

FINAL TRAFFIC IMPACT STUDY

HWP ANNEX PROJECT

City of Pasadena, California
March 25, 2009

Prepared for:

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1.0 INTRODUCTION

This traffic analysis has been prepared to identify and evaluate the potential traffic impacts of the proposed Hahamongna Watershed Park (HWP) Annex project. The proposed project is located in the Upper Arroyo Seco area adjacent to the Hahamongna Watershed Park in the City of Pasadena, California. The proposed HWP Annex project is located within the 30-acre property adjacent to the northwest portion of the Hahamongna Watershed Park. The project site is located in an area of existing recreational, park and open space uses and is generally bounded by the Jet Propulsion Laboratory to the north, Hahamongna Watershed Park to the south and east, and Oak Grove Drive to the west. The proposed HWP Annex project site location and general vicinity are shown in *Figure 1-1*.

The traffic analysis follows City of Pasadena traffic study guidelines¹ and is consistent with traffic impact assessment guidelines set forth in the Los Angeles County Congestion Management Program². This traffic analysis evaluates potential project-related impacts at nine key intersections and two key street segments in the vicinity of the project site. The study intersections and street segments were determined in consultation with City of Pasadena Department of Transportation staff. The Intersection Capacity Utilization method was used to determine Volume-to-Capacity ratios and corresponding Levels of Service at the study intersections. A review also was conducted of Los Angeles County Metropolitan Transportation Authority freeway and intersection monitoring stations to determine if a Congestion Management Program transportation impact assessment analysis is required for the proposed project.

This study (i) presents existing traffic volumes, (ii) forecasts future traffic volumes with the related projects and the growth in ambient traffic, (iii) forecasts future traffic volumes with the proposed project, (iv) determines project-related impacts, and (v) recommends mitigation measures, where necessary.

