29	46.3	2.50	0.10	4.9	0.903	Subcritical
51502007	0.011	0.033200	15.0	11.646	10.5	0.9	1.21	70.0	12.69	2.50	40.5	13.910	Supercritical
51503021	0.011	0.004000	8.0	0.014	0.7	0.0	0.05	8.8	0.95	0.01	0.9	0.903	Subcritical
59515087	0.011	0.007600	18.0	1.970	5.2	0.4	0.53	28.9	4.66	0.34	9.2	10.822	Supercritical
FUTURE 49515093	0.011	0.006800	10.0	0.426	3.0	0.1	0.28	30.3	3.05	0.14	4.8	2.135	Supercritical
FUTURE 49515105	0.011	0.018800	15.0	1.479	3.8	0.2	0.48	25.4	6.03	0.57	10.6	10.467	Supercritical
FUTURE 49515106	0.011	0.015000	8.0	0.382	2.5	0.1	0.29	31.7	4.01	0.25	5.5	1.749	Supercritical
FUTURE 49515137	0.011	0.004000	8.0	0.434	3.9	0.2	0.31	48.8	2.56	0.10	5.1	0.903	Subcritical
FUTURE 51502007	0.011	0.033200	15.0	11.720	10.6	0.9	1.21	70.3	12.71	2.51	40.7	13.910	Supercritical
FUTURE 51503021	0.011	0.004000	8.0	0.094	1.7	0.1	0.14	21.8	1.67	0.04	2.3	0.903	Subcritical
FUTURE 59515087	0.011	0.007600	18.0	2.270	5.6	0.5	0.57	31.1	4.85	0.36	10.0	10.822	Supercritical
HALF 49515093	0.011	0.006800	10.0	1.068	5.0	0.3	0.46	50.0	3.91	0.24	7.9	2.135	Supercritical
HALF 49515105	0.011	0.018800	15.0	5.234	7.5	0.6	0.93	50.0	8.53	1.13	21.1	10.467	Supercritical
HALF 49515106	0.011	0.015000	8.0	0.874	4.0	0.2	0.44	50.0	5.01	0.39	8.7	1.749	Supercritical
HALF 49515137	0.011	0.004000	8.0	0.452	4.0	0.2	0.31	50.0	2.59	0.10	5.2	0.903	Subcritical
HALF 51502007	0.011	0.033200	15.0	6.955	7.5	0.6	1.06	50.0	11.33	2.00	31.5	13.910	Supercritical
HALF 51503021	0.011	0.004000	8.0	0.452	4.0	0.2	0.31	50.0	2.59	0.10	5.2	0.903	Subcritical
HALF 59515087	0.011	0.007600	18.0	5.411	9.0	0.9	0.90	50.0	6.12	0.58	16.0	10.822	Supercritical

1 EXISTING PEAK FLOW PER CITY OF LA B.O.E. GAUGING STUDY, 2005

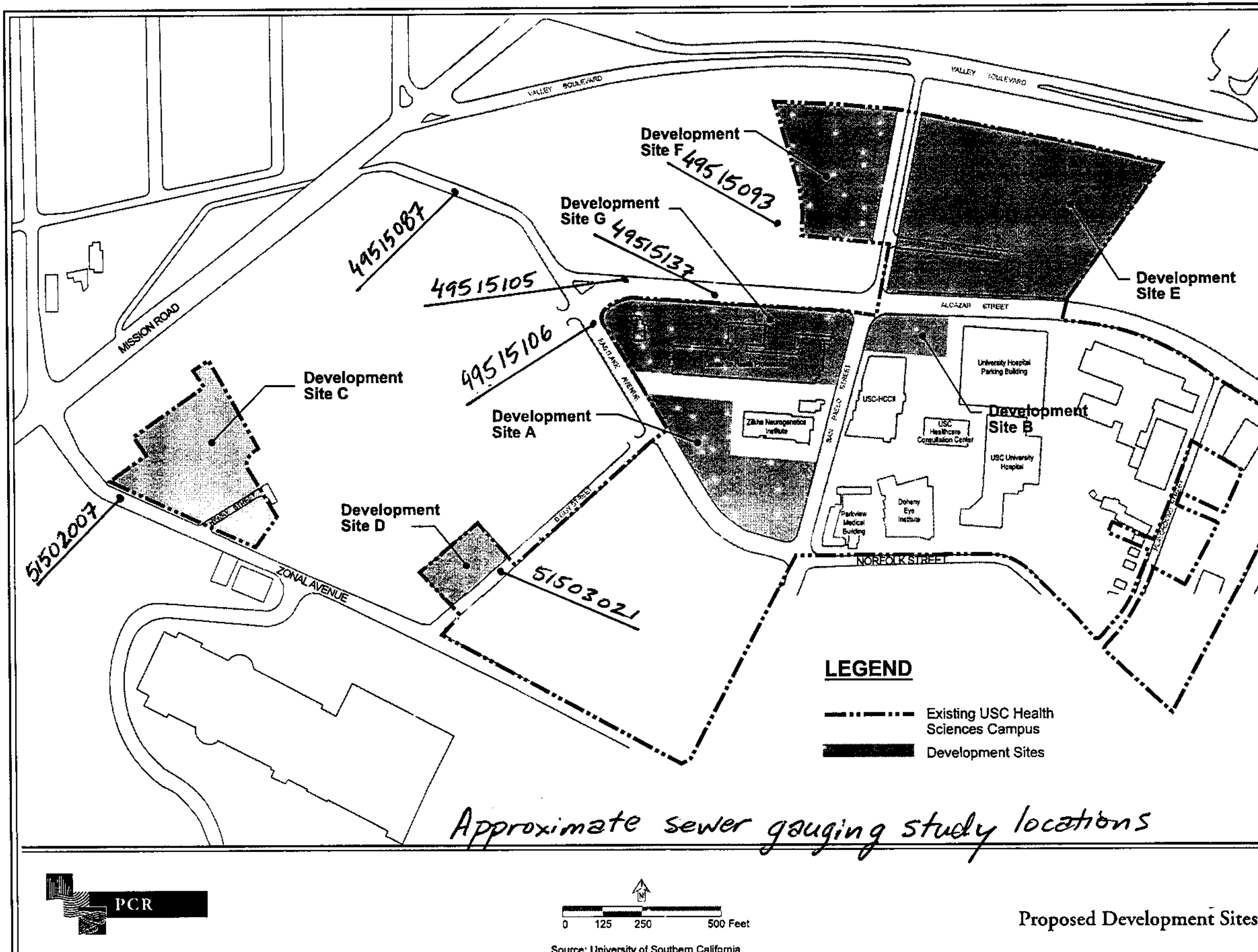
2 EXISTING PEAK FLOW PLUS FUTURE FLOW FROM PROPOSED PROJECT.

3 MAXIMUM DESIGN CAPACITY OF SEWER LINE.

B-2

Attachment C

Sewer Gauging Locations



Proposed Development Sites

PRELIMINARY WORKING DRAFT -Work-in-Progress

C-2