

**DRAFT**

**TRAFFIC ANALYSIS FOR 35-UNIT CONDOMINIUM PROJECT  
LOCATED AT THE SOUTHEAST CORNER OF  
WILSHIRE BOULEVARD AND COMSTOCK AVENUE  
IN WESTWOOD VILLAGE**

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## EXECUTIVE SUMMARY

The project under consideration is the development of a 35-unit condominium project at the southeast corner of Wilshire Boulevard and Comstock Avenue in Westwood Village in the City of Los Angeles. The project site is located west of the Los Angeles Country Club and is bounded by Wilshire Boulevard to the north, Comstock Avenue to the west and Club View Drive to the south. The site is currently vacant; therefore no existing structures will need to be removed to construct the project.

Vehicular access to the project will be provided by a single ingress driveway and a single egress driveway on Club View Drive at the southern boundary of the project site. These driveways will access the project's motor lobby which will provide valet parking, passenger loading and unloading area (all parking will be valet only). A third project driveway located near the southeastern project boundary will provide access to the loading dock. The primary ingress and egress driveways will access the subterranean parking structure, which will provide a total of approximately 111 parking spaces. The proposed parking supply will adequately satisfy the City's parking code requirements of 2 spaces per unit, plus provide half of a space per unit for guest parking.

It is anticipated that the project will be completed and fully occupied by year 2007. Following its completion and full occupancy, the project could generate 205 trips per day, including 15 trips during the AM peak hour and 19 trips during the PM peak hour. This level of trip generation is nominal, and does not require a traffic study. However, to address all potential access and circulation issues, as well as to assist the community by providing a traffic database regarding "cut through" traffic, Fifield has commissioned this traffic study.

The study presented herein evaluates existing (2004) and anticipated future (2007) AM and PM traffic conditions at four key intersections, and on two street segments within

the area immediately surrounding the project site. The cumulative traffic conditions attributable to 35 potential related projects in the surrounding area were also analyzed. As is demonstrated herein, the completed project is not expected to result in any significant traffic impacts. Therefore, no off-site mitigation measures are proposed for this project.

Project traffic impacts were also analyzed for Congestion Management Program (CMP) locations. No significant regional traffic impacts were determined for the CMP designated intersections or freeway monitoring locations.

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## INTRODUCTION

The development under consideration is a 35-unit condominium project located at the southeast corner of Wilshire Boulevard and Comstock Avenue in Westwood in the City of Los Angeles. The project will include a subterranean parking structure containing a total of 111 parking spaces. A motor lobby will also be provided for valet parking, loading and unloading via the Club View Drive entrance and exit driveways (all parking will be valet only). A third project driveway on Club View Drive near the southeastern project boundary will access the loading dock. The site is currently vacant, except for seasonal usage, including a pumpkin sales operation in October and a Christmas tree lot in December. Figure 1, Site Vicinity Map, shows the location of the site relative to the surrounding area.

The project is expected to be completed and occupied by the year 2007. Once fully occupied, the project could generate approximately 205 trips per day, including 15 trips during the AM peak hour and 19 trips during the PM peak hour.

Crain & Associates has been retained by the Applicant to assess the potential impacts of the proposed project on the surrounding roadway system. The analysis that follows was prepared in accordance with the assumptions, methodology, and procedures approved by the City of Los Angeles Department of Transportation (LADOT), even though a traffic study is not required for this project. This report presents the results of an analysis of existing (2004) conditions, and future (2007) traffic conditions before and after completion of the project. The analysis contains a detailed evaluation of traffic conditions during the typical weekday AM and PM peak hours at the following four study intersections:

- o Beverly Glen Boulevard and Wilshire Boulevard

- o Comstock Avenue and Wilshire Boulevard
- o Comstock Avenue and Club View Drive
- o Club View Drive and Santa Monica Boulevard

In addition to these four intersections, the following two street segments are also analyzed:

- o Comstock Avenue south of Wilshire Boulevard
- o Club View Drive east of Comstock Avenue

As shown on Figure 2, the intersections and roadway segments examined in the traffic study are those within the area immediately surrounding the project site, and based on the project's location and access relative to the local transportation network, these are the locations expected to be impacted most by the project.

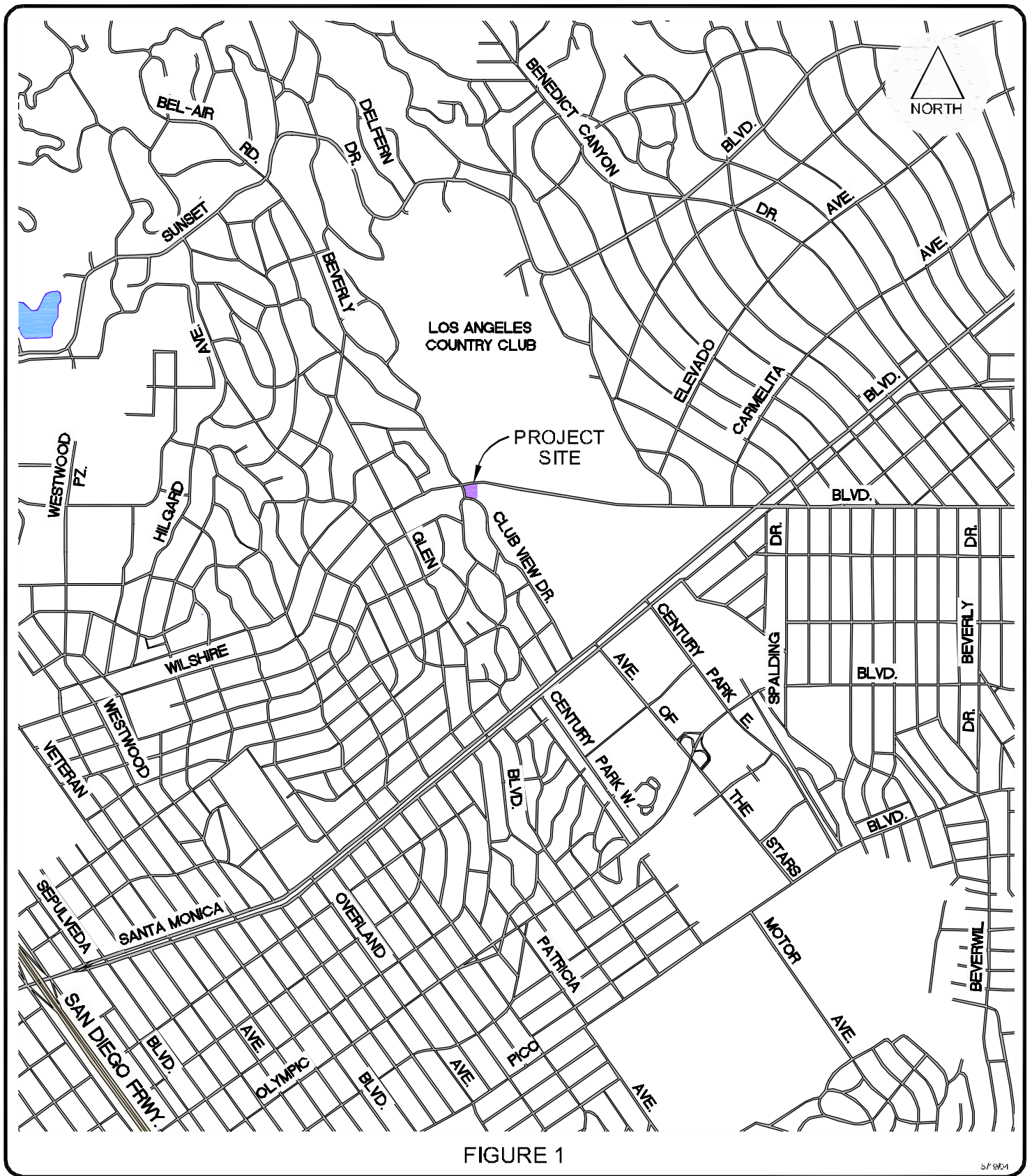


FIGURE 1

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SITE VICINITY MAP



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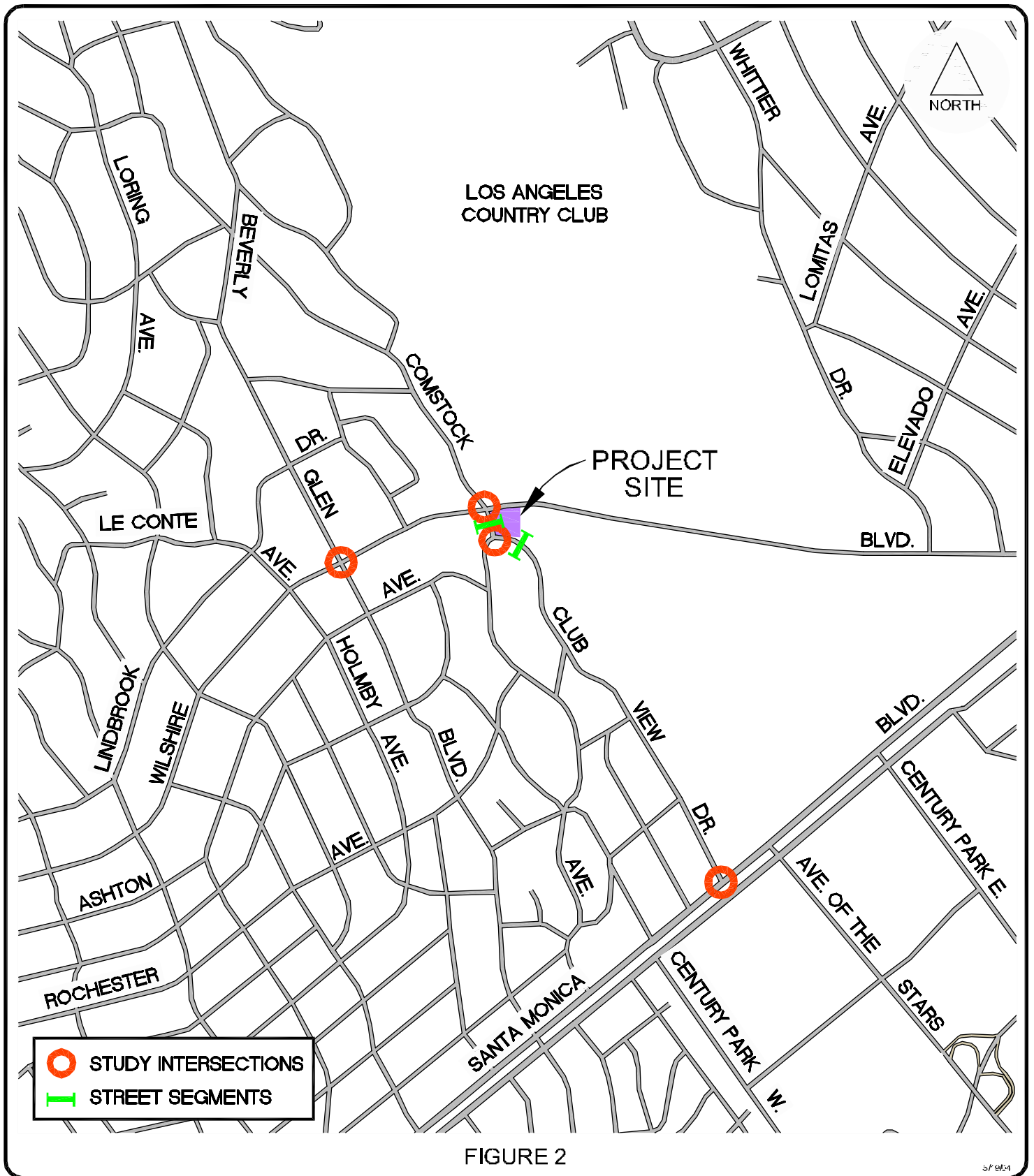


FIGURE 2

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STUDY INTERSECTIONS AND STREET SEGMENTS



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## **PROJECT DESCRIPTION**

The project under consideration is the development of a 35-unit condominium project. The project site is located at the southeast corner of Wilshire Boulevard and Comstock Avenue in Westwood Village in the City of Los Angeles, as shown in Figure 3, Project Site Plan. Bounded by Wilshire Boulevard to the north, Comstock Avenue to the west and Club View Drive to the south, the project site is located less than one mile west of the City of Beverly Hills and immediately west of the Los Angeles Country Club.

Parking for the project will be provided by a subterranean parking structure. The parking structure will provide a total of approximately 111 spaces for the project. All project parking will be valet operated. This amount of parking is more than adequate to meet the amount required by City of Los Angeles Municipal Code as well as to provide one-half space of visitor parking per dwelling unit.

Vehicular access to the motor lobby valet drop-off and loading zone will be provided by a single project ingress driveway and a single project egress driveway located on Club View Drive, east of its intersection with Comstock Avenue, at the southern boundary of the project site. A third project driveway located on Club View Drive near the southeastern project boundary will provide access to the loading dock. Trucks will be required to back into this driveway only.

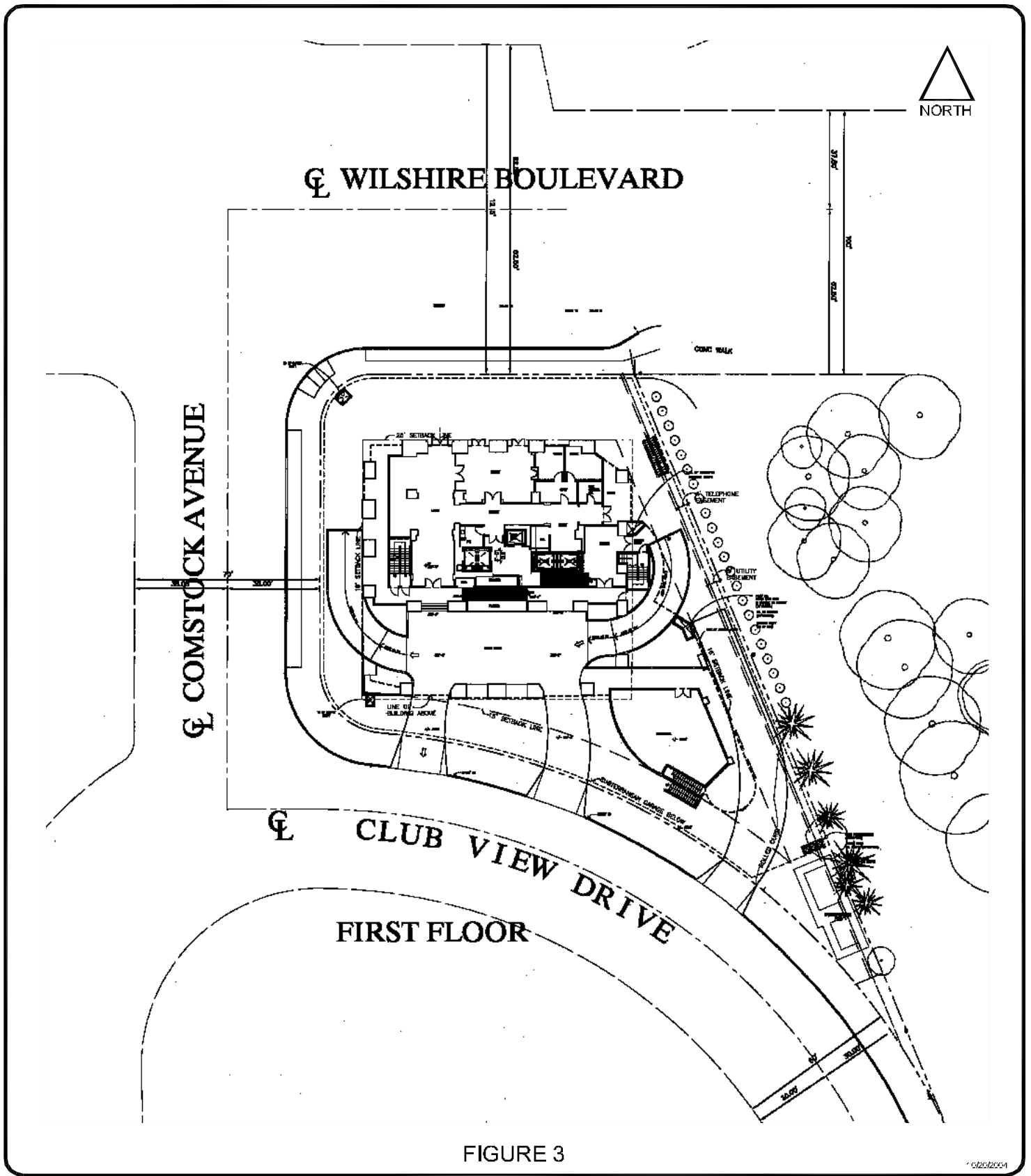


FIGURE 3

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PROJECT SITE PLAN



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## ENVIRONMENTAL SETTING

The project site is located at the southeast corner of Wilshire Boulevard and Comstock Avenue, just west of the Los Angeles Country Club. Located within the community of Westwood in the City of Los Angeles, the surrounding area is primarily developed with residential, retail, restaurant, educational, cultural, and commercial office uses.

The project site is served by a network of roadways that run primarily north/south and east/west. Additionally, two freeways, the San Diego Freeway (I-405) which runs north-south less than two miles west of the site and the Santa Monica Freeway (I-10) located approximately less than three miles south of the project provide access to the regional freeway network. A description of the primary access roadways and freeways are described below.

### Existing Freeways

The San Diego Freeway (I-405) is a north-south oriented freeway located less than two miles west of the project site. This facility typically provides four mainline travel lanes per direction, although additional auxiliary lanes are present in the project area between some sets of on- and off-ramps. A southbound high-occupancy vehicle (HOV) lane also was recently installed in the Sepulveda pass, and a northbound HOV lane has been approved for construction. The San Diego Freeway provides a west side alternative route across the Santa Monica Mountains to the Ventura Freeway (US-101) and the Golden State Freeway (I-5). The San Diego Freeway also provides direct access to other area freeways, including an interchange with the Santa Monica Freeway (I-10) approximately two and one-half miles southwest of the project site. Access to the project area surface street network is provided by full sets of on- and off-ramps at Sunset Boulevard, Wilshire Boulevard and Santa Monica Boulevard. According to the

most current data available through the Caltrans Website, traffic volumes on the San Diego Freeway along the segment between Santa Monica Boulevard (State Route 2) and Wilshire Boulevard are approximately 288,000 vehicles per day (VPD).

The Santa Monica Freeway (I-10) is the primary east-west arterial in Los Angeles County. This facility, located less than three miles south of the project, provides a continuous route from Santa Monica through Downtown Los Angeles and continues eastward through San Bernardino and Riverside counties. The Santa Monica Freeway provides four mainline travel lanes in each direction, with auxiliary lanes between some ramp locations. Surface street access is provided at Overland Avenue, south of the project site. As previously mentioned, the Santa Monica Freeway has a full interchange with the San Diego Freeway approximately two and one-half miles southwest of the project site. South of the project site, along the Santa Monica Freeway, between the San Diego Freeway interchange and Overland Avenue, traffic volumes are approximately 269,000 VPD.

### **Existing Streets and Highways**

Wilshire Boulevard begins within Downtown Los Angeles and traverses westerly through the cities of Los Angeles and Beverly Hills to its western terminus near the Pacific Ocean in Santa Monica. This arterial provides direct access to the commercial establishments along this route and serves as a major thoroughfare between West Los Angeles and Downtown. Full ramp access to the San Diego Freeway is provided via Wilshire Boulevard southwest of the project site. Wilshire Boulevard is designated a Major Highway throughout its length. Near the San Diego Freeway interchange, four through travel lanes are provided in each direction in addition to left-turn channelization at major intersections (including double left-turn lanes at many locations). Near the

project site, three through lanes are provided in each direction, in addition to left-turn channelization at major intersections.

Santa Monica Boulevard is a Major Highway through the southern portion of the study area. This east-west oriented roadway extends from Downtown Los Angeles through West Hollywood and Beverly Hills to near the Pacific Ocean in the City of Santa Monica. In the study area Santa Monica Boulevard exhibits a dual roadway configuration, with the northern (major) roadway providing the primary regional circulation facility, and the southern (minor) roadway serving as a local access roadway. This section of the highway is currently undergoing major rebuilding. Santa Monica Boulevard (major roadway) generally provides three through lanes and left-turn channelization. Parking is prohibited along Santa Monica Boulevard (major roadway) in the project vicinity.

Beverly Glen Boulevard is a north-south facility located west of the project site. This roadway is designated as a Secondary Highway north of Wilshire Boulevard and a Major Class II Highway south of Wilshire Boulevard. South of Wilshire Boulevard two through lanes are provided in each direction with left-turn channelization provided at major intersections. North of Wilshire Boulevard, Beverly Glen Boulevard is striped to provide a single lane in each direction. Limited on-street parking is available on some segments of Beverly Glen Boulevard. Beverly Glen Boulevard provides an alternative through route from the San Fernando Valley to West Los Angeles. As such, Beverly Glen is a major commuter thoroughfare.