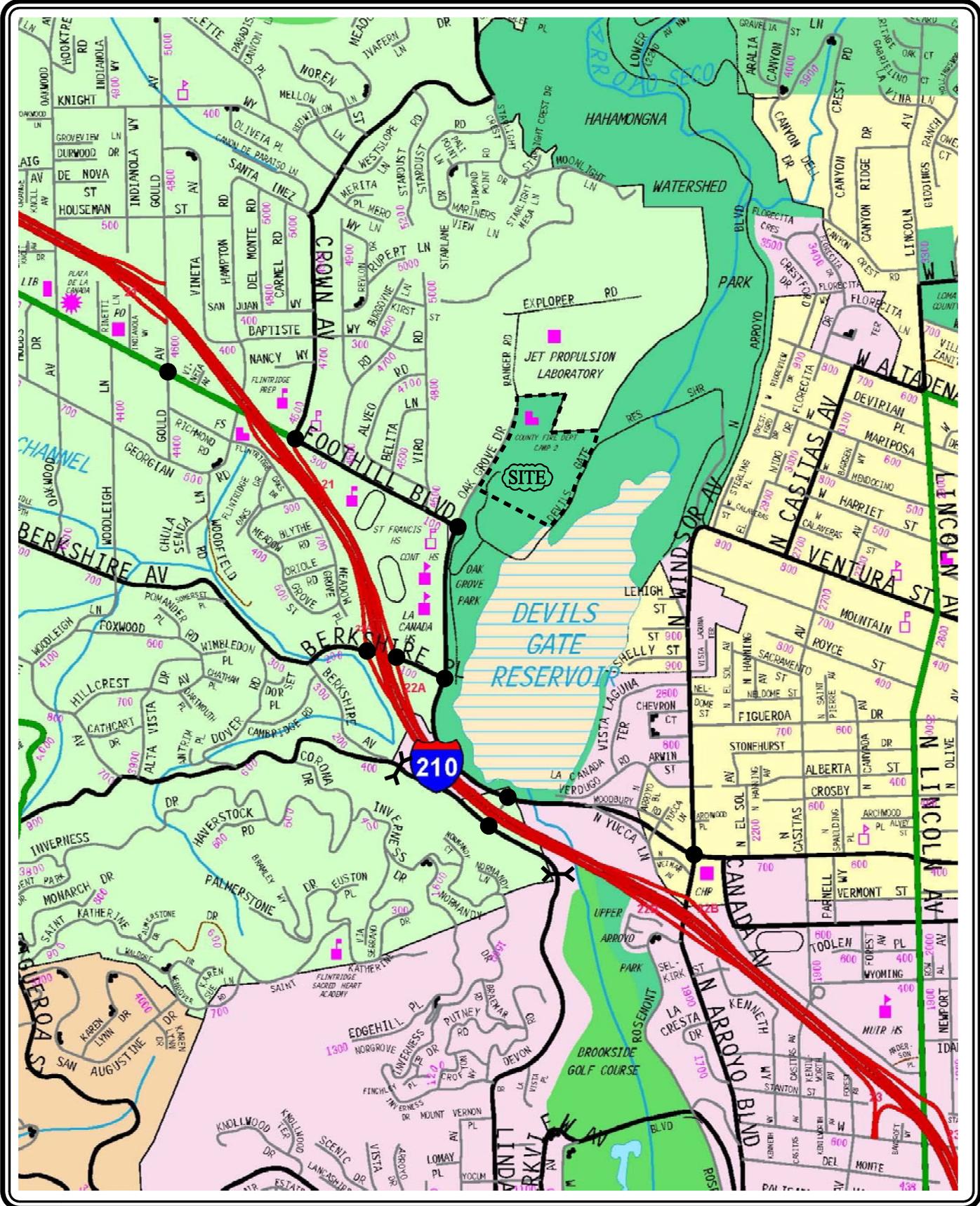
1.1 Study Area

Based on direction from City of Pasadena staff, a total of 11 locations, including nine study intersections and two street segments, have been identified for evaluation. These study locations provide local access to the study area and define the extent of the boundaries for this traffic impact investigation. Further discussion of the existing street system and study area is provided in Section 4.0 herein.

¹ *Guidelines for Transportation Review of Projects*, City of Pasadena Department of Transportation, February 2004.

² *2004 Congestion Management Program for Los Angeles County*, Los Angeles County Metropolitan Transportation Authority, July 2004.

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MAP SOURCE: THOMAS BROS. GUIDE

- STUDY INTERSECTION
- ⌘ STUDY STREET SEGMENT

FIGURE 1-1 VICINITY MAP

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The general location of the project in relation to the study locations and surrounding street system is presented in *Figure 1-1*. The traffic analysis study area is generally comprised of those locations which have the greatest potential to experience significant traffic impacts due to the proposed project as defined by the Lead Agency. In the traffic engineering practice, the study area generally includes those intersections that are:

- a. Immediately adjacent or in close proximity to the project site;
- b. In the vicinity of the project site that are documented to have current or projected future adverse operational issues; and
- c. In the vicinity of the project site that are forecast to experience a relatively greater percentage of project-related vehicular turning movements (e.g., at freeway ramp intersections).

The locations selected for analysis were based on the above criteria, proposed HWP Annex project peak hour vehicle trip generation, the anticipated distribution of project vehicular trips and existing intersection/corridor operations.

2.0 PROJECT DESCRIPTION

2.1 Existing Project Site

The proposed project is located in the Upper Arroyo Seco area adjacent to the Hahamongna Watershed Park (HWP) in the City of Pasadena, California. The 30-acre project site is situated in an area of existing recreational, park and open space uses and is generally bounded by the Jet Propulsion Laboratory (JPL) to the north, HWP to the south and east, and Oak Grove Drive to the west. The Annex property currently includes equestrian facilities, oak woodlands, the Los Angeles County Fire Camp 2 and a number of vacant buildings that were previously leased to the United States (US) Forest Service. The existing buildings on the site will be renovated to accommodate the proposed project. The proposed project will accommodate the same equestrian uses and establish a vision for their future.

2.2 Project Description

The proposed HWP Annex project consists of an Amendment to the Hahamongna Watershed Park Master Plan (the Upper Arroyo portion of the Arroyo Seco Master Plan) to annex 30 acres of land into the park. If adopted, the amended Master Plan would designate the annex area for an environmental education/community meeting center, the only City-owned equestrian facility, natural open space, passive recreational facilities, and ancillary infrastructure and maintenance facilities, while maintaining the existing Los Angeles Fire Camp 2, which occupies six acres of the site.

The HWP Annex project is planned to be completed and occupied in year 2014. The proposed HWP Annex project site area is illustrated in *Figure 2-1*. Further discussion of the project land use components and expected programming is provided in the following subsections.