Comstock Avenue is a north-south roadway designated a Collector Street north of Club View Drive up to Beverly Glen Boulevard. South of its intersection with Club View Drive and north of its intersection with Beverly Glen Boulevard, Comstock Avenue is designated a Local Street. This roadway extends southerly from the UCLA campus to its termination south of Santa Monica Boulevard. In the project vicinity, Comstock

Avenue is a collector street which forms the western boundary of the project site.

Comstock Avenue provides one through travel lane provided in each direction, and has left-turn channelization at its intersection with Wilshire Boulevard. On-street parking on Comstock Avenue is generally permitted in the study area.

Club View Drive is a Collector Street which forms the southern boundary of the project site. Club View Drive extends southerly from Comstock Avenue at the project site, to its termination at Santa Monica Boulevard. One through travel lane is provided in each direction. On-street parking is generally permitted along this roadway.

### **Existing Traffic Volumes**

Traffic volumes for existing conditions at the four study intersections were obtained from manual traffic counts conducted in April 2004 by Crain & Associates and its subcontractor. The counts cover the weekday 7:00 to 9:00 AM and 4:00 to 6:00 PM peak traffic periods. The count days represent typical, non-summer conditions, with UCLA classes in normal session. Peak-hour volumes were determined individually for each intersection based on the combined four highest consecutive 15-minute volumes for all vehicular movements at the intersection. Weekday peak-hour volumes at the study intersections are illustrated in Figures 4(a) and 4(b). The manual intersection traffic count data sheets are provided in the Appendix.

In addition to the study intersection counts, 24-hour automated traffic counts were conducted on the two neighborhood street segments discussed previously. These counts were collected in April 2004. The 24-hour automated traffic count data sheets are also included in the Appendix.

The existing daily traffic volumes on the streets surrounding the project site are provided on the pages that follow.

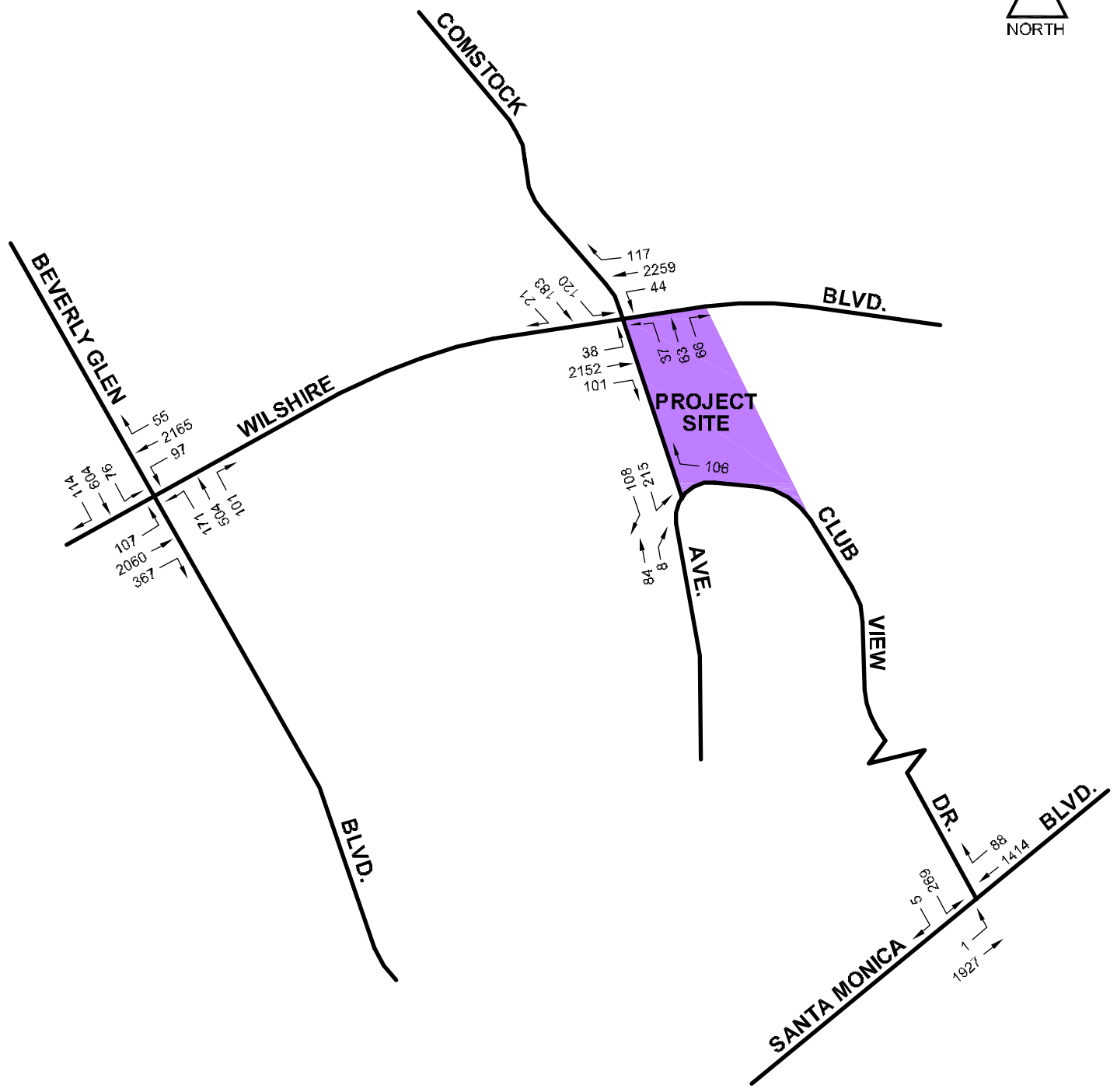


FIGURE 4(a)

6/1/2004

Wilshire & Comstock Corridor M20041EX

EXISTING (2004) TRAFFIC VOLUMES  
AM PEAK HOUR



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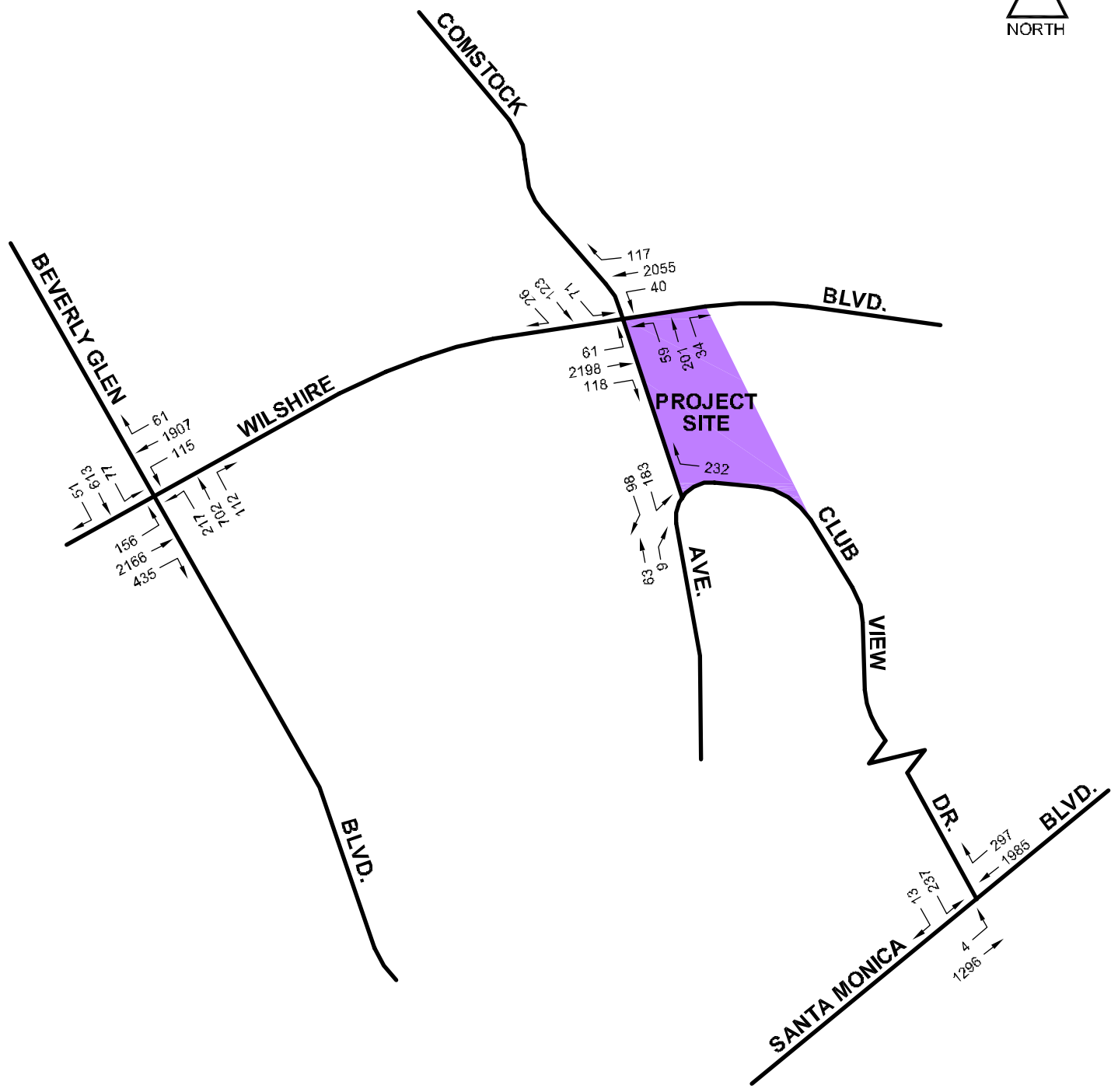


FIGURE 4(b)

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EXISTING (2004) TRAFFIC VOLUMES  
PM PEAK HOUR



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Wilshire Boulevard carries among the highest surface street traffic volumes in the City of Los Angeles. At Comstock Avenue, Wilshire Boulevard carries approximately 46,400 VPD, with volumes increasing to 49,600 VPD west of Beverly Glen Boulevard. Wilshire Boulevard exhibits morning peak hour volumes of approximately 2,400 vehicles per hour (VPH) westbound and 2,300 VPH eastbound. PM peak-hour traffic volumes along this roadway segment are similar to morning volumes with approximately 2,200 VPH westbound and 2,000 VPH eastbound.

Santa Monica Boulevard, near Club View Drive, carries approximately 37,600 VPD. At this intersection, AM peak-hour traffic volumes on Santa Monica Boulevard (major) are approximately 1,500 VPH westbound and 2,200 VPH eastbound. PM peak-hour traffic volumes on Santa Monica Boulevard (major) are nearly 2,300 VPH westbound and approximately 1,500 VPH eastbound.

Beverly Glen Boulevard is a north-south major commuter thoroughfare. North of Wilshire Boulevard, Beverly Glen Boulevard carries approximately 15,600 VPD. Morning peak-hour volumes are about 700 VPH northbound and 800 VPH southbound. PM peak-hour directional traffic volumes along this portion of the roadway are approximately 1,000 VPH northbound and 700 VPH southbound. South of Wilshire Boulevard, Beverly Glen Boulevard carries approximately 20,200 VPD. Approximately 800 VPH travel northbound along this roadway segment and 1,100 VPH travel southbound during the morning peak hour. PM peak-hour volumes are approximately 1,000 VPH northbound and 1,200 VPH southbound.

Comstock Avenue, between Wilshire Boulevard and Club View Drive, carries approximately 2,600 VPD. Morning peak hour volumes on this roadway segment are approximately 100 VPH northbound and 200 VPH southbound. PM peak-hour volumes on Comstock Avenue, south of Wilshire Boulevard are approximately 100 VPH

northbound and 100 VPH southbound. South of its intersection with Club View Drive, Comstock Avenue carries approximately 1,900 VPD. Morning peak-hour volumes along this segment are approximately 90 VPH northbound and 100 VPH southbound. PM peak-hour volumes are nearly 100 VPH northbound and 100 VPH southbound.

Club View Drive, near the project site, carries approximately 3,400 VPD. Morning peak-hour volumes are approximately 100 VPH northbound and 200 VPH southbound. PM peak-hour traffic volumes on Club View Drive are approximately 200 VPH northbound and 200 VPH southbound.

### **Existing Public Transit**

The Westwood area is served by a number of bus lines operated by the Metropolitan Transportation Authority (MTA), the City of Los Angeles Department of Transportation (LADOT), Santa Monica Municipal Bus Lines, Culver City Municipal Bus Lines, the Antelope Valley Transit Authority and Santa Clarita Transit. Several of these lines operate along Wilshire Boulevard, and provide stops within close walking distance of the proposed project. These lines provide convenient service westerly into the City of Santa Monica, easterly into Beverly Hills and Downtown Los Angeles, and northerly to the San Fernando Valley. The transit service providers and routes operating in the project vicinity are illustrated in Figure 5, Public Transit Routes. Below are listed the routes within convenient walking distance of the site.

#### Los Angeles County Metropolitan Transportation Authority (MTA)

Lines 20/21 provide service between Santa Monica and Downtown Los Angeles. This line operates along Wilshire Boulevard in the project vicinity and provides service on headways of approximately 8 to 10 minutes during weekdays and

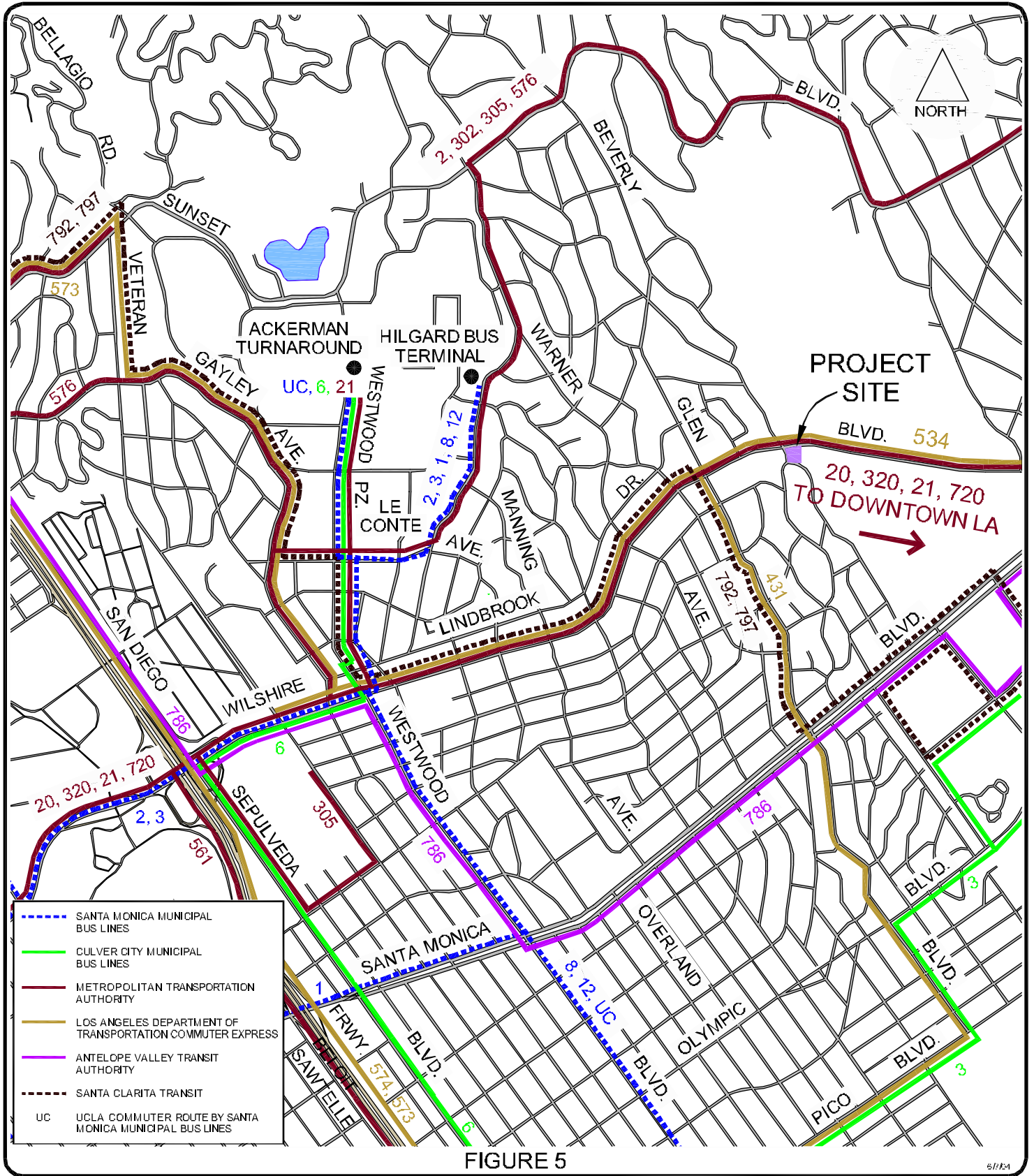


FIGURE 5

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FR WILSHIRE & COMSTOCK CONDOS BUS ROUTES

EXISTING PUBLIC TRANSIT ROUTES



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Saturdays. Line 20 provides Sunday and holiday service on headways of approximately 10 minutes. Line 21 does not operate on Sundays or holidays.

Lines 4/304 provide east-west service between Santa Monica and Downtown Los Angeles via Santa Monica Boulevard. Lines 4/304 operate Monday through Friday on headways of 10 to 15 minutes. Saturday, Sunday and holiday service is also provided. Line 4 makes all stops along the designated route, however, Line 304 is a limited stop line from Sepulveda Boulevard to Sunset Boulevard in the project area.

Line 720 is a part of the MTA Metro Rapid service. This line provides east-west service between Downtown Los Angeles and Santa Monica via Wilshire Boulevard on headways of approximately 5 to 10 minutes. Service is provided daily, with longer headways during weekends and holidays. Late night/owl service is also provided.

#### City of Los Angeles, Department of Transportation (LADOT)

Line 431 is a commuter express route between Westwood/Rancho Park/Palms and Downtown Los Angeles. Morning peak-hour service is provided from West Los Angeles to Downtown Los Angeles with reverse service provided during the PM peak commute period. In the project vicinity, Line 431 operates along Wilshire Boulevard and Beverly Glen Boulevard. Stops are provided on Wilshire Boulevard and on Santa Monica Boulevard at Beverly Glen Boulevard. Service is provided Monday through Friday only.

Line 534 provides commuter express service from Downtown Los Angeles to West Los Angeles during the morning peak commute period, with reverse service provided during the afternoon peak commute period. Line 534 travels on headways

of approximately one hour, via Santa Monica Boulevard, Beverly Glen Boulevard, and Wilshire Boulevard in the project vicinity. A stop is provided near the project site, on Wilshire Boulevard at Beverly Glen Boulevard. Line 534 provides service during weekdays only.

Line 573 also provides commuter express service between Mission Hills, Northridge and Encino to Westwood and Century City. In the project vicinity Line 573 operates along Wilshire Boulevard and Beverly Glen Boulevard. A stop is provided on Wilshire Boulevard at Beverly Glen Boulevard, just west of the project site. Line 573 provides service on weekdays only, during morning and afternoon peak commute periods.

#### Santa Clarita Transit

Line 792 provides express service between the Santa Clarita Valley and Westwood/Century City. Line 792 provides service from Century City and Westwood to Santa Clarita during the morning peak commute period and reverse service during the afternoon peak commute period. In the project vicinity this line travels along Wilshire Boulevard and Beverly Glen Boulevard on headways of approximately one hour. A stop is provided near the project site on Wilshire Boulevard at Beverly Glen Boulevard. Line 792 provides service Monday through Friday only.

Line 797 provides express service between the Santa Clarita Valley and Westwood/Century City. Line 797 provides service from the Santa Clarita Valley to Century City and Westwood during the morning peak commute period and reverse service during the afternoon peak commute period. In the project vicinity this line travels along Wilshire Boulevard, Beverly Glen Boulevard and Santa Monica Boulevard on headways of approximately 30 to 45 minutes. Line 797 operates

Monday through Friday only. Stops near the project site are provided on Wilshire Boulevard at Beverly Glen Boulevard.

Antelope Valley Transit Authority (AVTA)

Route 786 provides service between Lancaster/Palmdale and Century City/West Los Angeles. Route 786 provides Monday through Friday service to Century City/West Los Angeles during the morning peak commute period and reverse service to Lancaster/Palmdale during the afternoon peak commute period. Near the project site, this route travels along Wilshire Boulevard. Although the Route 786 stops are not directly adjacent to the project site, when transfer opportunities are considered, this route is a viable option for service between the Antelope Valley and the study area. Stops in the project vicinity are located on Wilshire Boulevard at Westwood Boulevard, west of the project site, and on Constellation Boulevard at Avenue of the Stars, southeast of the project site.

When transfer opportunities are considered the bus lines outlined on the previous pages provide convenient regional and local access to and from the project site and the greater Los Angeles Basin.

## **Analysis of Existing (2004) Traffic Conditions**

Detailed traffic analyses of existing traffic conditions were performed at the following four study intersections:

- o Beverly Glen Boulevard and Wilshire Boulevard
- o Comstock Avenue and Wilshire Boulevard
- o Comstock Avenue and Club View Drive
- o Club View Drive and Santa Monica Boulevard

These traffic analyses were performed through the use of established traffic engineering techniques for the critical peak periods. The traffic count data described earlier were used to determine existing traffic flow conditions. Other data pertaining to intersection geometrics and traffic signal operations were obtained from field surveys and LADOT plans of the study locations.

The methodology used in this study for the analysis and evaluation of traffic operations at each study intersection is based on procedures outlined in Circular Number 212 of the Transportation Research Board.<sup>1</sup> In the discussion of Critical Movement Analysis for signalized intersections, procedures have been developed for grading the operational quality of an intersection in terms of the "Level of Service" (LOS) which describes different traffic flow characteristics. Levels of Service A to C operate quite well. Level D typically is the level for which a metropolitan area street system is designed. Level E represents volumes at or near the capacity of the highway that may result in stoppages of momentary duration and fairly unstable flow. Level F occurs

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<sup>1</sup> Interim Materials on Highway Capacity, Circular Number 212, Transportation Research Board, Washington, D.C., 1980.



when a facility is overloaded and is characterized by stop-and-go traffic with stoppages of long duration.

A determination of the LOS at an intersection, where traffic volumes are known or have been projected, can be obtained through a summation of the critical movement volumes at that intersection: the highest combination of conflicting movements which must be accommodated at that intersection. Once the sum of critical movement volumes has been obtained, the values indicated in Table 1 can be used to determine the applicable LOS.

**Table 1  
Critical Movement Volume Ranges\*  
For Determining Levels of Service**

Level of Service	Maximum Sum of Critical Volumes (VPH)		
	Two Phase	Three Phase	Four or More Phases
A	900	855	825
B	1,050	1,000	965
C	1,200	1,140	1,100
D	1,350	1,275	1,225
E	1,500	1,425	1,375
F	-----Not Applicable-----		

\* For planning applications only, i.e., not appropriate for operations and design applications.

"Capacity" represents the maximum volume of vehicles in the critical lanes which has a reasonable expectation of passing through a signalized intersection in one hour, under prevailing roadway and traffic conditions. For planning purposes, the maximum theoretical capacity of an intersection equates to the critical movement volumes for LOS E conditions, as shown in Table 1. This capacity varies depending on the type of traffic signal control present or proposed at an intersection. The CMA values used for

signalized intersections in this study were calculated by dividing the sum of the critical movement volumes at an intersection by the appropriate intersection capacity value obtained from Table 1. The LOS corresponding to a range of CMA values is shown in Table 2.

**Table 2  
Level of Service  
As a Function of CMA Values**

<b>Level of Service</b>	<b>Description of Operating Characteristics</b>	<b>Range of CMA Values</b>
A	Uncongested conditions; vehicles clear in a single cycle.	< 0.60
B	Similar to above.	>0.60 < 0.70
C	Light congestion; occasional backups on critical approaches.	>0.70 < 0.80
D	Congestion on critical approaches, but intersection functional. Vehicles required to wait through more than one cycle during short peaks. No long-standing lines formed.	>0.80 < 0.90
E	Severe congestion with some long-standing lines on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements.	>0.90 < 1.00
F	Forced flow with stoppages of long duration.	> 1.00

The technical analysis used to determine the Level of Service at the existing unsignalized all-way stop-controlled intersection of Comstock Avenue and Club View Drive was conducted via a computerized transportation analysis, which models (replicates) travel behavior for measured or projected traffic volumes. The transportation model for this intersection utilized the Highway Capacity Software (HCS-2000), a computer program based on the 2000 update of the Highway Capacity Manual published by the Transportation Research Board. The Level of Service criteria

are measured by average vehicular delay in seconds per stop-controlled vehicle at an intersection. Delay is defined as the elapsed time from when a vehicle stops at the end of a queue until the vehicle departs from the stop line. Table 3 displays the Level of Service criteria relating to stop sign-controlled intersections.

**Table 3**  
**Level of Service**  
**As a Function of Stop-Controlled Delay**

<u>Level of Service</u>	<u>Average Control Delay<sup>a</sup> (Seconds per Vehicle)</u>
A	≤10
B	>10 - 15
C	>15 - 25
D	>25 - 35
E	>35 - 50
F	>50

<sup>a</sup> From Exhibits 17-2 and 17.22 of the Highway Capacity Manual (2000)

By applying these analysis procedures to the study intersections, the Critical Movement Analysis (CMA) values and delay values with the corresponding Levels of Service (LOS) for existing (2004) traffic conditions were calculated, as shown in Table 4.

**Table 4**  
**Level of Service (LOS) Summary**  
**Existing (2004) Traffic Conditions**

<b>No.</b>	<b>Intersection</b>	<b>AM Peak Hour</b>		<b>PM Peak Hour</b>	
		<b>CMA/Delay</b>	<b>LOS</b>	<b>CMA/Delay</b>	<b>LOS</b>
1.	Beverly Glen Boulevard and Wilshire Boulevard	0.931	E	0.938	E
2.	Comstock Avenue and Wilshire Boulevard	0.649	B	0.675	B
3.	Comstock Avenue and Club View Drive	8.97 sec*	A	9.18 sec*	A
4.	Club View Drive and Santa Monica Boulevard	0.581	A	0.752	C

Note:

\* Average delay per vehicle controlled by stop sign during the designated peak hour.

As the values in Table 4 indicate, in general, the street network in the vicinity of the proposed development is currently operating well, with most study intersections in the operating at good Levels of Service (LOS A to C). The intersection of Beverly Glen Boulevard and Wilshire Boulevard is currently operating at LOS E during both the AM and PM peak hour. The congestion at this study intersection is primarily due to existing high-density office uses along Wilshire Boulevard and north-south commuter traffic along Beverly Glen Boulevard. Wilshire Boulevard is also heavily used for east/west travel due to its continuity from Downtown Los Angeles to the City of Santa Monica.

## PROJECT TRAFFIC

The following section describes the methodology used and results of the calculations for trip generation, distribution and assignment for the proposed project. Driveway access and parking for the project are also described on the pages that follow.

### **Trip Generation**

Traffic generation rates for the project's proposed land-uses are specified in the current West Los Angeles Transportation Improvement and Mitigation Specific Plan (TIMP) Ordinance Number 171,492 (March 8, 1997). This document lists the critical PM peak hour trip rates for condominium projects. The daily and AM peak hour trip rates and inbound/outbound directional split percentages, however, are not provided. The West Los Angeles PM peak hour rates were therefore augmented with information on daily and AM peak hour trip generation characteristics derived from surveys documented in studies conducted under the auspices of the Institute of Transportation Engineers (ITE). This information is provided in the manual, Trip Generation, 7th Edition, 2003, published by ITE. The trip generation rates in the ITE manual are nationally recognized, and are used as the basis for most traffic studies conducted in the City of Los Angeles and the surrounding region.

Accordingly, for this analysis, the West Los Angeles TIMP and ITE trip rates, provided in the Appendix, were used to determine the daily, AM and PM peak-hour trips generated by the proposed use. The results of the project trip generation calculations are summarized in Table 5. As shown in this table, at completion and full occupancy, the project is expected to generate approximately 205 daily trips, including 15 trips during the AM peak hour (3 inbound, 12 outbound) and 19 trips during the PM peak hour (13 inbound, 6 outbound).

**Table 5  
Project Trip Generation**

<u>Proposed Use</u>	<u>Daily</u>	<u>AM Peak Hour</u>			<u>PM Peak Hour</u>		
		<u>In</u>	<u>Out</u>	<u>Total</u>	<u>In</u>	<u>Out</u>	<u>Total</u>
35 du Condominium	205	3	12	15	13	6	19

To provide a more conservative analysis no discount was taken for the seasonal uses associated with the project site. These uses include a “pumpkin” sales operation in October, as well as a Christmas tree lot in December. Each of these activities attract substantial seasonal traffic to the site, however, for this analysis, no reduction in site traffic was taken due to development of the project and the permanent removal of the seasonal uses.

Also, as previously discussed in the Existing Public Transit section of this report, the site is served by excellent transit service. It should be noted however, that no reduction has been taken in this traffic analysis to account for transit usage.

**Trip Distribution**

Estimation of the directional distribution of project trips was the next step in the analytical process. This trip distribution pattern for the project was determined by considering the proposed land use, existing traffic movements, characteristics of the surrounding roadway system, the geographic location of the project site and its proximity to freeways and major travel routes, and the employment centers from which residents would likely be attracted. Based on these factors, the generalized trip distribution shown in Table 6 was estimated for the project.

**Table 6**  
**Project Directional Trip Distribution**

<u>Direction</u>	<u>Percentage of Total Trips*</u>
North	15%
South	25%
East	40%
West	<u>20%</u>
	100%

\* Including freeway use

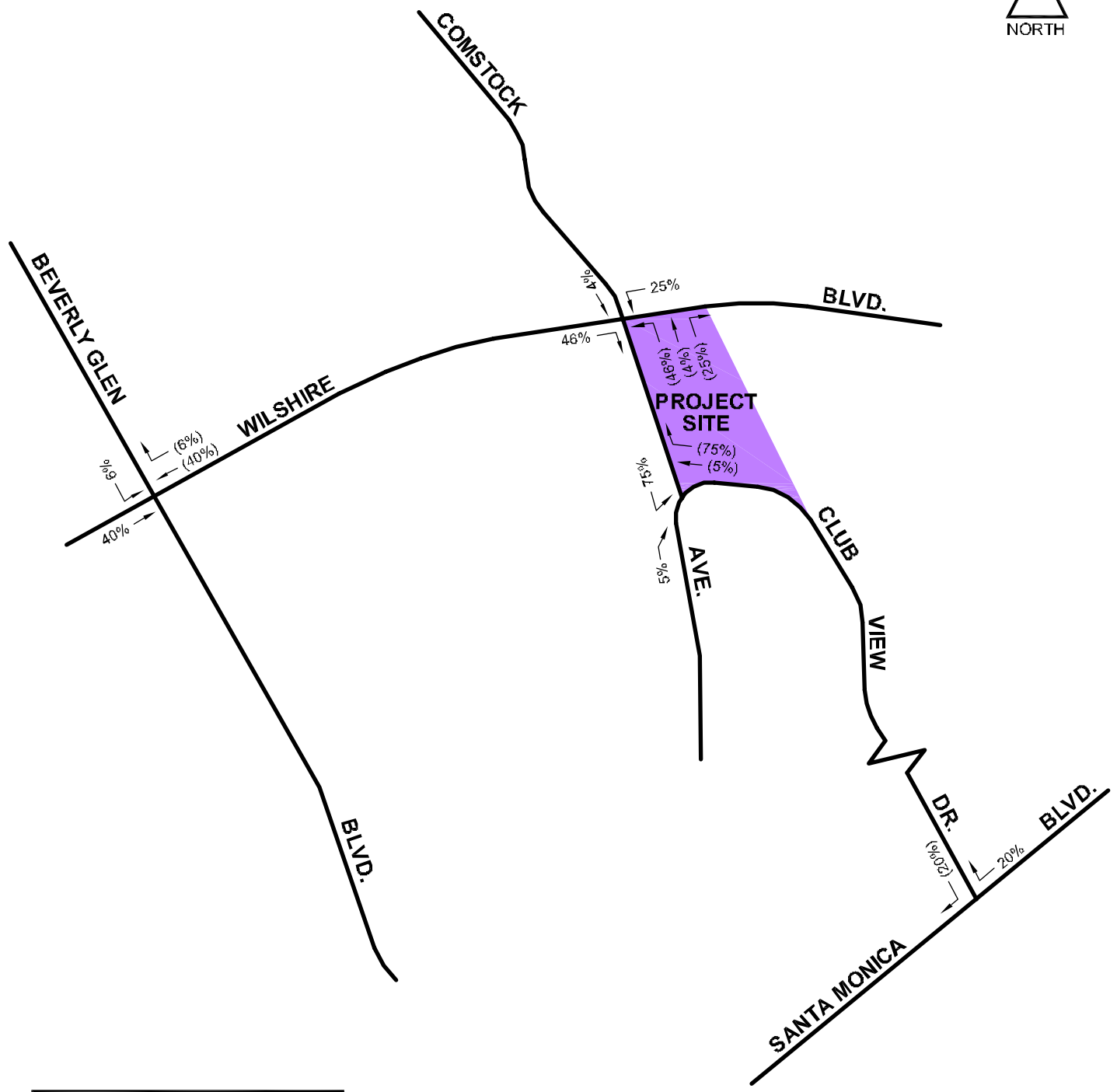
### **Trip Assignment**

The above directional distribution percentages were then disaggregated and assigned to specific routes and intersections within the study area that are expected to be used to access the project site. These project trip assignment percentages are presented in Figure 6.

Applying these inbound and outbound percentages to the project trip generation previously calculated in Table 5, project traffic volumes at the study intersections were determined for the AM and PM peak hours, as shown in Figures 7(a) and 7(b), respectively. The results of this traffic assignment provide the necessary level of detail to conduct the traffic impact analysis.

### **Project Access**

Vehicular access to the multi-level subterranean parking structure will be provided by two project driveways located on Club View Drive at the southern boundary of the site. One inbound-only driveway and one outbound-only driveway will provide access to and from the valet parking provided in the structure. The anticipated project driveway volumes for the AM and PM peak hours are also shown in Figures 7(a) and 7(b), respectively.



00% - INBOUND PERCENTAGES  
(00%) - OUTBOUND PERCENTAGES

FIGURE 6

11/1/14

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PROJECT TRIP DISTRIBUTION PERCENTAGES



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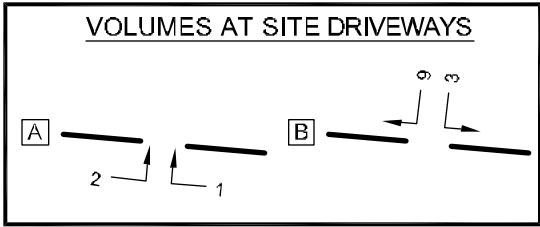
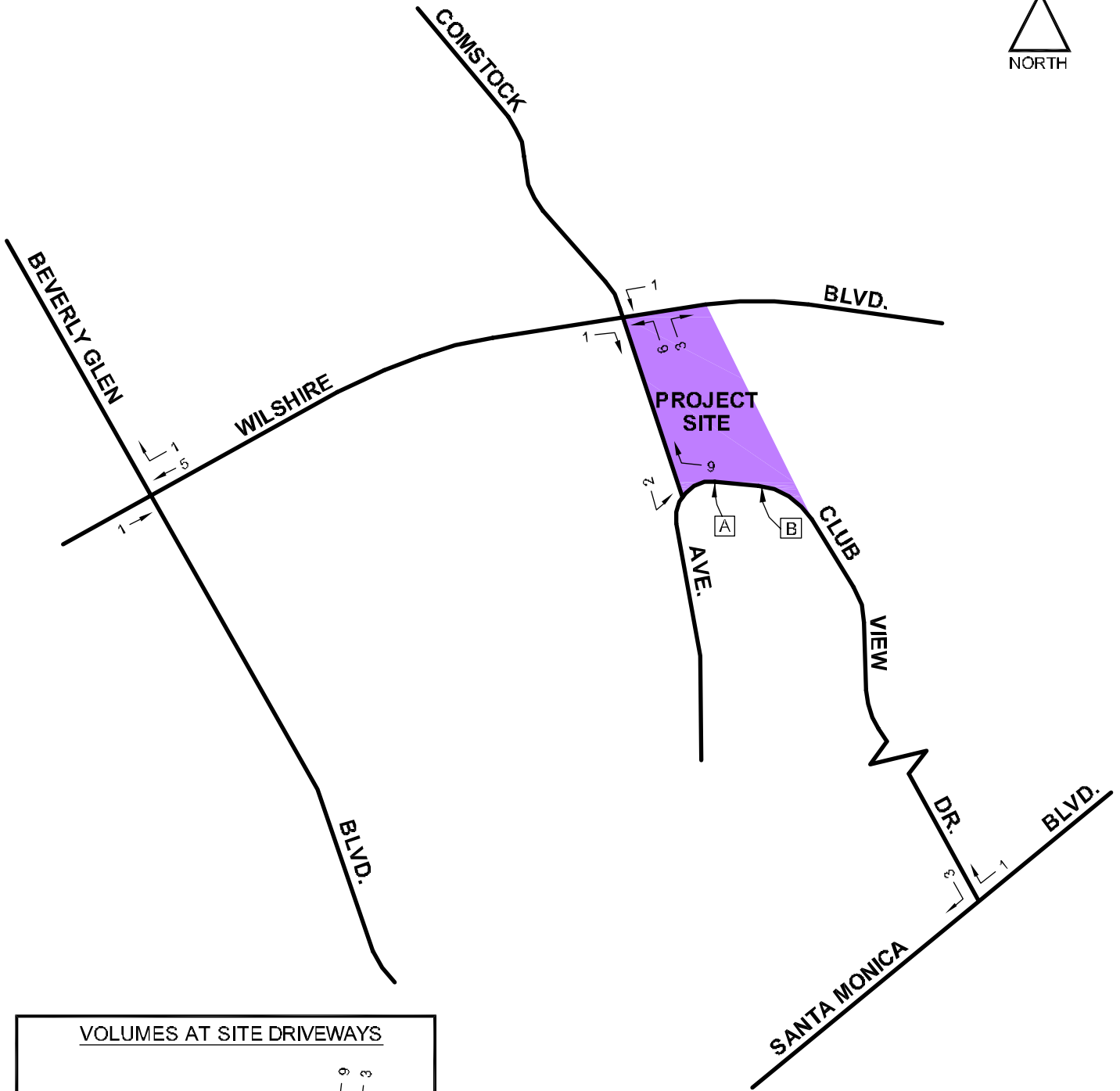


FIGURE 7(a)

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Wilshire & Comstock Corridor AM/PM/PRJ

PROJECT TRAFFIC VOLUMES  
AM PEAK HOUR



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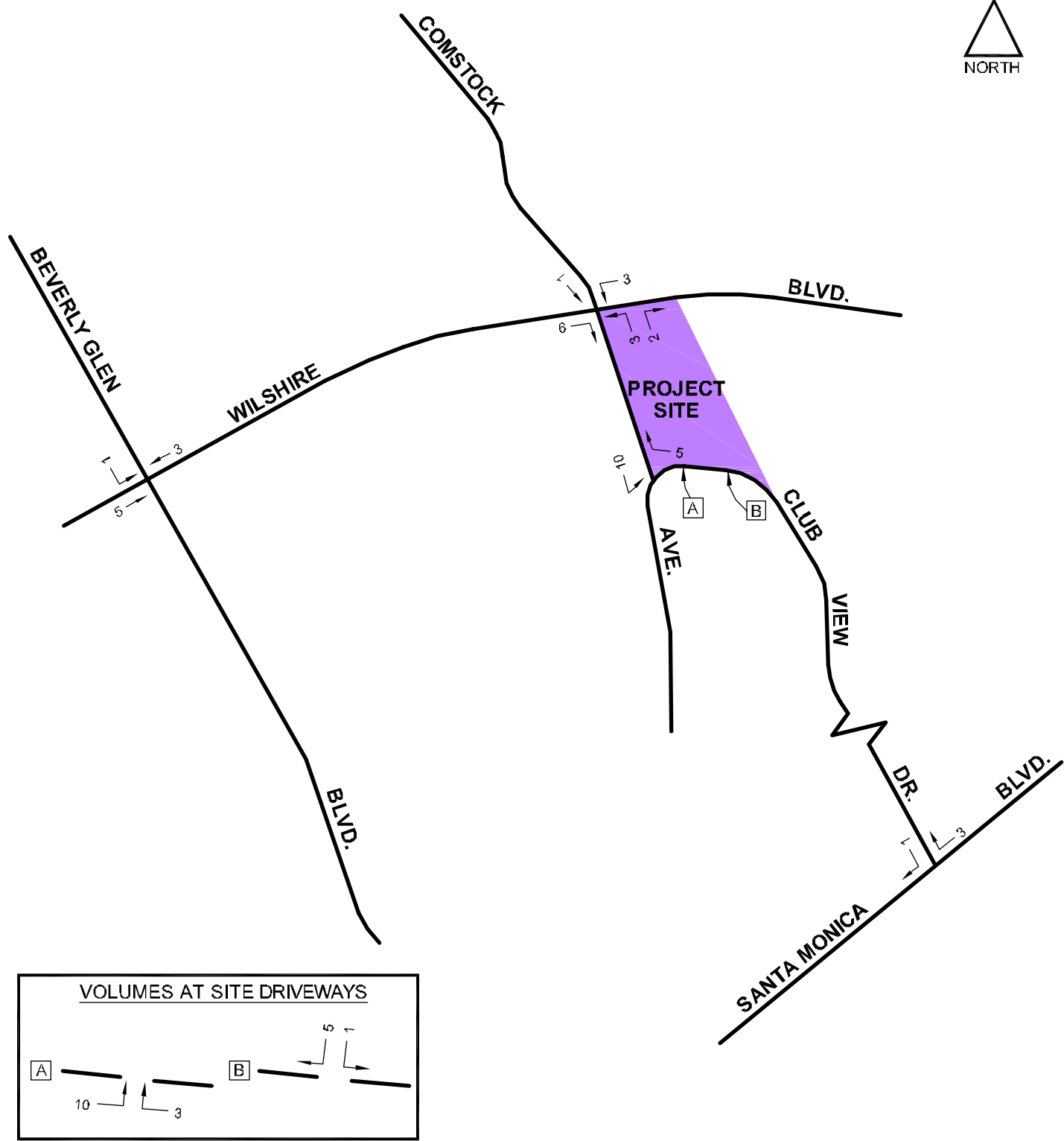


FIGURE 7(b)

11/12/04

Wilshire & Comstock Corridor/WME1PRJ

PROJECT TRAFFIC VOLUMES  
PM PEAK HOUR



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A third project driveway located on Club View Drive near the southeastern project boundary, as shown previously in Figure 3, will provide access to the loading dock. Trucks will be permitted to back into this driveway only.