Vehicular access to the Oak Grove area (OGA) and portions of Hahamongna Watershed Park is provided via the Oak Grove Drive/Foothill Boulevard intersection and an existing limited use one-way inbound driveway along the east side of Oak Grove Drive, immediately north of the Oak Grove Drive/Berkshire Place intersection. Vehicular access to the Annex site will be provided via the Oak Grove Drive/Foothill Boulevard intersection. Vehicular circulation throughout HWP, the OGA and the Annex site, are provided via internal roadways and driveways. Further discussion of the proposed project site access and circulation scheme is provided in Section 3.0.

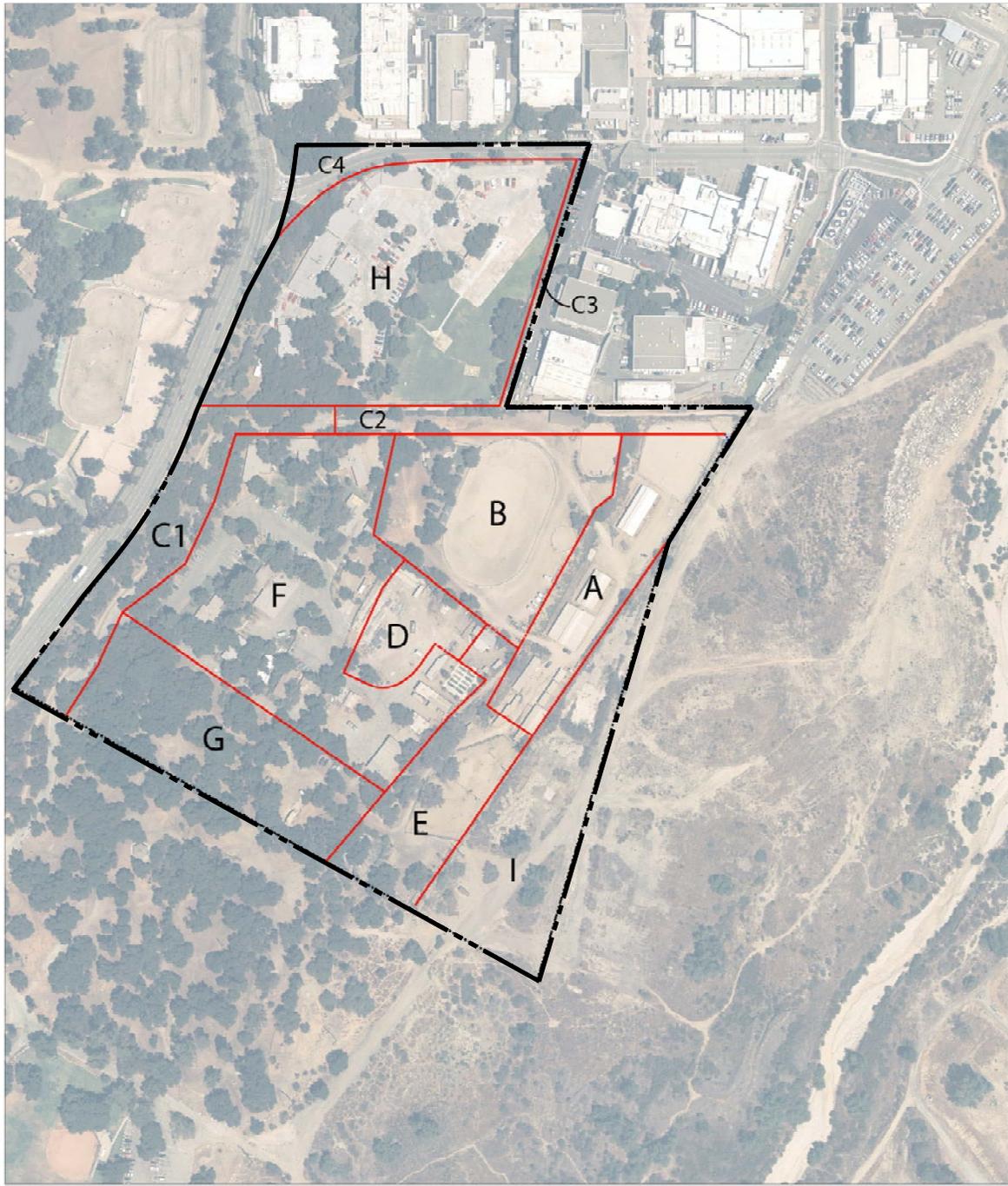
2.3 Location, Existing Uses, and Site Conditions