**Project Parking**

Table 7 summarizes the parking required of the project under the provisions of the City of Los Angeles Municipal Code (LAMC). City Code specifies parking requirements for condominium residential developments at a ratio of 2 spaces per unit. Guest parking at a rate of one-half space per unit is also usually provided.

As summarized in Table 7, a total of 70 parking spaces would be required for the project under the current City of Los Angeles parking code regulations. Additionally, guest parking would usually require 18 spaces. As the project proposes a total on-site parking supply of 111 spaces, adequate on-site parking is anticipated, and no parking overflow impacts are expected.

**Table 7  
Project Parking Summary**

<u>Land Use</u>	<u>Size</u>	<u>Parking Ratio</u>	<u>Parking Required</u>
Condominiums	35 Units	2.0/Dwelling Unit	70
Guest Parking	35 Units	0.5/Dwelling Unit	<u>18</u>
		Total	88

## **FUTURE TRAFFIC CONDITIONS**

A number of projects are either planned for development or are currently under construction in the project area. These “related projects” could contribute to traffic in and around the project vicinity in the near future. For this reason, analysis of the future traffic has been expanded to include traffic which may be generated by yet undeveloped or unoccupied projects. In order to evaluate future traffic conditions in the project area, an analysis of the existing (2004) traffic volumes was first conducted, as described in the preceding sections. For the subsequent analysis of future conditions for the year 2007, an “ambient growth factor” of 1.0 percent per year, compounded annually, was applied to all of the existing turning movement volumes at the four study intersections. The result provides the “baseline” traffic volumes for the analysis of future (2007) conditions. Although the inclusion of the annual growth factor is expected to capture all area traffic increases, for the purposes of providing a conservative analysis, the traffic generated by nearby “related projects” was also added to these future baseline traffic volumes. The total future volumes, including related projects, provide the basis for the “Without Project” condition. Finally, project traffic was analyzed as an incremental addition to the Future (2007) “Without Project” condition to determine the Future (2007) “With Project” condition.

### **Traffic Growth**

The ambient traffic growth was determined by applying a growth factor of 1.0 percent compounded annually. Based on the trends in traffic growth in the study area, a 1.0 percent annual growth factor was deemed appropriate. This 1.0 percent growth factor was used to account for increases in traffic volume resulting from related projects that are not yet proposed or are outside of the study area. The ambient traffic growth factor

was applied to the existing (2004) traffic volumes to develop an estimate of future (2007) traffic volumes.

### **Related Projects**

In addition to the use of the ambient growth factor, a listing of potential related projects located within an approximate one and one-half mile radius of the project site was obtained from the City of Los Angeles Department of Transportation, the City of Beverly Hills, and recent studies of projects in the area. Additionally, a number of projects are proposed on the UCLA Campus, as detailed in the University's Long-Range Development Plan (LRDP). The LRDP is a general planning document for the UCLA Campus and contains a listing of potential development that could occur on the Campus over a 15-year period. A review of the information currently available indicated that a total of 35 projects near the project site may produce additional traffic at the study intersections. As noted previously, the ambient traffic growth factor is expected to accurately represent all area traffic growth within the study period, and as such, the inclusion of the related projects in addition to assumed background traffic growth may tend to overstate cumulative conditions.

The locations of these related projects are shown in Figure 8. The number of trips expected to be generated by the related projects was determined by applying the appropriate trip generation rates and equations from the ITE Trip Generation, 7th edition manual, 2003. These trip generation rates and equations are contained in the Appendix. The related project descriptions and their trip generation estimates are summarized in Table 8.

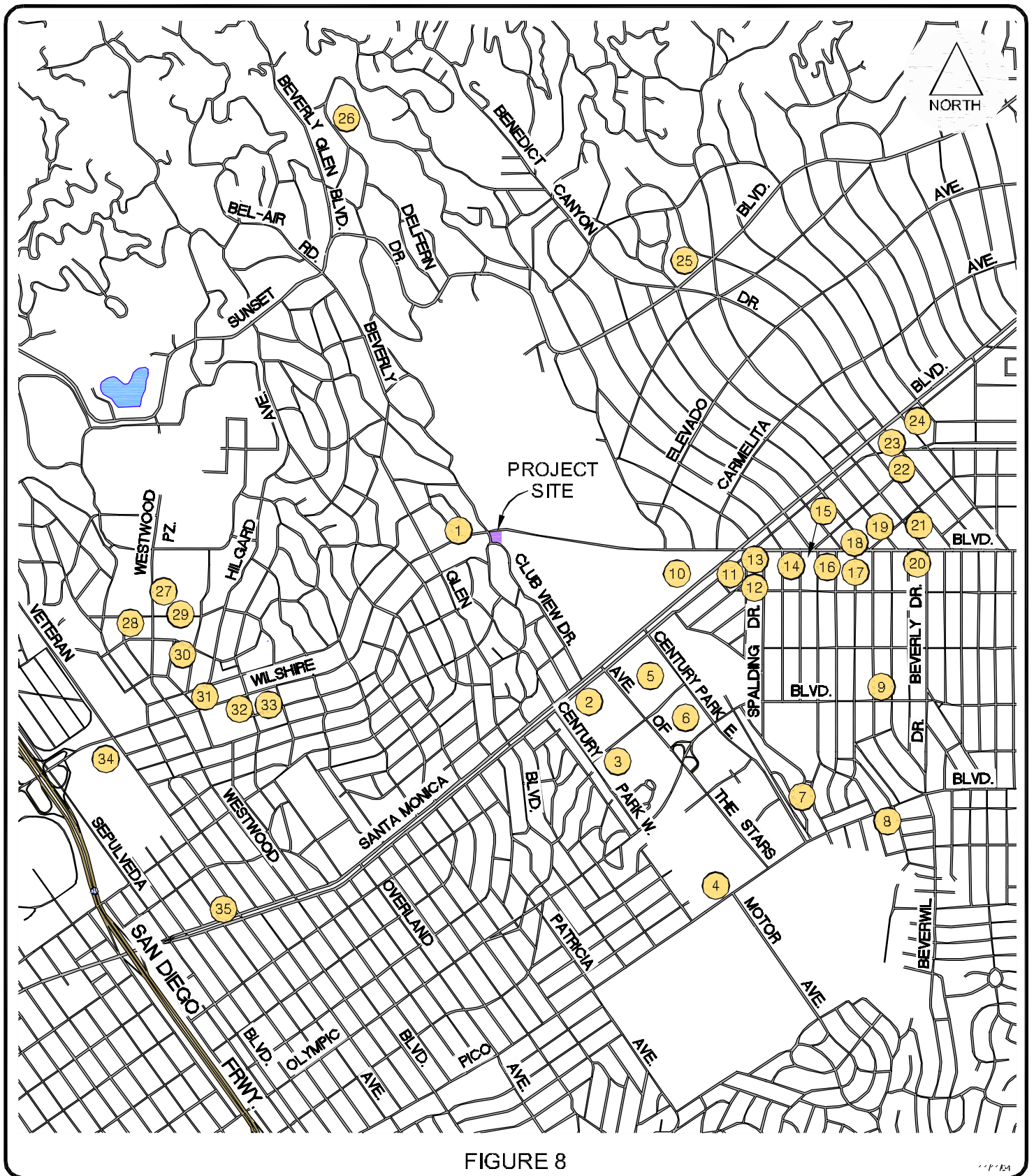


FIGURE 8

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RELATED PROJECTS LOCATION MAP



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**Table 8**  
**Related Projects Description, Location and Trip Generation**

Map No.	Size	Unit	Description	Location (Address)	Daily	AM Peak Hour			PM Peak Hour		
						In	Out	Total	In	Out	Total
1.	19	du	Apartment	NEC Wilshire Bl./Devon Av.	126	2	8	10	6	3	9
2.	71,000	sf	Century City Shopping Center	10250 Santa Monica Bl.	2,273	29	19	48	253	275	528
3.	791,000	sf	General Office <sup>[1]</sup>	10270 Constellation Bl.	7,868	993	123	1,116	171	833	1,004
4.	360,000	sf	Fox Studio Expansion (remainder est.) <sup>[2]</sup>	10201 W. Pico Bl.	4,086	420	30	450	54	226	280
5.	508,600	sf	General Office <sup>[3]</sup>	Constellation Bl. & Avenue of the Stars	4,628	600	82	682	105	515	620
6.	825,800	sf	Office, Retail, and Cultural Use <sup>[4]</sup>	2000 Avenue of the Stars	(11,357)	101	(181)	(80)	(683)	(216)	(899)
7.	9	du	Condominium	552-558 Hillgreen Dr.	53	1	3	4	3	2	5
8.	14,800	sf	High School Addition <sup>[5]</sup>	9760 W. Pico Bl.	660	92	40	132	37	55	92
9.	1,750	sf	Retail	456 N. Camden Dr.	78	1	1	2	2	3	5
10.	180,000	sf	Department Store	Wilshire Boulevard, btwn. the		113	72	185	324	351	675
	20,000	sf	Specialty Retail	Los Angeles Country Club &		0	0	0	24	30	54
	10,000	sf	Quality Restaurant	Merv Griffin Way		7	1	8	50	25	75
	10,000	sf	Office			14	2	16	3	12	15
	240	du	Condominium			31	103	134	83	49	132
	26	du	Luxury Condominium			3	12	15	9	5	14
	(200,000)	sf	Department Store (Existing) <sup>[6]</sup>			(86)	(9)	(95)	(85)	(131)	(216)
					N/A	82	181	263	408	341	749
11.	95,000	sf	General Office <sup>[7]</sup>	9844 Wilshire Bl.	1,090	131	(4)	127	21	140	161
	9,633	sf	Retail (Existing)								
12.	42	rm	Hotel Expansion	150 Lasky Dr.	346	15	9	24	13	12	25
13.	4	du	Condominium	133 Spalding Dr.	23	0	2	2	1	1	2
14.	75	du	Congregate Care	129 S. Linden Dr.	152	3	2	5	7	6	13
15.	204	rm	Hotel	9730 Wilshire Bl.	1,667	70	44	114	64	56	120

**Table 8 (cont.)  
Related Projects Description, Location and Trip Generation**

Map No.	Size	Unit	Description	Location (Address)	Daily	AM Peak Hour			PM Peak Hour		
						In	Out	Total	In	Out	Total
16.	20	du	Condominium	9590 Wilshire Bl.	117	2	7	9	7	3	10
	12,000	sf	Retail		<u>488</u>	<u>8</u>	<u>6</u>	<u>14</u>	<u>13</u>	<u>18</u>	<u>31</u>
					605	10	13	23	20	21	41
17.	40	du	Condominium	125 S. Camden Bl.	234	3	15	18	14	7	21
18.	30,000	sf	Health Club	9601 Wilshire Bl.	988	15	21	36	62	60	122
19.	4,544	sf	Retail (expansion)	326 N. Rodeo Dr.	201	3	2	5	5	7	12
20.	66	st	Screening Room	150 El Camino	116	1	0	1	4	1	5
21.	41,500	sf	Office	265 N. Beverly Dr.	678	82	11	93	21	104	125
	3,500	sf	Restaurant		<u>445</u>	<u>21</u>	<u>19</u>	<u>40</u>	<u>23</u>	<u>15</u>	<u>38</u>
					445	0	0	1,123	103	30	133
22.	11,900	sf	Retail	338 N. Canon Dr.	527	8	6	14	14	18	32
23.	78,000	sf	Retail	438 N. Beverly Dr./	3,457	56	38	94	93	118	211
	12,000	sf	General Office	439 N. Canon Dr.	<u>261</u>	<u>30</u>	<u>4</u>	<u>34</u>	<u>16</u>	<u>76</u>	<u>92</u>
					3,718	86	42	128	109	194	303
24.	34,000	sf	Cultural Center	469 N. Crescent Dr.	778	34	21	55	16	40	56
25.	2,000	sf	Health Spa to replace existing Health Club	9641 Sunset Bl.	66	1	1	2	4	4	8
26.	122,000	sf	Harvard-Westlake Middle School <sup>[8]</sup> 12 employees (net)	700 N. Faring	N/A	9	0	9	0	9	9
27.			<u>University of California, Los Angeles</u>	UCLA Westwood Campus							
	882,000	sf	Southwest Campus Housing (2,000 bds) <sup>[9]</sup>		2,496	20	214	234	194	118	312
	296,700	sf	Northwest Campus Phase II Development <sup>[10]</sup>		428	21	0	21	7	40	47
	1,500	sp	Intramural Field Parking Structure <sup>[11]</sup>		5,630	389	53	442	139	324	463
	101,900	sf	Physics and Astronomy Building <sup>[12]</sup>		18	2	0	2	0	2	2
	95,000	sf	Luck Research Ctr., Thermal Energy Storage <sup>[13]</sup>		137	10	0	10	2	10	12
	166,000	sf	California NanoSystems Institute <sup>[14]</sup>		98	11	0	11	0	13	13
1,710,000	sf	Academic Health Center Seismic Replacement <sup>[15]</sup>		nom.	nom.	nom.	nom.	nom.	nom.	nom.	
--			Remaining 2002 LRDP Growth <sup>[13]</sup>		<u>544</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	
					9,351	453	267	720	342	507	849



**Table 8 (cont.)  
Related Projects Description, Location and Trip Generation**

Map No.	Size	Unit	Description	Location (Address)	Daily	AM Peak Hour			PM Peak Hour		
						In	Out	Total	In	Out	Total
28.	15,000	sf	Retail <sup>[16]</sup>	SEC Broxton Av./Le Conte Av.	4,598	149	45	195	195	271	467
	2,993	sf	High-Turnover Restaurant								
	74,000	sf	Medical Office								
	1,135	st	Theater (34,000 sf)								
29.	106	st	Theater Expansion (12,900 sf)	10886 Le Conte Av.	191	1	0	1	8	8	16
30.	115,000	sf	Shopping Center <sup>[17]</sup>	1001 Tiverton Av.	3,374	73	91	164	229	213	442
	350	du	Apartment								
31.	19	du	Apartment	10852 Lindbrook Av.	128	2	8	10	6	3	9
	6,100	sf	Specialty Retail		270	4	3	7	13	18	31
	(16,100)	sf	Specialty Retail (Existing)		(714)	(11)	(8)	(19)	(35)	(46)	(81)
					(316)	(5)	3	(2)	(16)	(25)	(41)
32.	93	du	Condominium	10804 Wilshire Bl.	545	7	34	41	34	17	51
33.	119	du	Condominium <sup>[18]</sup>	10776 Wilshire Bl.	154	(14)	29	15	18	(3)	15
	66	rm	Hotel (Existing)								
34.	937,000	sf	Federal Bureau of Investigation (FBI) Office	11000 Wilshire Boulevard	26,161	1,843	228	2,071	1,046	2,327	3,373
35.	6	pu	Gas Station w/ Convenience Market	10991 Santa Monica Bl.	977	30	30	60	40	40	80

**Sources:**

- [1] DEIR, Century City Project, October 1996.
- [2] DEIR, Fox Studio Historic Preservation and Expansion Project, December 1991.
- [3] Based on "replacement", i.e., remaining project site CCNSP daily trips.
- [4] Traffic Impact Study for Office, Commercial and Cultural Use Project at 2000 Avenue of the Stars, Century City, Crain & Associates, June 2002.
- [5] Interdepartmental Correspondence for Westside Media Center CPC No. 98-0301 CU and 98-0345 CUB, Jay Kim at LADOT, February 7, 2003.
- [6] Existing Robinsons May department store trip generation based on actual trip measurements conducted by Crain & Associates, July 2004.
- [7] Traffic Impact Study for Proposed Beverly Hills Gateway Project, Crain & Associates, September 2002.
- [8] Traffic and Parking Analysis for Proposed Harvard-Westlake Middle School Campus Improvement Project, Crain & Associates, September 2003.
- [9] Traffic and Parking Analysis of the UCLA Southwest Campus Housing and Parking Project, Crain & Associates, September 2000.
- [10] UCLA Northwest Campus Housing Infill Project Traffic Analysis, Crain & Associates, October 2002.
- [11] Traffic Analysis of the Intramural Field Parking Structure, Crain & Associates, December 2000.
- [12] Final EIR, Physics and Astronomy Building, Crain & Associates, May 2000.
- [13] UCLA Long Range Development Plan Transportation Systems Analysis, Crain & Associates, October 2002.
- [14] Traffic and Parking Analysis of the Proposed UCLA California Nanosystems Institute and Engineering 1 Replacement Building, Crain & Associates, March 2002.
- [15] Traffic and Parking Analysis of the Proposed UCLA Academic Health Center, Crain & Associates, November 1997.
- [16] Draft Traffic and Parking Analysis of the Broxton-Le Conte Commercial Entertainment Center, Crain & Associates, April 2004.
- [17] Traffic Analysis for Palazzo Westwood Mixed-Use Development, Crain & Associates, Revised August 2002.
- [18] Century Landmark Project Memorandum of Understanding, Vince Giron at LADOT, 5/27/03

For the analysis of Future (2007) "Without Project" traffic conditions, the related projects trip generation was assigned to the study area circulation system, using methods similar to those previously described for project trip assignment. The turning movement volumes for the related projects were then combined with the growth-factored existing volumes to estimate the Future (2007) "Without Project" AM and PM peak hour traffic volumes, shown in Figures 9(a) and 9(b), respectively. These are the "benchmark" values used in determining project traffic impacts on the street system.