The area proposed for annexation is located immediately northwest of the existing HWP, along the east side of Oak Grove Drive, approximately 500 feet north of Foothill Boulevard. The site is surrounded by the Jet Propulsion Laboratory (JPL) to the north, the Oak Grove area to the south, La Cañada High School across Oak Grove Drive to the west, and the Devils Gate Reservoir to the east. The 30-acre site is roughly “L” shaped and consists of the facilities and uses listed below:

1. The abandoned US Forest Service Oak Grove Station comprises approximately seven acres in the west portion of the site. This abandoned facility includes:

LEGEND

- Hahamonga Annex Boundary (29.58 acres)
- Land Use Area Boundary
- A** Horse Boarding Area (2.27 acres)
- B** Public Equestrian Activity and Event Area (3.6 acres)
- C** Common Area (3.58 acres)
- C1** Park Road, Oak Woodland, Trail
- C2** Bikeway, Trail, Park Road Extension
- C3** Trail
- C4** JPL Easement
- D** Therapeutic Equestrian Area (0.87 acres)
- E** Youth Camp Equestrian Area (1.90 acres)
- F** Environmental Education Center (5.63 acres)
- G** Restored Oak Woodland/Return to Public Use (2.83 acres)
- H** Los Angeles County Fire Camp (6.04 acres)
- I** Habitat Restoration Area/Parkland (2.86 acres)



0 60 120 240 360 480 Feet 1 inch equals 60 feet

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MAP SOURCE: CITY OF PASADENA

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FIGURE 2-1 PROJECT SITE AREA

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- barracks (three single-story structures);
 - a mess hall;
 - an administration building;
 - a permanent residence;
 - a storage yard area;
 - pre-fabricated metal buildings; and
 - a pre-fabricated metal nursery building and plant nursery growing beds.
2. The equestrian uses comprise approximately 12 acres in the east portion of the site. These three equestrian tenants are – Rose Bowl Riders, MACH1, and Tom Sawyer Camps – and include:
 - equestrian performance/practice areas: main arena, a smaller oval arena, a jumping area, and two pens;
 - various horse boarding facilities, including barns, horse stalls, corrals, a tack room, and a wash rack;
 - a clubhouse; and
 - Youth camp staging facilities: a mobile home unit, parking area, storage area and additional horse corrals.
 3. An oak woodland comprises three acres in the southwest corner of the site.
 4. A common area along the site’s western boundary includes a park access road, oak woodlands and a public trail.
 5. A common area along the site’s eastern boundary consists of an arroyo stone stock pile, an equestrian waste management area and vegetation.
 6. The Los Angeles County Fire Camp 2 comprises six acres in the northwest portion of the site. No improvements or modifications are proposed for this facility, which would remain as a countywide training, conference, and foothill fire response facility.

2.4 Proposed Uses and Improvements

The HWP Annex project site is proposed for six main uses: (1) an environmental education and community meeting center, (2) a public equestrian and horse boarding facility, (3) natural open space, (4) park offices, exhibition space, and maintenance facilities, (5) passive recreational facilities, and (6) the Los Angeles County Fire Camp 2 (to remain as existing). These proposed uses are summarized in the following subsections. A summary of the anticipated visitor arrival and departure patterns during typical weekdays and weekend days based on the proposed land uses and programming information provided by City of Pasadena Parks & Natural Resources Division staff is provided in *Appendix Tables A-1 and A-2*.

2.4.1 Environmental Education and Community Meeting Center

The proposed environmental education and community meeting center would adaptively reuse the majority of the abandoned US Forest Service facility. The proposed center would comprise 5.63 acres and would include conference space, office space, an exhibit space, indoor classrooms, outdoor classrooms/gathering areas, a dining hall, and a xeriscape demonstration garden.

2.4.2 Equestrian Facilities

The proposed Master Plan includes renovation of and improvement to the site's existing equestrian facilities for use by the public and for lease to rider groups. The proposed Master Plan includes equestrian facilities which include improved equestrian performance/practice areas, various horse boarding facilities, a remodeled and expanded main clubhouse, a relocated foreman residence, horse trailer parking/staging, and various ancillary facilities.