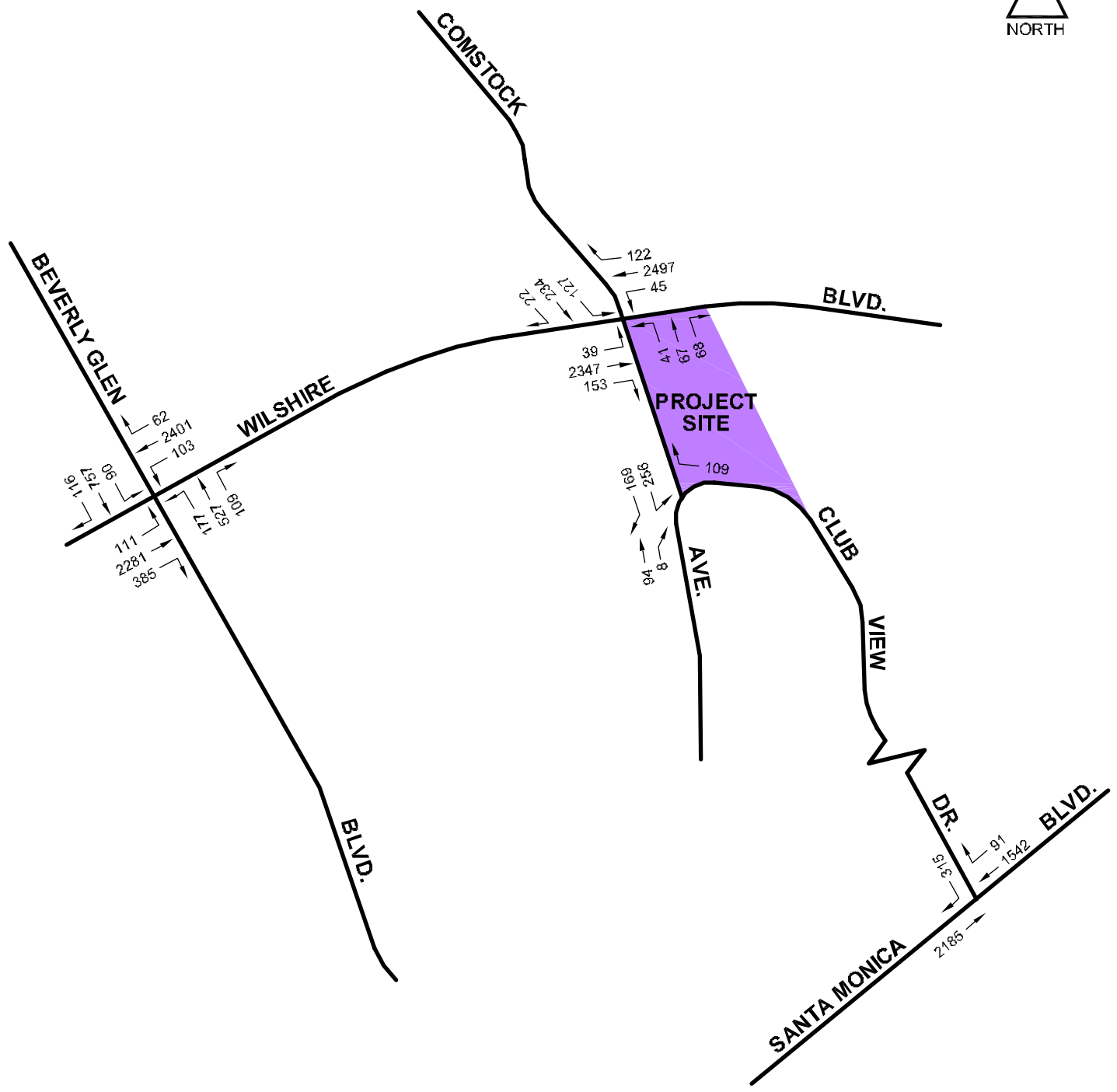


FIGURE 9(a)

11/12/04

Wilshire & Comstock Corridor AM2007WO

FUTURE (2007) TRAFFIC VOLUMES  
WITHOUT PROJECT  
AM PEAK HOUR



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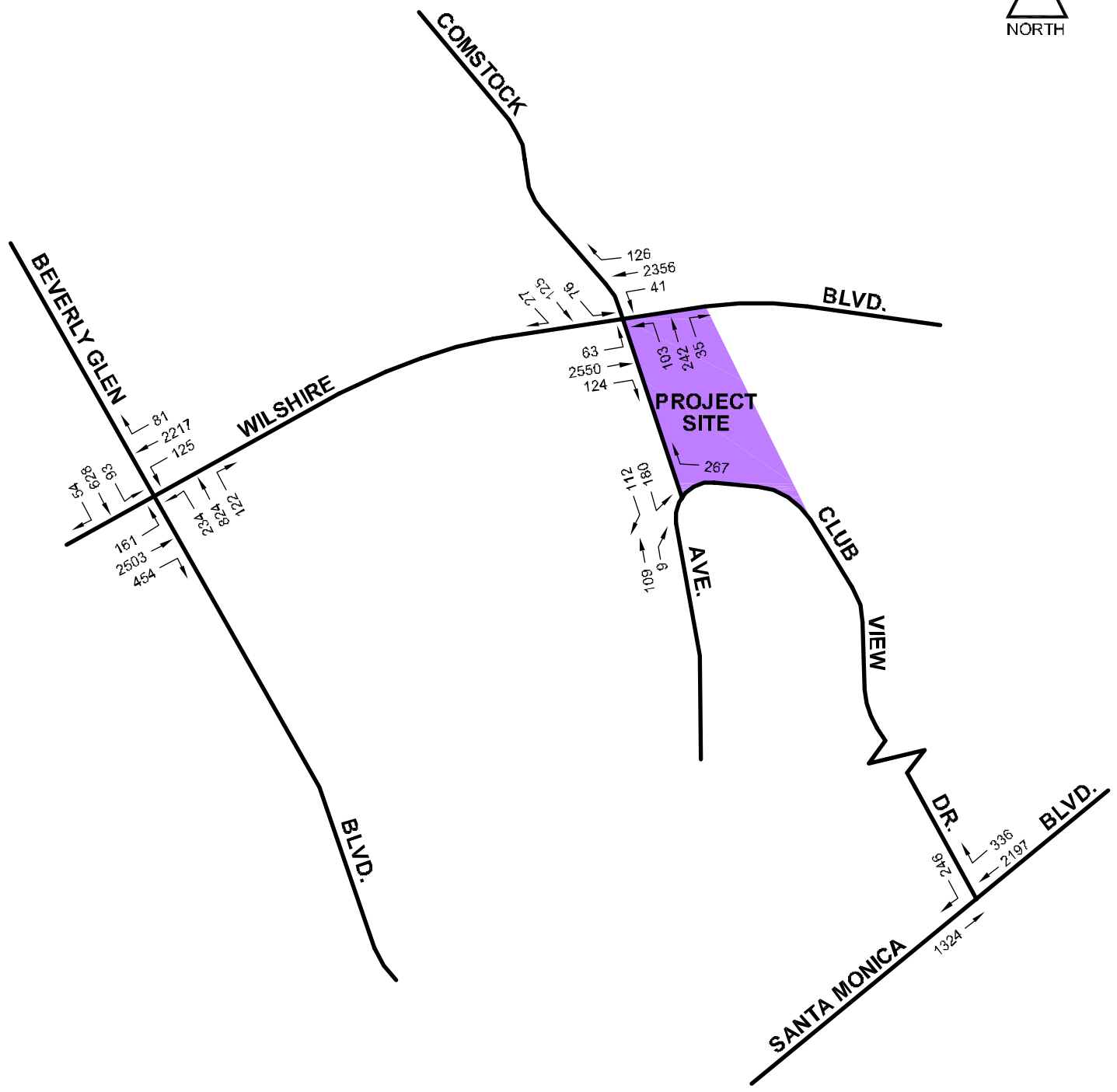


FIGURE 9(b)

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Wilshire & Comstock Corridor PM2007WO

FUTURE (2007) TRAFFIC VOLUMES  
WITHOUT PROJECT  
PM PEAK HOUR



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## **Highway System Improvements**

Many traffic control improvements have already been implemented at critical points within the existing highway network serving the proposed development. Left-turn channelization is incorporated in the roadway geometrics throughout the study area street system. These and other traffic control measures are an indication of a very good use of the existing highway facilities. Additionally, the City of Los Angeles has implemented the ATSAC (Automated Traffic Surveillance and Control) System at signalized intersections throughout the Westwood area. The City is currently in the process of installing ATCS (Adaptive Traffic Signal Control) along Sunset Boulevard in the vicinity of the San Diego Freeway, eastward to Veteran Avenue. Upon completion of this installation, all of the signalized study intersections will be upgraded with either the ATSAC or ATCS systems. These automated traffic control computerized system add an estimated seven to ten percent capacity to signalized intersections when compared to signals not included in the ATSAC or ATCS program.

In addition to these traffic signal upgrades, a major improvement program to Santa Monica Boulevard is currently ongoing in the study area. The “dual roadway” configuration of Santa Monica Boulevard and Little Santa Monica Boulevard will be replaced by a single roadway as part of the Santa Monica Boulevard Transitway project. The reconstructed roadway configuration will eventually extend from near the San Diego Freeway to the City of Beverly Hills. South of the project site the reconstructed roadway will provide additional intersection capacity. This portion of the Transitway project was assumed to be completed by the future year 2007.

## **Analysis of Future (2007) Traffic Conditions, Without and With Project**

The analysis of future traffic conditions at the study intersections was performed using the same analysis procedures described previously in this report. For an analysis of future project traffic impacts, the current roadway system's characteristics were assumed to prevail with the exception of the intersection of Club View Drive and Santa Monica Boulevard. Southbound and eastbound left-turn movements were assumed prohibited at this intersection as a result of the Santa Monica Boulevard Transitway project.

Traffic volumes for the analysis were developed as follows:

- As described earlier, future (2007) benchmark traffic volumes for the "Without Project" conditions were determined by combining area ambient traffic growth with traffic generated by the 35 identified related projects, as illustrated previously in Figures 9(a) and 9(b).
- Traffic volumes generated by the project, as determined earlier, were then added to these benchmark volumes to develop the Future (2007) "With Project" condition (to determine traffic impacts directly attributable to the proposed development). These traffic volumes are shown in Figures 10(a) and 10(b).

The results of the future year analyses are summarized in Table 9 on the following page. (The LOS and delay calculation worksheets are contained in the Appendix.)

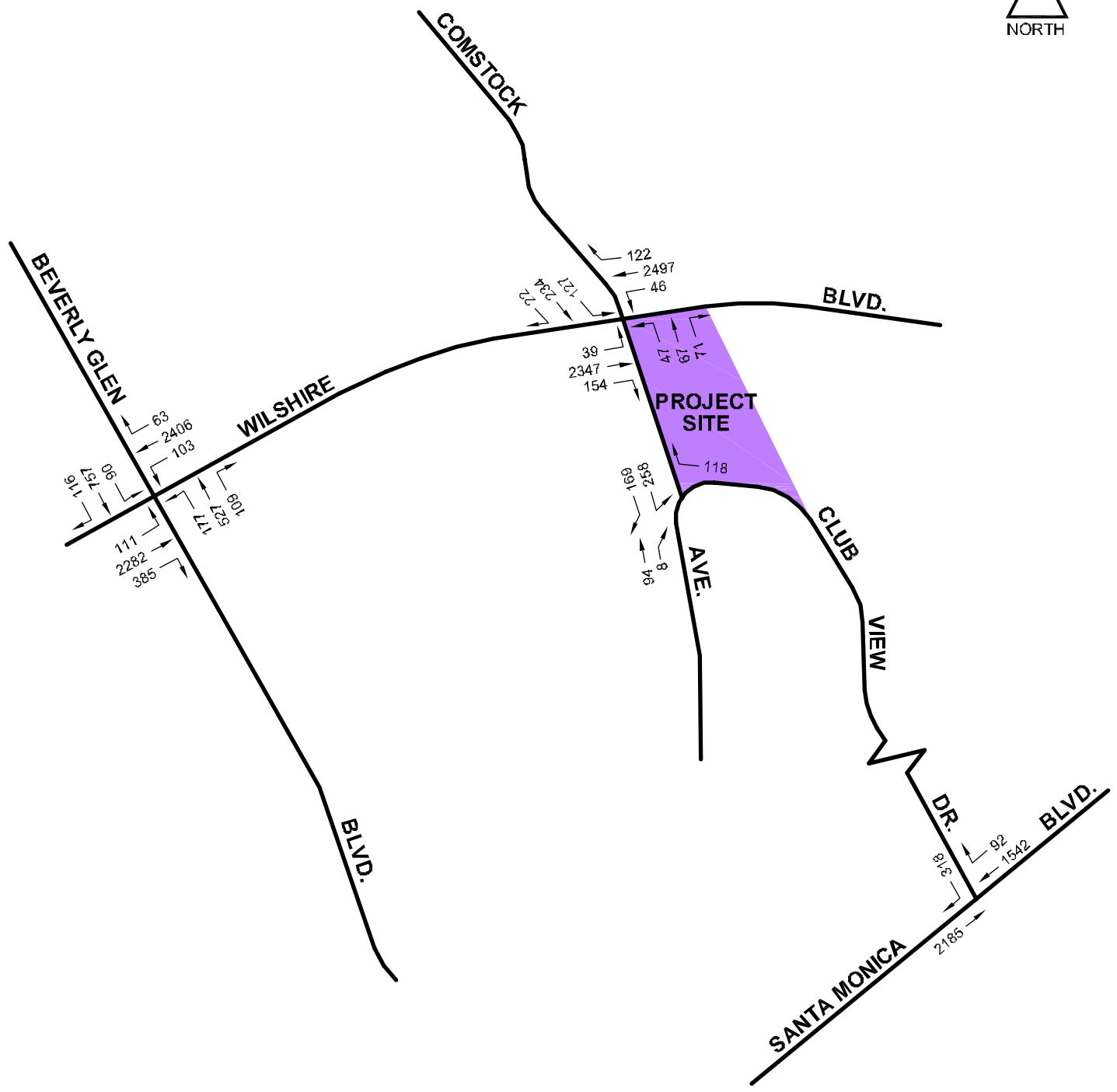


FIGURE 10(a)

11/12/04

Wilshire & Comstock Corridor AM2007WP

FUTURE (2007) TRAFFIC VOLUMES  
WITH PROJECT  
AM PEAK HOUR



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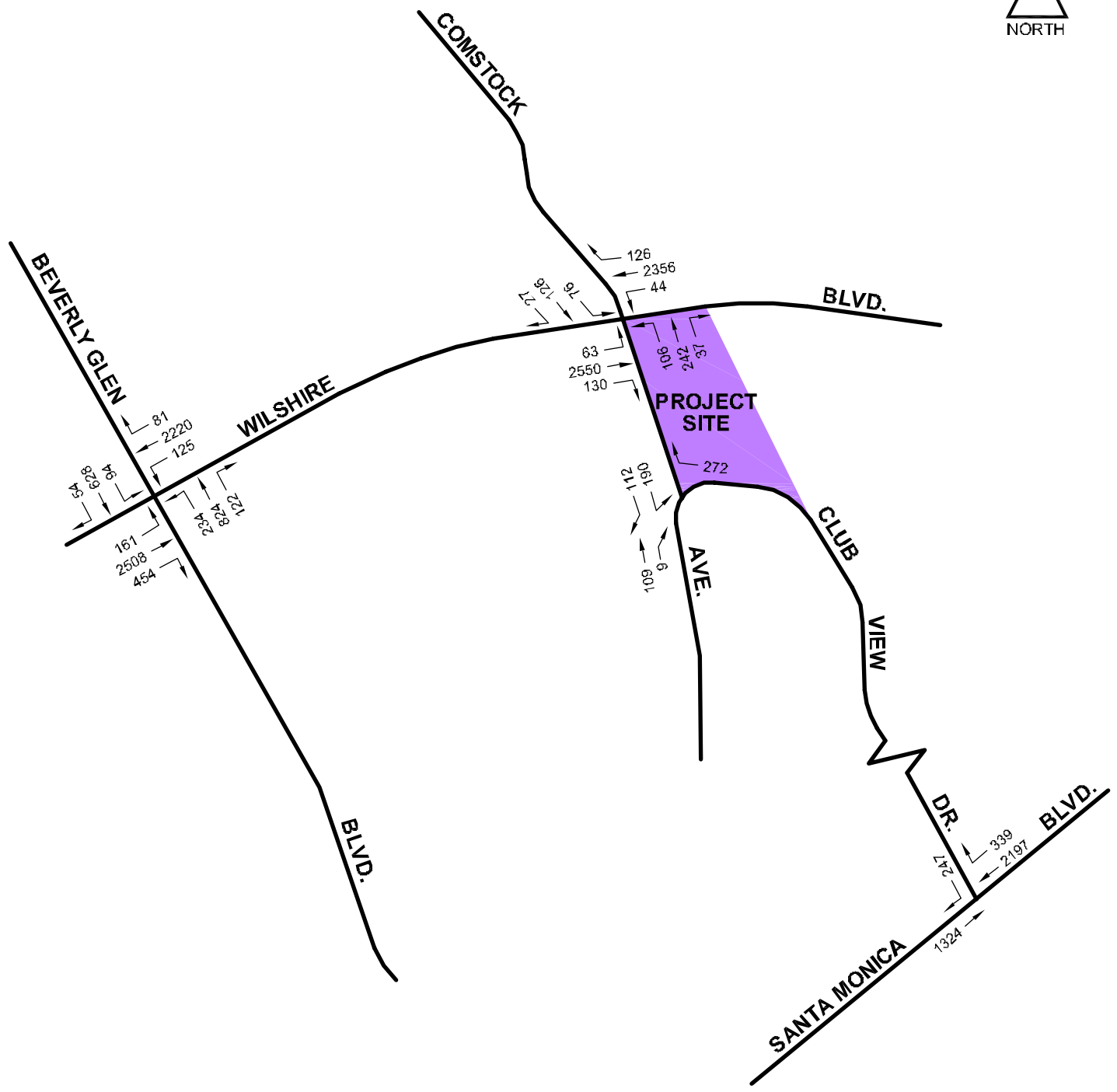


FIGURE 10(b)

11/12/04

Wilshire & Comstock Conceptual PM2007WP

FUTURE (2007) TRAFFIC VOLUMES  
WITH PROJECT  
PM PEAK HOUR



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**Table 9**  
**Level of Service (LOS) Summary**  
**Future (2007) Traffic Conditions - Without and With Project**

<b>No.</b>	<b>Intersection</b>	<b>Peak Hour</b>	<b>Without Project</b>		<b>With Project</b>		
			<b>CMA/Delay</b>	<b>LOS</b>	<b>CMA/Delay</b>	<b>LOS</b>	<b>Impact</b>
1.	Beverly Glen Boulevard and Wilshire Boulevard	AM	1.054	F	1.055	F	0.001
		PM	1.046	F	1.047	F	0.001
2.	Comstock Avenue and Wilshire Boulevard	AM	0.736	C	0.740	C	0.004
		PM	0.787	C	0.791	C	0.004
3.	Comstock Avenue and Club View Drive	AM	9.47 sec*	A	9.53 sec*	A	0.06 sec*
		PM	9.60 sec*	A	9.75 sec*	A	0.15 sec*
4.	Club View Drive and Santa Monica Boulevard	AM	0.654	B	0.656	B	0.002
		PM	0.826	D	0.827	D	0.001

Note:

\* Average delay per vehicle controlled by stop sign during the designated peak hour.

Prior to the addition of project traffic, the intersection of Beverly Glen Boulevard and Wilshire Boulevard is expected to operate at LOS F during both peak hours. The remaining study intersections are expected to operate at LOS D or better in the year 2007. Although the addition of project traffic will increase the CMA or delay value at all of the study intersections during both peak hours, the incremental project traffic additions will not result in a change in level of service at any of the study intersections.

### **Significant Traffic Impact Criteria**

In order to evaluate the significance of the incremental CMA and/or LOS changes resulting from incremental project traffic at signalized intersections, LADOT utilizes a “stepped scale” based on relative increases in the intersection CMA values due to project-related traffic. According to LADOT policy, as stated in the West L.A. TIMP, a significant impact is identified as an increase in the CMA value (i.e., V/C ratio) at a signalized intersection, due to project-related traffic, of 0.010 or more when the final (“with project”) Level of Service is E or F, a CMA increase of 0.020 or more when the

final Level of Service is LOS D, or an increase of 0.040 or more at LOS C. No significant impacts are deemed to occur at LOS A or B, as these operating conditions exhibit sufficient surplus capacities to accommodate large traffic increases with little effect on traffic delays. These criteria are summarized in Table 10 below.

**Table 10**  
**Criteria for Significant Traffic Impact at Signalized Intersections**

<u>Final CMA</u>	<u>Level of Service</u>	<u>Project-Related Increase in CMA</u>
0.701 - 0.800	C	equal to or greater than 0.040
> 0.801 - 0.900	D	equal to or greater than 0.020
> 0.901	E, F	equal to or greater than 0.010

Source: West Los Angeles Transportation Improvement and Mitigation Specific Plan (TIMP).

Based on these criteria and as shown in Table 9, none of the signalized intersections analyzed via CMA methodology are expected to be significantly impacted by the condominium project.

For the analysis of unsignalized stop sign-controlled intersections, the general practice in the traffic engineering profession is to use the procedures in the current Highway Capacity Manual, which defines the level of service at such intersections as a function of average total delay (i.e., seconds per vehicle), rather than according to a volume-to-capacity ratio or similar CMA value. Therefore, for an unsignalized stop sign-controlled intersection, the determination of the significance of a project traffic impact should appropriately be based on the relative increase in average total delay attributable to the project-related traffic at the intersection.

Significance criteria for stop sign-controlled intersections have not been established by LADOT policy; hence, the significance criteria of an adjacent jurisdiction are used for this

project. Accordingly, a project is deemed to have a significant traffic impact at an unsignalized intersection based on the following criteria during a relevant peak hour:<sup>2</sup>

**Table 11**  
**Criteria for Significant Traffic Impact at Unsignalized Intersections**

<u>LOS</u>	<u>Project-Related Increase in Average Total Delay</u>
C or better*	equal to or greater than 5 seconds/vehicle
D	equal to or greater than 4 seconds/vehicle
E, F	equal to or greater than 3 seconds/vehicle

Note:

\* For intersections initially operating better than LOS D before the project trips are added.