2.4.3 Natural Open Space

The Annex site includes natural open space which is located along the site's southern and eastern boundaries. These natural open spaces include an oak woodland, a meadow, and a sycamore woodland. The proposed Master Plan designates these areas to be maintained and restored, along with removal of the fence along the site's southern border.

2.4.4 Park Offices, Maintenance Facilities, and Infrastructure

The proposed Master Plan designates a variety of existing structures on the Annex site for park office space and maintenance facilities. In accordance with the proposed Master Plan, the existing U.S. Forest Service residence would be used as a Park Ranger's office, the existing pre-fabricated metal sheds would be used for maintenance/storage and a community volunteer work center, and the pre-fabricated metal nursery would be used as a plant lab and growing beds.

Infrastructure improvements included in the proposed Master Plan include a variety of access and parking improvements. The site's proposed main entry would take access from Oak Grove Drive with vehicle circulation extending through the proposed education and community meeting center and to several points in the equestrian area. Parking would be provided in five separate lots on the Annex site, all of which are in the vicinity of the education and community meeting center. Additional parking is also available in the adjacent OGA portion of the HWP. See Section 2.5 for additional details.

The City is also considering extending the site's main access road along the north side of the education center and equestrian area to an existing City parking lot that is currently leased to JPL for their weekday parking needs. If undertaken, the proposed main access extension would provide additional parking spaces for park patrons during the weekends. Access to the JPL lot would be restricted during weekdays.

2.4.5 *Passive Recreational Facilities*

The proposed Master Plan includes a variety of multi-use trails and several picnic/gathering areas. An all weather bicycle route would traverse the site, following the proposed main access road alignment from the site's southwest corner to the site's northeast corner. A separated equestrian trail would also follow this alignment. An additional trail would be located along the site's eastern boundary and would connect to trails northeast and south of the site at either end. Finally, the proposed Master Plan includes various other internal connection trails.

In addition to trail improvements, the proposed Master Plan includes a group picnic area near the proposed education center, a group gathering area with picnic tables in the southeast corner of the site, and a gathering/yard area in the south-central portion of the site.

2.4.6 *Los Angeles County Fire Camp 2*

The Los Angeles County Fire Camp 2 comprises six acres in the northwest portion of the site. No improvements or modifications are proposed for this facility, which would remain as a countywide training, conference, and community outreach facility.

2.5 HWP Annex Parking

2.5.1 Existing Parking

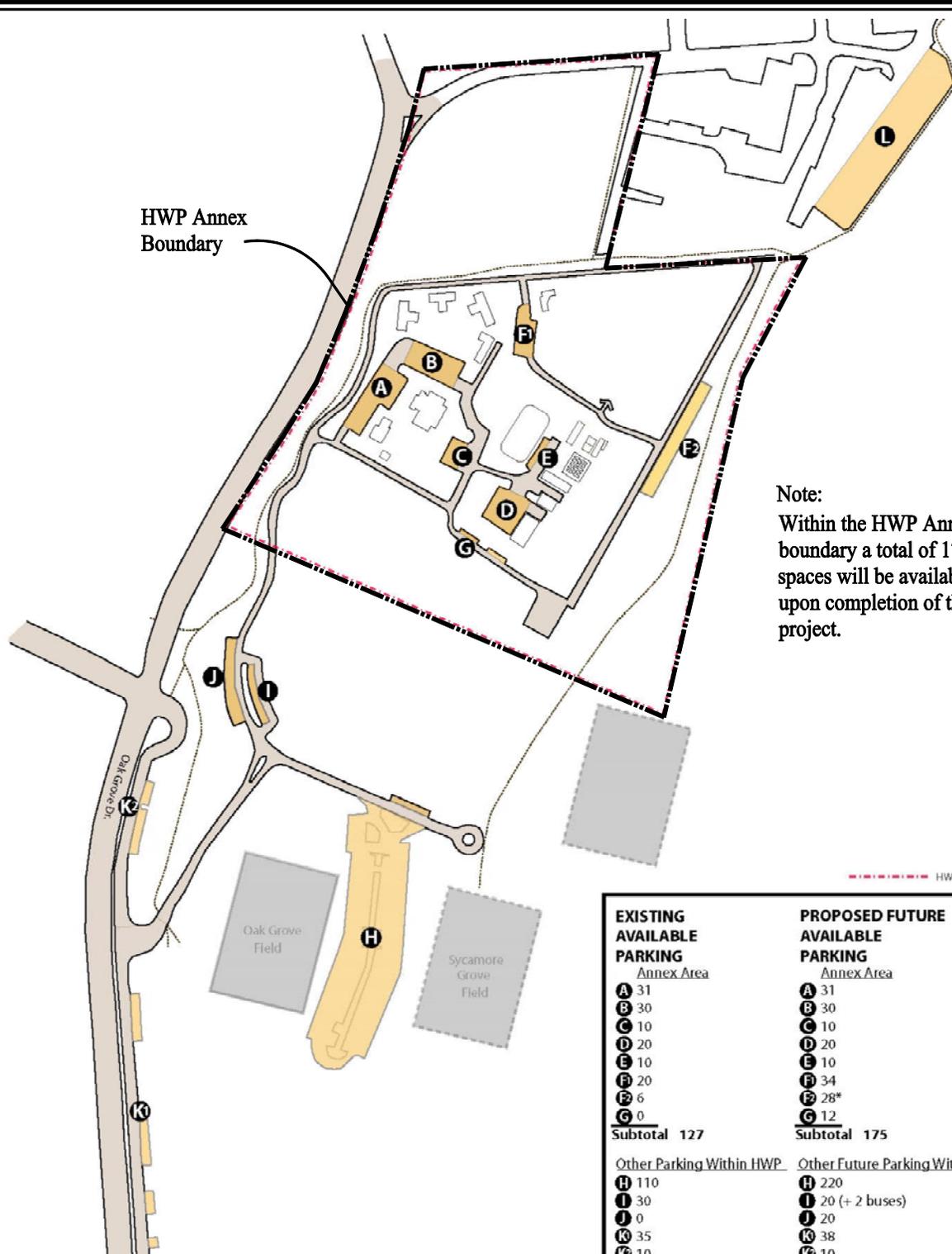
Parking within the Annex property is provided in several surface parking lots located throughout the site. The parking areas provided within both the HWP and proposed Annex sites are shown in *Figure 2-2*.

As shown in *Figure 2-2*, a total supply of 127 parking spaces is currently provided at the Annex site. It should be noted that a majority of these existing parking spaces are located within the gated area previously occupied by the US Forest Service and is not accessible for use by the existing Annex activities and programs. Further, general observations conducted at the site indicate that portions of the available parking areas (i.e., those parking areas provided outside of the gated areas) are currently under-utilized during typical weekdays and weekend days. Based on information provided by City of Pasadena Parks & Natural Resources Division staff, it is estimated that the existing Annex facilities and programs (e.g., equestrian facilities, youth camp and therapeutic riding programs, etc.) generate a peak parking demand of approximately 25 spaces during typical weekdays and weekend days.

2.5.2 Proposed Parking

A total supply of 175 spaces is planned to be provided within the Annex site as part of the project. This total supply does not include the City-owned parking lot with 214 spaces located north of the Annex site that is currently leased to JPL, nor the existing or proposed parking within HWP. The increase in parking demand associated with the proposed project on typical weekdays and weekend days was based on the project's land use components, anticipated visitor arrival and departure information shown in *Appendix Tables A-1 and A-2*, and expected programming that will be provided at the Annex site. As shown in *Appendix Table A-1*, the weekday peak parking demand for the project is anticipated to occur at 3:00 PM with a demand of 107 spaces (i.e., 70 spaces for the conference attendees, 10 spaces for visitors, nine spaces for the community volunteer center, nine spaces for the equestrian boarding facilities, five spaces for the other equestrian facilities such as the public event area, and four spaces for the therapeutic riding program). As shown in *Appendix Table A-2*, the weekend peak parking demand for the project is anticipated to occur at 9:00 AM with a demand of 115 spaces (i.e., 70 spaces for the conference attendees, 20 spaces for visitors, nine spaces for the community volunteer center, eight spaces for the equestrian boarding facilities, five spaces for other equestrian facilities, and three spaces for the therapeutic riding program).

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Note:
 Within the HWP Annex boundary a total of 175 spaces will be available upon completion of the project.