Based on the criteria presented in Table 11 and the analysis summarized in Table 9, the impacts due to project delay at the stop sign-controlled intersection of Comstock Avenue and Club View Drive would be less than significant.

Therefore, the 35-unit condominium project is not expected to significantly impact any of the four study intersections analyzed for the purposes of this report.

### **Residential Street Traffic Impacts**

The LADOT Traffic Study Policies and Procedures contain the criteria for determining whether a project would have a significant traffic impact on a residential street. These criteria are as follows:

- For streets with an average daily traffic volume (ADT) less than 2,000, the traffic impact is significant if the project increases the final ADT by 12% or more; or

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<sup>2</sup> These thresholds have been established by the City of Beverly Hills, which is immediately adjacent to the portion of the City of Los Angeles in which the project site is located.

- For streets with ADT greater than 2,000 but less than 3,000, the traffic impact is significant if the project increases the final ADT by 10% or more; or
- For streets with ADT greater than 3,000, the traffic impact is significant if the project increases the final ADT by 8% or more.

A residential street impact analysis has been conducted for Comstock Avenue south of Wilshire Boulevard and Club View Drive east of Comstock Avenue. As previously mentioned, a 24-hour traffic count was conducted in April 2004 at each of these locations, which showed a daily volume of 2,572 vehicles on the Comstock Avenue segment and 3,366 vehicles on the Club View Drive segment. (The 24-hour traffic count sheets are provided in the Appendix.)

For the 2007 study year, these daily volumes are expected to increase to approximately 2,826 vehicles on Comstock Avenue and 3,521 vehicles on Club View Drive due to ambient traffic growth and related projects traffic. It is estimated that the project would result in approximately 135 and 40 vehicles per day being added to Comstock Avenue and Club View Drive, respectively. Table 12 shows that according to the above criteria, neither of these roadway segments would be significantly impacted by the project.

**Table 12  
Residential Street Impact Analysis**

<u>Street Segment</u>	<u>Daily Traffic Volumes</u>			<u>Percent Project Traffic</u>
	<u>Existing (2004)</u>	<u>Without Project (2007)</u>	<u>With Project (2007) Project</u>	
Comstock Avenue, south of Wilshire Boulevard	2,572	2,826	135	4.6%
Club View Drive, east of Comstock Avenue	3,366	3,521	40	1.1%

## **Congestion Management Program (CMP) Analysis**

The Congestion Management Program (CMP) was enacted by the State Legislature following the passage of Proposition 111 in 1990. The purpose of the CMP is to address the impact of local growth on the regional transportation system. The Los Angeles County Metropolitan Transportation Authority (MTA), the local CMP agency, has designated a highway network that includes all state highways and principal arterials within the County, along with traffic monitoring locations. Local jurisdictions are required to monitor the Level of Service standards at the designated locations within this network. If LOS standards deteriorate, then local jurisdictions must prepare a deficiency plan to be in conformance with the countywide plan.

The local CMP requires that all CMP intersections be analyzed where a project would likely add 50 or more trips during the peak-hours. The nearest arterial CMP monitoring station is located at Wilshire Boulevard and Beverly Glen Boulevard, west of the project site. As this location is already a study intersection, and the LADOT required analysis is more conservative than the CMP methodology, impacts identified in this analysis already supplant the CMP requirements.

In addition to the arterial intersection analysis requirements, the CMP requires that any freeway segment where a project is expected to add 150 or more trips in any direction during the peak hours also be analyzed. As shown in Table 5, for the proposed project, the maximum number of directional trips would be 13 inbound trips during the PM peak hour. As the maximum peak hour trips are substantially less than the freeway threshold of 150 directional trips, no additional CMP freeway analysis is necessary.

## MITIGATION MEASURES

As shown in the preceding analysis, the project will not result in any significant off-site traffic impacts as a result of its minimal traffic generation. Consequently, no off-site roadway improvements are needed. However, it is recommended that the following measures be implemented to insure smooth traffic operations at the project site.

- Valet – All parking at the project will be facilitated by parking valets. A valet “call up” system will be implemented to retrieve parked vehicles in a timely fashion for residents and guests.
- Transit Information – As noted in this report, the site is served by excellent local and regional transit service. The lobby should contain a display of transit schedules and maps to assist employees, residents or guests with transit options.
- Moving Vans – The building management should maintain a “Moving Day/Furniture Delivery” log. This should be used to coordinate moving vehicles so only those that can fit onsite for scheduled loading or unloading are accommodated. All loading activity will be onsite. In the event an oversized moving truck is used, it will be required to remove the vehicle cab so that the moving vehicle completely fits onsite.
- Neighborhood Traffic Calming – While the project traffic does not warrant or require off-site measures to improve street system capacity or traffic calming measures, it is suggested that the project participate with local residents if there is a community-wide effort to address “cut thru” traffic issues.

**APPENDIX A**  
**TRAFFIC COUNT SHEETS**

# TRAFFIC COUNT SUMMARY

City of Los Angeles  
Department of Transportation

STREET: BEVERLY GLEN BOULEVARD  
 North/South  
 East/West: WILSHIRE BOULEVARD  
 Day: AM WEDNESDAY Date: APRIL 28, 2004 Weather: CLEAR  
 PM WEDNESDAY Date: APRIL 28, 2004  
 Hours: 7-9 AM 4-6 PM  
 School Day: YES District: LOS ANGELES

	<u>N/B</u>	<u>S/B</u>	<u>E/B</u>	<u>W/B</u>
DUAL-WHEELED	N/A	N/A	N/A	N/A
BIKES	N/A	N/A	N/A	N/A
BUSES	N/A	N/A	N/A	N/A

	<u>N/B TIME</u>	<u>S/B TIME</u>	<u>E/B TIME</u>	<u>W/B TIME</u>
AM PK 15 MIN	215 8:15	214 8:30	671 8:00	597 8:30
PM PK 15 MIN	274 5:15	214 5:30	728 5:15	580 5:30
AM PK HOUR	795 8:00	798 8:00	2,534 7:45	2,317 7:45
PM PK HOUR	1,031 5:00	753 4:45	2,757 5:00	2,089 4:45

### NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	142	361	81	584
8-9	178	509	108	795
4-5	153	588	111	852
5-6	217	702	112	1,031
TOTAL	690	2,160	412	3,262

### SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	50	397	114	561
8-9	86	604	108	798
4-5	73	540	76	689
5-6	77	613	51	741
TOTAL	286	2,154	349	2,789

TOTAL	XING S/L	XING N/L
N-S	Ped Sch	Ped Sch
1,145	N/A N/A	N/A N/A
1,593	N/A N/A	N/A N/A
1,541	N/A N/A	N/A N/A
1,772	N/A N/A	N/A N/A
6,051	N/A N/A	N/A N/A

### EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	101	1,437	255	1,793
8-9	97	2,114	309	2,520
4-5	146	2,102	315	2,563
5-6	156	2,166	435	2,757
TOTAL	500	7,819	1,314	9,633

### WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	74	1,845	57	1,976
8-9	76	2,138	55	2,269
4-5	110	1,888	82	2,080
5-6	115	1,907	61	2,083
TOTAL	375	7,778	255	8,408

TOTAL	XING W/L	XING E/L
E-W	Ped Sch	Ped Sch
3,769	N/A N/A	N/A N/A
4,789	N/A N/A	N/A N/A
4,643	N/A N/A	N/A N/A
4,840	N/A N/A	N/A N/A
18,041	N/A N/A	N/A N/A



# TRAFFIC COUNT SUMMARY

City of Los Angeles  
Department of Transportation

STREET: COMSTOCK AVENUE  
 North/South  
 East/West: WILSHIRE BOULEVARD  
 Day: AM WEDNESDAY Date: APRIL 28, 2004 Weather: CLEAR  
 PM WEDNESDAY APRIL 28, 2004  
 Hours: 7-9 AM 4-6 PM  
 School Day: YES District: LOS ANGELES

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

	N/B TIME	S/B TIME	E/B TIME	W/B TIME
AM PK 15 MIN	55 7:45	95 8:45	581 8:30	632 8:15
PM PK 15 MIN	84 5:15	62 5:15	631 5:15	582 5:00
AM PK HOUR	190 7:30	324 8:00	2,291 8:00	2,473 7:45
PM PK HOUR	294 4:45	223 5:00	2,387 5:00	2,212 4:45

### NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	23	52	59	134
8-9	37	63	68	166
4-5	56	169	48	273
5-6	65	201	27	293
TOTAL	181	485	200	866

### SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	94	119	18	231
8-9	120	183	21	324
4-5	73	96	33	202
5-6	74	120	29	223
TOTAL	361	518	101	980

### TOTAL

N-S
365
490
475
516
1,846

### XING S/L

Ped	Sch
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

### XING N/L

Ped	Sch
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

### EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	37	1,434	53	1,524
8-9	38	2,152	101	2,291
4-5	59	2,112	88	2,259
5-6	62	2,209	116	2,387
TOTAL	196	7,907	358	8,461

### WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	32	1,996	107	2,135
8-9	44	2,259	117	2,420
4-5	46	1,977	130	2,153
5-6	38	2,018	116	2,172
TOTAL	160	8,250	470	8,880

### TOTAL

E-W
3,659
4,711
4,412
4,559
17,341

### XING W/L

Ped	Sch
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

### XING E/L

Ped	Sch
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

# TRAFFIC COUNT SUMMARY

City of Los Angeles  
Department of Transportation

STREET: COMSTOCK AVENUE  
 North/South  
 East/West: CLUB VIEW DRIVE  
 Day: AM WEDNESDAY Date: APRIL 28, 2004 Weather: CLEAR  
 PM WEDNESDAY Date: APRIL 28, 2004  
 Hours: 7-9 AM 4-6 PM  
 School Day: YES District: LOS ANGELES

	<u>N/B</u>	<u>S/B</u>	<u>E/B</u>	<u>W/B</u>
DUAL-WHEELED BIKES	N/A	N/A	N/A	N/A
BUSES	N/A	N/A	N/A	N/A

	<u>N/B TIME</u>	<u>S/B TIME</u>	<u>E/B TIME</u>	<u>W/B TIME</u>
AM PK 15 MIN	26 8:00	91 8:30	0 7:00	34 8:00
PM PK 15 MIN	23 4:30	79 5:15	0 3:00	68 5:15
AM PK HOUR	92 7:45	328 8:00	0 7:00	114 7:30
PM PK HOUR	83 4:30	281 4:45	0 3:00	246 4:45

### NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	61	2	63
8-9	0	73	8	81
4-5	0	58	13	71
5-6	0	55	11	66
TOTAL	0	247	34	281

### SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	140	0	64	204
8-9	228	0	100	328
4-5	135	0	95	230
5-6	182	0	92	274
TOTAL	685	0	351	1,036

TOTAL	XING S/L	XING N/L
N-S	Ped Sch	Ped Sch
287	N/A N/A	N/A N/A
409	N/A N/A	N/A N/A
301	N/A N/A	N/A N/A
340	N/A N/A	N/A N/A
1,317	N/A N/A	N/A N/A

### EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
4-5	0	0	0	0
5-6	0	0	0	0
TOTAL	0	0	0	0

### WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	6	0	71	77
8-9	4	0	97	101
4-5	16	0	214	230
5-6	10	0	236	246
TOTAL	36	0	618	654

TOTAL	XING W/L	XING E/L
E-W	Ped Sch	Ped Sch
77	N/A N/A	N/A N/A
101	N/A N/A	N/A N/A
230	N/A N/A	N/A N/A
246	N/A N/A	N/A N/A
654	N/A N/A	N/A N/A

# TRAFFIC COUNT SUMMARY

City of Los Angeles  
Department of Transportation

STREET: North/South CLUB VIEW DRIVE

East/West SANTA MONICA BOULEVARD

Day: AM WEDNESDAY Date: APRIL 28, 2004 Weather: CLEAR  
 PM WEDNESDAY APRIL 28, 2004

Hours: 7-9 AM 4-6 PM

School Day: YES District: LOS ANGELES

	<u>N/B</u>	<u>S/B</u>	<u>E/B</u>	<u>W/B</u>
DUAL-WHEELED BIKES	N/A	N/A	N/A	N/A
BUSES	N/A	N/A	N/A	N/A

	<u>N/B TIME</u>	<u>S/B TIME</u>	<u>E/B TIME</u>	<u>W/B TIME</u>
AM PK 15 MIN	0 7:00	77 8:30	543 8:45	436 7:45
PM PK 15 MIN	0 3:00	70 5:15	345 5:00	609 5:45
AM PK HOUR	0 7:00	274 8:00	1,928 8:00	1,593 7:45
PM PK HOUR	0 3:00	250 5:00	1,305 4:45	2,282 5:00

### NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
4-5	0	0	0	0
5-6	0	0	0	0
TOTAL	0	0	0	0

### SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	158	0	7	165
8-9	269	0	5	274
4-5	202	0	10	212
5-6	237	0	13	250
TOTAL	866	0	35	901

### TOTAL

N-S
165
274
212
250
901

### XING S/L

Ped	Sch
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

### XING N/L

Ped	Sch
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

### EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	6	1,216	0	1,222
8-9	1	1,927	0	1,928
4-5	10	1,267	0	1,277
5-6	4	1,296	0	1,300
TOTAL	21	5,706	0	5,727

### WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	1,300	78	1,378
8-9	0	1,414	88	1,502
4-5	0	1,827	238	2,065
5-6	0	1,985	297	2,282
TOTAL	0	6,526	701	7,227

### TOTAL

E-W
2,600
3,430
3,342
3,582
12,954

### XING W/L

Ped	Sch
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

### XING E/L

Ped	Sch
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

**APPENDIX B**  
**PROJECT TRIP GENERATION RATES**

**Appendix B**  
**Project Trip Generation Rates**

Residential Condominium/Townhouse (per dwelling unit) – LU 230

Daily:	T = 5.86 (D)
AM Peak Hour:	T = 0.44 (D); I/B = 17%, O/B = 83%
PM Peak Hour:*	T = 0.55 (D); I/B = 67%, O/B = 33%

Where:

T	=	trip ends		D	=	dwelling unit
I/B	=	inbound				
O/B	=	outbound				

Sources: Trip Generation, 7<sup>th</sup> Edition, 2003, published by Institution of Transportation Engineers (ITE).

\* West Los Angeles Transportation Improvement and Mitigation Specific Plan.

**APPENDIX C**  
**RELATED PROJECTS TRIP GENERATION RATES AND EQUATIONS**

**Appendix C**  
**Related Projects Trip Generation Rates and Equations**

Apartment (per dwelling unit) – LU 220

Daily: T = 6.72 (D)  
AM Peak Hour: T = 0.51 (D); I/B = 20%, O/B = 80%  
PM Peak Hour:\* T = 0.49 (D); I/B = 65%, O/B = 35%

Residential Condominium/Townhouse (per dwelling unit) – LU 230

Daily: T = 5.86 (D)  
AM Peak Hour: T = 0.44 (D); I/B = 17%, O/B = 83%  
PM Peak Hour: T = 0.52 (D); I/B = 67%, O/B = 33%  
PM Peak Hour:\* T = 0.55 (D); I/B = 67%, O/B = 33%

Luxury Condominium/Townhouse (per dwelling unit) – LU 233

Daily: T = N/A  
AM Peak Hour: T = 0.56 (D); I/B = 23%, O/B = 77%  
PM Peak Hour: T = 0.55 (D); I/B = 63%, O/B = 37%

Congregate Care Facility (per dwelling unit) – LU 253

Daily: T = 2.02 (D)  
AM Peak Hour: T = 0.06 (D); I/B = 59%, O/B = 41%  
PM Peak Hour: T = 0.17 (D); I/B = 55%, O/B = 45%

Hotel (per room) – LU 310

Daily: T = 8.17 (R)  
AM Peak Hour: T = 0.56 (R); I/B = 61%, O/B = 39%  
PM Peak Hour: T = 0.59 (R); I/B = 53%, O/B = 47%

Movie Theater without Matinee (per seat) – LU 443

Daily: T = 1.76 (S)  
AM Peak Hour: T = 0.01 (S); I/B = N/A; O/B = N/A  
PM Peak Hour: T = 0.07 (S); I/B = 75%, O/B = 25%

Movie Theater with Matinee (per seat) – LU 444

Daily:\*\* T = 1.8 (S)  
AM Peak Hour:\*\* T = 0.01 (S); I/B = 100; O/B = 0%  
PM Peak Hour:\* T = 0.15 (S); I/B = 53%, O/B = 47%

Health/Fitness Club (per 1,000 sf) – LU 492

Daily: T = 32.93 (A)  
AM Peak Hour: T = 1.21 (A); I/B = 42%, O/B = 58%  
PM Peak Hour: T = 4.05 (A); I/B = 51%, O/B = 49%

**Appendix C (continued)**  
**Related Projects Trip Generation Rates and Equations**

Recreational Community Center (per 1,000 sf) – LU 495

Daily:  $T = 22.88 (A)$   
 AM Peak Hour:  $T = 1.62 (A)$ ; I/B = 61%, O/B = 39%  
 PM Peak Hour:  $T = 1.64 (A)$ ; I/B = 29%, O/B = 71%

General Office (per 1,000 sf) – LU 710

Daily:  $\ln(T) = 0.77 \ln(A) + 3.65$   
 AM Peak Hour:  $\ln(T) = 0.80 \ln(A) + 1.55$ ; I/B = 88%, O/B = 12%  
 PM Peak Hour:  $T = 1.12 (A) + 78.81$ ; I/B = 17%, O/B = 83%  
 PM Peak Hour:\*  $T = 2.01 (A)$ ; I/B = 17%, O/B = 83%

Government Office Complex (per 1,000 sf) – LU 733

Daily:  $T = 27.92 (A)$   
 AM Peak Hour:  $T = 2.21 (A)$ ; I/B = 89%, O/B = 11%  
 PM Peak Hour:\*  $T = 3.6 (A)$ ; I/B = 31%, O/B = 69%

Specialty Retail (per 1,000 sf) – LU 814

Daily:  $T = 44.32 (A)$   
 AM Peak Hour:\*\*  $T = 1.2 (A)$ ; I/B = 60%, O/B = 40%  
 PM Peak Hour:  $T = 2.71 (A)$ ; I/B = 44%, O/B = 56%  
 PM Peak Hour:\*  $T = 5.0 (A)$ ; I/B = 43%, O/B = 57%

Shopping Center (per 1,000 sf) – LU 820

Daily:  $\ln(T) = 0.65 \ln(A) + 5.83$   
 AM Peak Hour:  $\ln(T) = 0.60 \ln(A) + 2.29$ ; I/B = 61%, O/B = 39%  
 PM Peak Hour:  $\ln(T) = 0.66 \ln(A) + 3.40$ ; I/B = 48%, O/B = 52%  
 PM Peak Hour:\*  $T = 8.23 (A)$ ; I/B = 48%, O/B = 52%

Shopping Center (per 1,000 sf) – LU 820

Daily:  $T = 42.94 (A)$   
 AM Peak Hour:  $T = 1.03 (A)$ ; I/B = 61%, O/B = 49%  
 PM Peak Hour:  $T = 3.75 (A)$ ; I/B = 48%, O/B = 52%

Quality Restaurant (per 1,000 sf) – LU 931

Daily:  $T = 89.95 (A)$   
 AM Peak Hour:  $T = 0.81 (A)$ ; I/B = 81%, O/B = 19%  
 PM Peak Hour:  $T = 7.49 (A)$ ; I/B = 67%, O/B = 33%

High-Turnover (Sit-Down) Restaurant (per 1,000 sf) – LU 932

Daily:  $T = 127.15 (A)$   
 AM Peak Hour:  $T = 11.52 (A)$ ; I/B = 52%, O/B = 48%  
 PM Peak Hour:  $T = 10.92 (A)$ ; I/B = 61%, O/B = 39%



**Appendix C (continued)**  
**Related Projects Trip Generation Rates and Equations**

Fast-Food Restaurant with Drive-Through Window (per 1,000 sf) – LU 934

Daily:	T = 496.12 (A)
AM Peak Hour:	T = 53.11 (A); I/B = 51%, O/B = 49%
PM Peak Hour:*	T = 40.09 (A); I/B = 52%, O/B = 48%

Gasoline Station with Convenience Market (per 1,000 sf) – LU 945

Daily:	T = 162.78 (A)
AM Peak Hour:	T = 10.06 (A); I/B = 50%, O/B = 50%
PM Peak Hour:	T = 13.38 (A); I/B = 50%, O/B = 50%

Where:

T = trip ends	A = building area in 1,000's of square feet
I/B = inbound	D = dwelling unit
O/B = outbound	R = room
	S = seat

Sources:

Trip Generation, 7th Edition, Institute of Transportation Engineers, 2003.

\* West Los Angeles Transportation Improvement and Mitigation Specific Plan.

\*\* San Diego Traffic Generators, San Diego Association of Governments (SANDAG), 1998

**APPENDIX D**  
**CRITICAL MOVEMENT ANALYSIS (CMA) AND**  
**HIGHWAY CAPACITY CALCULATION WORKSHEETS**

CRAIN AND ASSOCIATES  
CMA CALCULATIONS

INTERSECTION: 1, BEVERLY GLEN BOULEVARD AND WILSHIRE BOULEVARD  
 DATE: 5/20/2004 INITIALS: RF PERIOD: AM PEAK HOUR  
 CASE: EXISTING (2004)

\*\* INPUT VOLUMES \*\*

APPROACH	LEFT	THROUGH	** RIGHT TURNS **	
			MIN ON GREEN	MAX ON RED
WESTBOUND	97	2165	55	0
EASTBOUND	107	2060	281	86
NORTHBOUND	171	504	101	0
SOUTHBOUND	76	604	114	0

\*\* NUMBER OF LANES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
EASTBOUND	1	0	3	0	1	0	5
NORTHBOUND	1	0	1	1	0	0	3
SOUTHBOUND	1	0	1	1	0	0	3

\*\* ASSIGNED LANE VOLUMES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
EASTBOUND	107	N/A	687	N/A	281	N/A
NORTHBOUND	171	N/A	302	302	N/A	N/A
SOUTHBOUND	76	N/A	359	359	N/A	N/A

EAST-WEST CRITICAL VOLUMES .....	847
NORTH-SOUTH CRITICAL VOLUMES .....	530
	----
THE SUM OF CRITICAL VOLUMES .....	1377
NUMBER OF CRITICAL CLEARANCE INTERVALS .....	4
CMA VALUE .....	0.931
LEVEL OF SERVICE .....	E

-----  
 \* Includes CMA value decreased due to ATSAC Implementation.

CRAIN AND ASSOCIATES  
CMA CALCULATIONS

INTERSECTION: 1, BEVERLY GLEN BOULEVARD AND WILSHIRE BOULEVARD  
 DATE: 5/20/2004 INITIALS: RF PERIOD: AM PEAK HOUR  
 CASE: FUTURE (2007) WITHOUT PROJECT

\*\* INPUT VOLUMES \*\*

APPROACH	LEFT	THROUGH	** RIGHT TURNS **	
			MIN ON GREEN	MAX ON RED
WESTBOUND	103	2401	62	0
EASTBOUND	111	2281	297	88
NORTHBOUND	177	527	109	0
SOUTHBOUND	90	757	116	0

\*\* NUMBER OF LANES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
EASTBOUND	1	0	3	0	1	0	5
NORTHBOUND	1	0	1	1	0	0	3
SOUTHBOUND	1	0	1	1	0	0	3

\*\* ASSIGNED LANE VOLUMES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
EASTBOUND	111	N/A	760	N/A	297	N/A
NORTHBOUND	177	N/A	318	318	N/A	N/A
SOUTHBOUND	90	N/A	436	436	N/A	N/A

EAST-WEST CRITICAL VOLUMES .....	932
NORTH-SOUTH CRITICAL VOLUMES .....	613
THE SUM OF CRITICAL VOLUMES .....	1545
NUMBER OF CRITICAL CLEARANCE INTERVALS ....	4
CMA VALUE .....	1.054
LEVEL OF SERVICE .....	F

\* Includes CMA value decreased due to ATSAC Implementation.

CRAIN AND ASSOCIATES  
CMA CALCULATIONS

INTERSECTION: 1, BEVERLY GLEN BOULEVARD AND WILSHIRE BOULEVARD  
DATE: 5/20/2004 INITIALS: RF PERIOD: AM PEAK HOUR  
CASE: FUTURE (2007) WITH PROJECT

\*\* INPUT VOLUMES \*\*

APPROACH	LEFT	THROUGH	** RIGHT TURNS **	
			MIN ON GREEN	MAX ON RED
WESTBOUND	103	2406	63	0
EASTBOUND	111	2282	297	88
NORTHBOUND	177	527	109	0
SOUTHBOUND	90	757	116	0

\*\* NUMBER OF LANES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
EASTBOUND	1	0	3	0	1	0	5
NORTHBOUND	1	0	1	1	0	0	3
SOUTHBOUND	1	0	1	1	0	0	3

\*\* ASSIGNED LANE VOLUMES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
EASTBOUND	111	N/A	761	N/A	297	N/A
NORTHBOUND	177	N/A	318	318	N/A	N/A
SOUTHBOUND	90	N/A	436	436	N/A	N/A

EAST-WEST CRITICAL VOLUMES .....	934
NORTH-SOUTH CRITICAL VOLUMES .....	613
THE SUM OF CRITICAL VOLUMES .....	1547
NUMBER OF CRITICAL CLEARANCE INTERVALS .....	4
CMA VALUE .....	1.055
LEVEL OF SERVICE .....	F

\* Includes CMA value decreased due to ATSAC Implementation.

CRAIN AND ASSOCIATES  
CMA CALCULATIONS

INTERSECTION: 1, BEVERLY GLEN BOULEVARD AND WILSHIRE BOULEVARD  
 DATE: 5/20/2004 INITIALS: RF PERIOD: PM PEAK HOUR  
 CASE: EXISTING (2004)

\*\* INPUT VOLUMES \*\*

APPROACH	LEFT	THROUGH	** RIGHT TURNS **	
			MIN ON GREEN	MAX ON RED
WESTBOUND	115	1907	61	0
EASTBOUND	156	2166	327	108
NORTHBOUND	217	702	112	0
SOUTHBOUND	77	613	51	0

\*\* NUMBER OF LANES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
EASTBOUND	1	0	3	0	1	0	5
NORTHBOUND	1	0	1	1	0	0	3
SOUTHBOUND	1	0	1	1	0	0	3

\*\* ASSIGNED LANE VOLUMES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
EASTBOUND	156	N/A	722	N/A	327	N/A
NORTHBOUND	217	N/A	407	407	N/A	N/A
SOUTHBOUND	77	N/A	332	332	N/A	N/A

EAST-WEST CRITICAL VOLUMES ..... 837  
 NORTH-SOUTH CRITICAL VOLUMES ..... 549  
 -----  
 THE SUM OF CRITICAL VOLUMES ..... 1386  
 NUMBER OF CRITICAL CLEARANCE INTERVALS .... 4  
 CMA VALUE ..... 0.938  
 LEVEL OF SERVICE ..... E

-----  
 \* Includes CMA value decreased due to ATSAC Implementation.

CRAIN AND ASSOCIATES  
CMA CALCULATIONS

INTERSECTION: 1, BEVERLY GLEN BOULEVARD AND WILSHIRE BOULEVARD  
 DATE: 5/20/2004 INITIALS: RF PERIOD: PM PEAK HOUR  
 CASE: FUTURE (2007) WITHOUT PROJECT

\*\* INPUT VOLUMES \*\*

APPROACH	LEFT	THROUGH	** RIGHT TURNS **	
			MIN ON GREEN	MAX ON RED
WESTBOUND	125	2217	81	0
EASTBOUND	161	2503	337	117
NORTHBOUND	234	824	122	0
SOUTHBOUND	93	628	54	0

\*\* NUMBER OF LANES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
EASTBOUND	1	0	3	0	1	0	5
NORTHBOUND	1	0	1	1	0	0	3
SOUTHBOUND	1	0	1	1	0	0	3

\*\* ASSIGNED LANE VOLUMES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
EASTBOUND	161	N/A	834	N/A	337	N/A
NORTHBOUND	234	N/A	473	473	N/A	N/A
SOUTHBOUND	93	N/A	341	341	N/A	N/A

EAST-WEST CRITICAL VOLUMES ..... 959  
 NORTH-SOUTH CRITICAL VOLUMES ..... 575  
 -----  
 THE SUM OF CRITICAL VOLUMES ..... 1534  
 NUMBER OF CRITICAL CLEARANCE INTERVALS .... 4  
 CMA VALUE ..... 1.046  
 LEVEL OF SERVICE ..... F

-----  
 \* Includes CMA value decreased due to ATSAC Implementation.

CRAIN AND ASSOCIATES  
CMA CALCULATIONS

INTERSECTION: 1, BEVERLY GLEN BOULEVARD AND WILSHIRE BOULEVARD  
 DATE: 5/20/2004 INITIALS: RF PERIOD: PM PEAK HOUR  
 CASE: FUTURE (2007) WITH PROJECT

\*\* INPUT VOLUMES \*\*

APPROACH	LEFT	THROUGH	** RIGHT TURNS **	
			MIN ON GREEN	MAX ON RED
WESTBOUND	125	2220	81	0
EASTBOUND	161	2508	337	117
NORTHBOUND	234	824	122	0
SOUTHBOUND	94	628	54	0

\*\* NUMBER OF LANES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
EASTBOUND	1	0	3	0	1	0	5
NORTHBOUND	1	0	1	1	0	0	3
SOUTHBOUND	1	0	1	1	0	0	3

\*\* ASSIGNED LANE VOLUMES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
EASTBOUND	161	N/A	836	N/A	337	N/A
NORTHBOUND	234	N/A	473	473	N/A	N/A
SOUTHBOUND	94	N/A	341	341	N/A	N/A

EAST-WEST CRITICAL VOLUMES ..... 961  
 NORTH-SOUTH CRITICAL VOLUMES ..... 575  
 -----  
 THE SUM OF CRITICAL VOLUMES ..... 1536  
 NUMBER OF CRITICAL CLEARANCE INTERVALS .... 4  
 CMA VALUE ..... 1.047  
 LEVEL OF SERVICE ..... F

-----  
 \* Includes CMA value decreased due to ATSAC Implementation.



CRAIN AND ASSOCIATES  
CMA CALCULATIONS

INTERSECTION: 2, COMSTOCK AVENUE AND WILSHIRE BOULEVARD  
DATE: 5/20/2004 INITIALS: RF PERIOD: AM PEAK HOUR  
CASE: EXISTING (2004)

\*\* INPUT VOLUMES \*\*

APPROACH	LEFT	THROUGH	** RIGHT TURNS **	
			MIN ON GREEN	MAX ON RED
WESTBOUND	44	2259	117	0
EASTBOUND	38	2152	101	0
NORTHBOUND	37	63	66	0
SOUTHBOUND	120	183	21	0

\*\* NUMBER OF LANES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT		L/T/R SHARED	TOTAL LANES
				SHARED	ONLY		
WESTBOUND	1	0	2	1	0	0	4
EASTBOUND	1	0	2	1	0	0	4
NORTHBOUND	1	0	0	1	0	0	2
SOUTHBOUND	1	0	0	1	0	0	2

\*\* ASSIGNED LANE VOLUMES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT		L/T/R SHARED
				SHARED	ONLY	
WESTBOUND	44	N/A	792	792	N/A	N/A
EASTBOUND	38	N/A	751	751	N/A	N/A
NORTHBOUND	37	N/A	N/A	129	N/A	N/A
SOUTHBOUND	120	N/A	N/A	204	N/A	N/A

EAST-WEST CRITICAL VOLUMES .....	830
NORTH-SOUTH CRITICAL VOLUMES .....	249
THE SUM OF CRITICAL VOLUMES .....	1079
NUMBER OF CRITICAL CLEARANCE INTERVALS .....	2
CMA VALUE .....	0.649
LEVEL OF SERVICE .....	B

-----  
\* Includes CMA value decreased due to ATSAC Implementation.

CRAIN AND ASSOCIATES  
CMA CALCULATIONS

INTERSECTION: 2, COMSTOCK AVENUE AND WILSHIRE BOULEVARD  
 DATE: 5/20/2004 INITIALS: RF PERIOD: AM PEAK HOUR  
 CASE: FUTURE (2007) WITHOUT PROJECT

\*\* INPUT VOLUMES \*\*

APPROACH	LEFT	THROUGH	** RIGHT TURNS **	
			MIN ON GREEN	MAX ON RED
WESTBOUND	45	2497	122	0
EASTBOUND	39	2347	153	0
NORTHBOUND	41	67	68	0
SOUTHBOUND	127	234	22	0

\*\* NUMBER OF LANES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
	WESTBOUND	1	0	2	1	0	0
EASTBOUND	1	0	2	1	0	0	4
NORTHBOUND	1	0	0	1	0	0	2
SOUTHBOUND	1	0	0	1	0	0	2

\*\* ASSIGNED LANE VOLUMES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
	WESTBOUND	45	N/A	873	873	N/A
EASTBOUND	39	N/A	833	833	N/A	N/A
NORTHBOUND	41	N/A	N/A	135	N/A	N/A
SOUTHBOUND	127	N/A	N/A	256	N/A	N/A

EAST-WEST CRITICAL VOLUMES .....	912
NORTH-SOUTH CRITICAL VOLUMES .....	297
	-----
THE SUM OF CRITICAL VOLUMES .....	1209
NUMBER OF CRITICAL CLEARANCE INTERVALS ....	2
CMA VALUE .....	0.736
LEVEL OF SERVICE .....	C

-----  
 \* Includes CMA value decreased due to ATSAC Implementation.

CRAIN AND ASSOCIATES  
CMA CALCULATIONS

INTERSECTION: 2, COMSTOCK AVENUE AND WILSHIRE BOULEVARD  
DATE: 5/20/2004 INITIALS: RF PERIOD: AM PEAK HOUR  
CASE: FUTURE (2007) WITH PROJECT

\*\* INPUT VOLUMES \*\*

APPROACH	LEFT	THROUGH	** RIGHT TURNS **	
			MIN ON GREEN	MAX ON RED
WESTBOUND	46	2497	122	0
EASTBOUND	39	2347	154	0
NORTHBOUND	47	67	71	0
SOUTHBOUND	127	234	22	0

\*\* NUMBER OF LANES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
	WESTBOUND	1	0	2	1	0	0
EASTBOUND	1	0	2	1	0	0	4
NORTHBOUND	1	0	0	1	0	0	2
SOUTHBOUND	1	0	0	1	0	0	2

\*\* ASSIGNED LANE VOLUMES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
	WESTBOUND	46	N/A	873	873	N/A
EASTBOUND	39	N/A	834	834	N/A	N/A
NORTHBOUND	47	N/A	N/A	138	N/A	N/A
SOUTHBOUND	127	N/A	N/A	256	N/A	N/A

EAST-WEST CRITICAL VOLUMES .....	912
NORTH-SOUTH CRITICAL VOLUMES .....	303
	-----
THE SUM OF CRITICAL VOLUMES .....	1215
NUMBER OF CRITICAL CLEARANCE INTERVALS ....	2
CMA VALUE .....	0.740
LEVEL OF SERVICE .....	C

\* Includes CMA value decreased due to ATSAC Implementation.

CRAIN AND ASSOCIATES  
CMA CALCULATIONS

INTERSECTION: 2, COMSTOCK AVENUE AND WILSHIRE BOULEVARD  
DATE: 5/20/2004 INITIALS: RF PERIOD: PM PEAK HOUR  
CASE: EXISTING (2004)

\*\* INPUT VOLUMES \*\*

APPROACH	LEFT	THROUGH	** RIGHT TURNS **	
			MIN ON GREEN	MAX ON RED
WESTBOUND	40	2055	117	0
EASTBOUND	61	2198	118	0
NORTHBOUND	59	201	34	0
SOUTHBOUND	71	123	26	0

\*\* NUMBER OF LANES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
EASTBOUND	1	0	2	1	0	0	4
NORTHBOUND	1	0	0	1	0	0	2
SOUTHBOUND	1	0	0	1	0	0	2

\*\* ASSIGNED LANE VOLUMES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
EASTBOUND	61	N/A	772	772	N/A	N/A
NORTHBOUND	59	N/A	N/A	235	N/A	N/A
SOUTHBOUND	71	N/A	N/A	149	N/A	N/A

EAST-WEST CRITICAL VOLUMES .....	812
NORTH-SOUTH CRITICAL VOLUMES .....	306
THE SUM OF CRITICAL VOLUMES .....	1118
NUMBER OF CRITICAL CLEARANCE INTERVALS .....	2
CMA VALUE .....	0.675
LEVEL OF SERVICE .....	B

\* Includes CMA value decreased due to ATSAC Implementation.

CRAIN AND ASSOCIATES  
CMA CALCULATIONS

INTERSECTION: 2, COMSTOCK AVENUE AND WILSHIRE BOULEVARD  
 DATE: 5/20/2004 INITIALS: RF PERIOD: PM PEAK HOUR  
 CASE: FUTURE (2007) WITHOUT PROJECT

\*\* INPUT VOLUMES \*\*

APPROACH	LEFT	THROUGH	** RIGHT TURNS **	
			MIN ON GREEN	MAX ON RED
WESTBOUND	41	2356	126	0
EASTBOUND	63	2550	124	0
NORTHBOUND	103	242	35	0
SOUTHBOUND	76	125	27	0

\*\* NUMBER OF LANES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
EASTBOUND	1	0	2	1	0	0	4
NORTHBOUND	1	0	0	1	0	0	2
SOUTHBOUND	1	0	0	1	0	0	2

\*\* ASSIGNED LANE VOLUMES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
EASTBOUND	63	N/A	891	891	N/A	N/A
NORTHBOUND	103	N/A	N/A	277	N/A	N/A
SOUTHBOUND	76	N/A	N/A	152	N/A	N/A

EAST-WEST CRITICAL VOLUMES .....	932
NORTH-SOUTH CRITICAL VOLUMES .....	353
THE SUM OF CRITICAL VOLUMES .....	1285
NUMBER OF CRITICAL CLEARANCE INTERVALS .....	2
CMA VALUE .....	0.787
LEVEL OF SERVICE .....	C

\* Includes CMA value decreased due to ATSAC Implementation.

CRAIN AND ASSOCIATES  
CMA CALCULATIONS

INTERSECTION: 2, COMSTOCK AVENUE AND WILSHIRE BOULEVARD  
 DATE: 5/20/2004 INITIALS: RF PERIOD: PM PEAK HOUR  
 CASE: FUTURE (2007) WITH PROJECT

\*\* INPUT VOLUMES \*\*

APPROACH	LEFT	THROUGH	** RIGHT TURNS **	
			MIN ON GREEN	MAX ON RED
WESTBOUND	44	2356	126	0
EASTBOUND	63	2550	130	0
NORTHBOUND	106	242	37	0
SOUTHBOUND	76	126	27	0

\*\* NUMBER OF LANES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
EASTBOUND	1	0	2	1	0	0	4
NORTHBOUND	1	0	0	1	0	0	2
SOUTHBOUND	1	0	0	1	0	0	2

\*\* ASSIGNED LANE VOLUMES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
EASTBOUND	63	N/A	893	893	N/A	N/A
NORTHBOUND	106	N/A	N/A	279	N/A	N/A
SOUTHBOUND	76	N/A	N/A	153	N/A	N/A

EAST-WEST CRITICAL VOLUMES .....	937
NORTH-SOUTH CRITICAL VOLUMES .....	355
	-----
THE SUM OF CRITICAL VOLUMES .....	1292
NUMBER OF CRITICAL CLEARANCE INTERVALS .....	2
CMA VALUE .....	0.791
LEVEL OF SERVICE .....	C

\* Includes CMA value decreased due to ATSAC Implementation.

**ALL-WAY STOP CONTROL ANALYSIS**

General Information		Site Information	
Analyst	RF	Intersection	3
Agency/Co.	Crain & Associates	Jurisdiction	City of Los Angeles
Date Performed	5/6/2004	Analysis Year	2004
Analysis Time Period	AM Peak Hour - Existing		

Project ID

East/West Street: Club View Drive      North/South Street: Comstock Avenue

Volume Adjustments and Site Characteristics						
Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume	0	0	0	8	0	106
%Thrus Left Lane	50			50		
Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume	0	84	8	215	0	108
%Thrus Left Lane	50			50		

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration			LTR		T	R	L	R
PHF			1.00		1.00	1.00	1.00	1.00
Flow Rate			114		84	8	215	108
% Heavy Vehicles			0		0	0	0	0
No. Lanes	0		1		2		2	
Geometry Group			1		5		5	
Duration, T					1.00			

Saturation Headway Adjustment Worksheet								
Prop. Left-Turns			0.1		0.0	0.0	1.0	0.0
Prop. Right-Turns			0.9		0.0	1.0	0.0	1.0
Prop. Heavy Vehicle								
hLT-adj			0.2	0.2	0.5	0.5	0.5	0.5
hRT-adj			-0.6	-0.6	-0.7	-0.7	-0.7	-0.7
hHV-adj			1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed			0.00		0.00	0.00	0.00	0.00

Departure Headway and Service Time								
hd, initial value			3.20		3.20	3.20	3.20	3.20
xs, initial			0.10		0.07	0.01	0.19	0.10
hd, final value			0.00		0.00	0.00	0.00	0.00
xs, final value			0.14		0.12	0.01	0.32	0.12
Move-up time, m			2.0		2.3		2.3	
Service Time								

Capacity and Level of Service								
	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity			364		334	258	465	358
Delay			7.97		8.43	7.10	10.56	7.44
LOS			A		A	A	B	A
Approach: Delay			7.97		8.32		9.52	
LOS			A		A		A	
Intersection Delay			8.97					
Intersection LOS			A					

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**ALL-WAY STOP CONTROL ANALYSIS**

General Information		Site Information	
Analyst	RF	Intersection	3
Agency/Co.	Crain & Associates	Jurisdiction	City of Los Angeles
Date Performed	5/6/2004	Analysis Year	2007
Analysis Time Period	AM Peak Hour - Without Project		

Project ID	
East/West Street: Club View Drive	North/South Street: Comstock Avenue

Volume Adjustments and Site Characteristics						
Approach	Eastbound			Westbound		
	L	T	R	L	T	R
Movement						
Volume	0	0	0	8	0	109
%Thrus Left Lane	50			50		
Approach	Northbound			Southbound		
	L	T	R	L	T	R
Movement						
Volume	0	94	8	256	0	169
%Thrus Left Lane	50			50		

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration			LTR		T	R	L	R
PHF			1.00		1.00	1.00	1.00	1.00
Flow Rate			117		94	8	256	169
% Heavy Vehicles			0		0	0	0	0
No. Lanes	0			1		2		2
Geometry Group				1		5		5
Duration, T						1.00		

Saturation Headway Adjustment Worksheet								
Prop. Left-Turns			0.1		0.0	0.0	1.0	0.0
Prop. Right-Turns			0.9		0.0	1.0	0.0	1.0
Prop. Heavy Vehicle								
hLT-adj			0.2	0.2	0.5	0.5	0.5	0.5
hRT-adj			-0.6	-0.6	-0.7	-0.7	-0.7	-0.7
hHV-adj			1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed			0.00		0.00	0.00	0.00	0.00

Departure Headway and Service Time								
hd, initial value			3.20		3.20	3.20	3.20	3.20
x, initial			0.10		0.08	0.01	0.23	0.15
hd, final value			0.00		0.00	0.00	0.00	0.00
x, final value			0.15		0.14	0.01	0.38	0.20
Move-up time, m				2.0		2.3		2.3
Service Time								

Capacity and Level of Service								
	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity			367		344	258	506	419
Delay			8.26		8.69	7.22	11.41	7.90
LOS			A		A	A	B	A
Approach: Delay				8.26		8.57		10.02
LOS				A		A		B
Intersection Delay								9.47
Intersection LOS								A

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**ALL-WAY STOP CONTROL ANALYSIS**

General Information		Site Information	
Analyst	RF	Intersection	3
Agency/Co.	Crain & Associates	Jurisdiction	City of Los Angeles
Date Performed	5/6/2004	Analysis Year	2007
Analysis Time Period	AM Peak Hour - With Project		

Project ID	
East/West Street: Club View Drive	North/South Street: Comstock Avenue

Volume Adjustments and Site Characteristics						
Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume	0	0	0	8	0	118
%Thrus Left Lane	50			50		
Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume	0	94	8	258	0	169
%Thrus Left Lane	50			50		

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration			LTR		T	R	L	R
PHF			1.00		1.00	1.00	1.00	1.00
Flow Rate			126		94	8	258	169
% Heavy Vehicles			0		0	0	0	0
No. Lanes	0		1		2		2	
Geometry Group			1		5		5	
Duration, T					1.00			

Saturation Headway Adjustment Worksheet								
Prop. Left-Turns			0.1		0.0	0.0	1.0	0.0
Prop. Right-Turns			0.9		0.0	1.0	0.0	1.0
Prop. Heavy Vehicle								
hLT-adj			0.2	0.2	0.5	0.5	0.5	0.5
hRT-adj			-0.6	-0.6	-0.7	-0.7	-0.7	-0.7
hHV-adj			1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed			0.00		0.00	0.00	0.00	0.00

Departure Headway and Service Time								
hd, initial value			3.20		3.20	3.20	3.20	3.20
x, initial			0.11		0.08	0.01	0.23	0.15
hd, final value			0.00		0.00	0.00	0.00	0.00
x, final value			0.16		0.14	0.01	0.39	0.20
Move-up time, m			2.0		2.3		2.3	
Service Time								

Capacity and Level of Service								
	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity			376		344	258	508	419
Delay			8.33		8.73	7.25	11.52	7.94
LOS			A		A	A	B	A
Approach: Delay			8.33		8.61		10.10	
LOS			A		A		B	
Intersection Delay			9.53					
Intersection LOS			A					

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**ALL-WAY STOP CONTROL ANALYSIS**

General Information		Site Information	
Analyst	RF	Intersection	3
Agency/Co.	Crain & Associates	Jurisdiction	City of Los Angeles
Date Performed	5/6/2004	Analysis Year	2004
Analysis Time Period	PM Peak Hour - Existing		

Project ID: \_\_\_\_\_  
 East/West Street: Club View Drive      North/South Street: Comstock Avenue

Volume Adjustments and Site Characteristics						
Approach	Eastbound			Westbound		
	L	T	R	L	T	R
Movement						
Volume	0	0	0	14	0	232
%Thrus Left Lane	50			50		

Approach	Northbound			Southbound		
	L	T	R	L	T	R
Movement						
Volume	0	63	9	183	0	98
%Thrus Left Lane	50			50		

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration			LTR		T	R	L	R
PHF			1.00		1.00	1.00	1.00	1.00
Flow Rate			246		63	9	183	98
% Heavy Vehicles			0		0	0	0	0
No. Lanes	0			1		2		2
Geometry Group				1		5		5
Duration, T						1.00		

Saturation Headway Adjustment Worksheet								
Prop. Left-Turns			0.1		0.0	0.0	1.0	0.0
Prop. Right-Turns			0.9		0.0	1.0	0.0	1.0
Prop. Heavy Vehicle								
hLT-adj			0.2	0.2	0.5	0.5	0.5	0.5
hRT-adj			-0.6	-0.6	-0.7	-0.7	-0.7	-0.7
hHV-adj			1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed			0.00		0.00	0.00	0.00	0.00

Departure Headway and Service Time								
hd, initial value			3.20		3.20	3.20	3.20	3.20
x, initial			0.22		0.06	0.01	0.16	0.09
hd, final value			0.00		0.00	0.00	0.00	0.00
x, final value			0.29		0.09	0.01	0.29	0.12
Move-up time, m				2.0		2.3		2.3
Service Time								

Capacity and Level of Service								
	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity			496		313	259	433	348
Delay			8.87		8.63	7.42	10.63	7.76
LOS			A		A	A	B	A
Approach: Delay				8.87		8.48		9.63
LOS				A		A		A
Intersection Delay								9.18
Intersection LOS								A

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**ALL-WAY STOP CONTROL ANALYSIS**

General Information		Site Information	
Analyst	RF	Intersection	3
Agency/Co.	Crain & Associates	Jurisdiction	City of Los Angeles
Date Performed	5/6/2004	Analysis Year	2007
Analysis Time Period	PM Peak Hour - Without Project		

Project ID	
East/West Street: Club View Drive	North/South Street: Comstock Avenue

Volume Adjustments and Site Characteristics						
Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume	0	0	0	14	0	267
%Thrus Left Lane	50			50		
Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume	0	109	9	180	0	112
%Thrus Left Lane	50			50		

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration			LTR		T	R	L	R
PHF			1.00		1.00	1.00	1.00	1.00
Flow Rate			281		109	9	180	112
% Heavy Vehicles			0		0	0	0	0
No. Lanes	0		1		2		2	
Geometry Group			1		5		5	
Duration, T					1.00			

Saturation Headway Adjustment Worksheet								
Prop. Left-Turns			0.0		0.0	0.0	1.0	0.0
Prop. Right-Turns			1.0		0.0	1.0	0.0	1.0
Prop. Heavy Vehicle								
hLT-adj			0.2	0.2	0.5	0.5	0.5	0.5
hRT-adj			-0.6	-0.6	-0.7	-0.7	-0.7	-0.7
hHV-adj			1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed			0.00		0.00	0.00	0.00	0.00

Departure Headway and Service Time								
hd, initial value			3.20		3.20	3.20	3.20	3.20
x, initial			0.25		0.10	0.01	0.16	0.10
hd, final value			0.00		0.00	0.00	0.00	0.00
x, final value			0.34		0.17	0.01	0.29	0.14
Move-up time, m			2.0		2.3		2.3	
Service Time								

Capacity and Level of Service								
	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity			531		359	259	430	362
Delay			9.55		9.32	7.57	10.91	8.08
LOS			A		A	A	B	A
Approach: Delay			9.55		9.19		9.82	
LOS			A		A		A	
Intersection Delay			9.60					
Intersection LOS			A					

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**ALL-WAY STOP CONTROL ANALYSIS**

General Information		Site Information	
Analyst	RF	Intersection	3
Agency/Co.	Crain & Associates	Jurisdiction	City of Los Angeles
Date Performed	5/6/2004	Analysis Year	2007
Analysis Time Period	PM Peak Hour - With Project		

Project ID \_\_\_\_\_  
 East/West Street: *Club View Drive* North/South Street: *Comstock Avenue*

**Volume Adjustments and Site Characteristics**

Approach	Eastbound			Westbound		
	L	T	R	L	T	R
Movement						
Volume	0	0	0	14	0	272
%Thrus Left Lane	50			50		

Approach	Northbound			Southbound		
	L	T	R	L	T	R
Movement						
Volume	0	109	9	190	0	112
%Thrus Left Lane	50			50		

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration			LTR		T	R	L	R
PHF			1.00		1.00	1.00	1.00	1.00
Flow Rate			286		109	9	190	112
% Heavy Vehicles			0		0	0	0	0
No. Lanes	0		1		2		2	
Geometry Group			1		5		5	
Duration, T					1.00			

**Saturation Headway Adjustment Worksheet**

Prop. Left-Turns			0.0		0.0	0.0	1.0	0.0
Prop. Right-Turns			1.0		0.0	1.0	0.0	1.0
Prop. Heavy Vehicle								
hLT-adj			0.2	0.2	0.5	0.5	0.5	0.5
hRT-adj			-0.6	-0.6	-0.7	-0.7	-0.7	-0.7
hHV-adj			1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed			0.00		0.00	0.00	0.00	0.00

**Departure Headway and Service Time**

hd, initial value			3.20		3.20	3.20	3.20	3.20
x, initial			0.25		0.10	0.01	0.17	0.10
hd, final value			0.00		0.00	0.00	0.00	0.00
x, final value			0.35		0.17	0.01	0.31	0.14
Move-up time, m			2.0		2.3		2.3	
Service Time								

**Capacity and Level of Service**

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity			536		359	259	440	362
Delay			9.67		9.37	7.60	11.14	8.11
LOS			A		A	A	B	A
Approach: Delay			9.67		9.23		10.01	
LOS			A		A		B	
Intersection Delay			9.75					
Intersection LOS			A					

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CRAIN & ASSOCIATES  
CMA CALCULATIONS

INTERSECTION: 4, CLUB VIEW DRIVE AND SANTA MONICA BOULEVARD  
DATE: 11/12/2004 INITIALS: RF PERIOD: AM PEAK HOUR  
CASE: EXISTING (2004)

\*\* INPUT VOLUMES \*\*

APPROACH	LEFT	THROUGH	** RIGHT TURNS **	
			MIN ON GREEN	MAX ON RED
WESTBOUND	0	1414	0	88
EASTBOUND	1	1927	0	0
NORTHBOUND	0	0	0	0
SOUTHBOUND	269	0	5	0

\*\* NUMBER OF LANES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
EASTBOUND	1	0	3	0	0	0	4
NORTHBOUND	0	0	0	0	0	0	0
SOUTHBOUND	1	0	0	0	1	0	2

\*\* ASSIGNED LANE VOLUMES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
EASTBOUND	1	N/A	642	N/A	N/A	N/A
NORTHBOUND	N/A	N/A	N/A	N/A	N/A	N/A
SOUTHBOUND	269	N/A	N/A	N/A	5	N/A

EAST-WEST CRITICAL VOLUMES ..... 708

NORTH-SOUTH CRITICAL VOLUMES ..... 269

THE SUM OF CRITICAL VOLUMES ..... 977

NUMBER OF CRITICAL CLEARANCE INTERVALS .... 2\*

CMA VALUE ..... 0.581

LEVEL OF SERVICE ..... A

\* Includes CMA value decreased due to ATSAC Implementation.

CRAIN & ASSOCIATES  
CMA CALCULATIONS

INTERSECTION: 4, CLUB VIEW DRIVE AND SANTA MONICA BOULEVARD  
 DATE: 11/12/2004 INITIALS: RF PERIOD: AM PEAK HOUR  
 CASE: FUTURE (2007) WITHOUT PROJECT

\*\* INPUT VOLUMES \*\*

APPROACH	LEFT	THROUGH	** RIGHT TURNS **	
			MIN ON GREEN	MAX ON RED
WESTBOUND	0	1542	0	91
EASTBOUND	0	2185	0	0
NORTHBOUND	0	0	0	0
SOUTHBOUND	0	0	315	0

\*\* NUMBER OF LANES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
EASTBOUND	1	0	3	0	0	0	4
NORTHBOUND	0	0	0	0	0	0	0
SOUTHBOUND	1	0	0	0	1	0	2

\*\* ASSIGNED LANE VOLUMES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
EASTBOUND	0	N/A	728	N/A	N/A	N/A
NORTHBOUND	N/A	N/A	N/A	N/A	N/A	N/A
SOUTHBOUND	0	N/A	N/A	N/A	315	N/A

EAST-WEST CRITICAL VOLUMES ..... 771  
 NORTH-SOUTH CRITICAL VOLUMES ..... 315  
 -----  
 THE SUM OF CRITICAL VOLUMES ..... 1086  
 NUMBER OF CRITICAL CLEARANCE INTERVALS .... 2\*  
 CMA VALUE ..... 0.654  
 LEVEL OF SERVICE ..... B

\* Includes CMA value decreased due to ATSAC Implementation.

CRAIN & ASSOCIATES  
CMA CALCULATIONS

INTERSECTION: 4, CLUB VIEW DRIVE AND SANTA MONICA BOULEVARD  
DATE: 11/12/2004 INITIALS: RF PERIOD: AM PEAK HOUR  
CASE: FUTURE (2007) WITH PROJECT

\*\* INPUT VOLUMES \*\*

APPROACH	LEFT	THROUGH	** RIGHT TURNS **	
			MIN ON GREEN	MAX ON RED
WESTBOUND	0	1542	0	92
EASTBOUND	0	2185	0	0
NORTHBOUND	0	0	0	0
SOUTHBOUND	0	0	318	0

\*\* NUMBER OF LANES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
EASTBOUND	1	0	3	0	0	0	4
NORTHBOUND	0	0	0	0	0	0	0
SOUTHBOUND	1	0	0	0	1	0	2

\*\* ASSIGNED LANE VOLUMES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
EASTBOUND	0	N/A	728	N/A	N/A	N/A
NORTHBOUND	N/A	N/A	N/A	N/A	N/A	N/A
SOUTHBOUND	0	N/A	N/A	N/A	318	N/A

EAST-WEST CRITICAL VOLUMES ..... 771  
NORTH-SOUTH CRITICAL VOLUMES ..... 318

THE SUM OF CRITICAL VOLUMES ..... 1089

NUMBER OF CRITICAL CLEARANCE INTERVALS ..... 2\*

CMA VALUE ..... 0.656

LEVEL OF SERVICE ..... B

\* Includes CMA value decreased due to ATSAC Implementation.

CRAIN & ASSOCIATES  
CMA CALCULATIONS

INTERSECTION: 4, CLUB VIEW DRIVE AND SANTA MONICA BOULEVARD  
DATE: 11/12/2004 INITIALS: RF PERIOD: PM PEAK HOUR  
CASE: EXISTING (2004)

\*\* INPUT VOLUMES \*\*

APPROACH	LEFT	THROUGH	** RIGHT TURNS **	
			MIN ON GREEN	MAX ON RED
WESTBOUND	0	1985	179	118
EASTBOUND	4	1296	0	0
NORTHBOUND	0	0	0	0
SOUTHBOUND	237	0	11	2

\*\* NUMBER OF LANES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
EASTBOUND	1	0	3	0	0	0	4
NORTHBOUND	0	0	0	0	0	0	0
SOUTHBOUND	1	0	0	0	1	0	2

\*\* ASSIGNED LANE VOLUMES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
EASTBOUND	4	N/A	432	N/A	N/A	N/A
NORTHBOUND	N/A	N/A	N/A	N/A	N/A	N/A
SOUTHBOUND	237	N/A	N/A	N/A	11	N/A

EAST-WEST CRITICAL VOLUMES .....	996
NORTH-SOUTH CRITICAL VOLUMES .....	237
	-----
THE SUM OF CRITICAL VOLUMES .....	1233
NUMBER OF CRITICAL CLEARANCE INTERVALS .....	2*
CMA VALUE .....	0.752
LEVEL OF SERVICE .....	C

\* Includes CMA value decreased due to ATSAC Implementation.



CRAIN & ASSOCIATES  
CMA CALCULATIONS

INTERSECTION: 4, CLUB VIEW DRIVE AND SANTA MONICA BOULEVARD  
 DATE: 11/12/2004 INITIALS: RF PERIOD: PM PEAK HOUR  
 CASE: FUTURE (2007) WITHOUT PROJECT

\*\* INPUT VOLUMES \*\*

APPROACH	LEFT	THROUGH	** RIGHT TURNS **	
			MIN ON GREEN	MAX ON RED
WESTBOUND	0	2197	213	123
EASTBOUND	0	1324	0	0
NORTHBOUND	0	0	0	0
SOUTHBOUND	0	0	246	0

\*\* NUMBER OF LANES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
EASTBOUND	1	0	3	0	0	0	4
NORTHBOUND	0	0	0	0	0	0	0
SOUTHBOUND	1	0	0	0	1	0	2

\*\* ASSIGNED LANE VOLUMES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
EASTBOUND	0	N/A	441	N/A	N/A	N/A
NORTHBOUND	N/A	N/A	N/A	N/A	N/A	N/A
SOUTHBOUND	0	N/A	N/A	N/A	246	N/A

EAST-WEST CRITICAL VOLUMES ..... 1098  
 NORTH-SOUTH CRITICAL VOLUMES ..... 246

THE SUM OF CRITICAL VOLUMES ..... 1344

NUMBER OF CRITICAL CLEARANCE INTERVALS ..... 2\*

CMA VALUE ..... 0.826

LEVEL OF SERVICE ..... D

\* Includes CMA value decreased due to ATSAC Implementation.

CRAIN & ASSOCIATES  
CMA CALCULATIONS

INTERSECTION: 4, CLUB VIEW DRIVE AND SANTA MONICA BOULEVARD  
DATE: 11/12/2004 INITIALS: RF PERIOD: PM PEAK HOUR  
CASE: FUTURE (2007) WITH PROJECT

\*\* INPUT VOLUMES \*\*

APPROACH	LEFT	THROUGH	** RIGHT TURNS **	
			MIN ON GREEN	MAX ON RED
WESTBOUND	0	2197	215	124
EASTBOUND	0	1324	0	0
NORTHBOUND	0	0	0	0
SOUTHBOUND	0	0	247	0

\*\* NUMBER OF LANES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
EASTBOUND	1	0	3	0	0	0	4
NORTHBOUND	0	0	0	0	0	0	0
SOUTHBOUND	1	0	0	0	1	0	2

\*\* ASSIGNED LANE VOLUMES \*\*

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
EASTBOUND	0	N/A	441	N/A	N/A	N/A
NORTHBOUND	N/A	N/A	N/A	N/A	N/A	N/A
SOUTHBOUND	0	N/A	N/A	N/A	247	N/A

EAST-WEST CRITICAL VOLUMES ..... 1098

NORTH-SOUTH CRITICAL VOLUMES ..... 247

THE SUM OF CRITICAL VOLUMES ..... 1345

NUMBER OF CRITICAL CLEARANCE INTERVALS .... 2\*

CMA VALUE ..... 0.827

LEVEL OF SERVICE ..... D

\* Includes CMA value decreased due to ATSAC Implementation.