EXISTING AVAILABLE PARKING		PROPOSED FUTURE AVAILABLE PARKING	
Annex Area		Annex Area	
A	31	A	31
B	30	B	30
C	10	C	10
D	20	D	20
E	10	E	10
F	20	F	34
G	6	G	28*
	0	H	12
Subtotal	127	Subtotal	175
Other Parking Within HWP		Other Future Parking Within HWP	
H	110	H	220
I	30	I	20 (+ 2 buses)
J	0	J	20
K	35	K	38
L	19	L	19
Subtotal	194	Subtotal	317 (+ 2 buses)
TOTAL	321	TOTAL	492(+ 2 buses)
		<u>Adjacent to HWP</u>	
		L	214

*Only for horse trailer & horse boarding area



MAP SOURCE: CITY OF PASADENA

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FIGURE 2-2 PARKING AREAS WITHIN HWP AND ANNEX

The total parking demand at the Annex site was determined based on the sum of the existing parking demand and the forecast increase in parking demand associated with the proposed project. Thus, a total weekday parking demand of 132 spaces (i.e., existing parking demand of 25 spaces plus an increased parking demand of 107 spaces with the project) and weekend parking demand of 140 spaces (i.e., existing parking demand of 25 spaces plus an increased parking demand of 115 spaces with the project), respectively, is forecast for the Annex site. Based on a comparison of the proposed parking supply (i.e., 175 spaces) and the forecast total parking demand (i.e., weekday peak demand of 132 spaces and weekend peak demand of 140 spaces), it is concluded that the proposed parking supply within the Annex site (i.e., 175 spaces) will accommodate the peak parking demand during typical weekdays and weekend days.

2.5.3 Parking for Special Events Scenario

Special events at the Annex site currently occur throughout the year on both weekdays and weekends. It is envisioned that special events will continue to be provided at the Annex site as part of the project, and that some of the project's land use components may be used concurrently or have events that may overlap. A summary of a special events scenario at the Annex is provided in *Appendix Table A-3*. It should be noted that this table reflects the arrival and departure patterns for all of the land uses (i.e., existing and proposed) that are anticipated to generate parking demand at the Annex site during a peak condition (i.e., June). The total parking demand at the Annex site for a special event scenario in which the site's land uses may be used concurrently or events may overlap was based on information provided by the City of Pasadena Parks and Natural Resources Division, the anticipated visitor arrival and departure information shown in *Appendix Table A-3*, the project's land use components and expected programming that will be provided at the Annex site. As shown in *Appendix Table A-3*, the peak parking demand at the Annex for a special events scenario is anticipated to occur at 9:00 AM with a peak demand of 237 spaces (i.e., 87 spaces for the conference attendees, 20 spaces for visitors, nine spaces for the growing beds/plant beds, nine spaces for the community volunteer center 14 spaces for the equestrian boarding facilities, 80 spaces for the other equestrian facilities such as the public event area, 12 spaces for the youth camp, and six spaces for the therapeutic riding program). Given the proposed parking supply (i.e., 175 spaces), it is concluded that the proposed parking supply within the Annex site is not sufficient to accommodate the forecast total parking demand at the Annex site for a special events scenario (i.e., peak demand of 237 spaces).

As the forecast total parking demand for a special events scenario exceeds the proposed parking supply of 175 spaces within the Annex site, other parking areas (e.g., the adjacent City-owned parking lot leased to JPL, parking provided within HWP [if available], etc.) will need to be utilized to accommodate the additional parking demand. It is recommended that the City of Pasadena Parks and Natural Resources Division monitor special events and programs at the Annex site through the permitting process. It is envisioned that permits would be issued such that the anticipated parking demand generated by any event or simultaneous activities held at the Annex facilities would not exceed the proposed parking supply unless sufficient off-site parking is identified and secured (e.g., JPL leased parking lot, parking within HWP [if available], other parking lots within City of Pasadena, etc.).

3.0 SITE ACCESS AND CIRCULATION

The site access scheme for the HWP Annex project is displayed in *Figure 2-1*. Descriptions of the proposed project site access and circulation schemes are provided in the following subsections.

3.1 OGA and HWP Access

Vehicular access to the Oak Grove area and portions of Hahamongna Watershed Park is provided via the Oak Grove Drive/Foothill Boulevard intersection and an existing one-way inbound driveway along the east side of Oak Grove Drive, immediately north of the Oak Grove Drive/Berkshire Place intersection. No changes to the existing OGA and HWP access points are anticipated to occur as part of the proposed HWP Annex project. Descriptions of the OGA and HWP access points are provided in the following paragraphs.

- *Oak Grove Drive/Foothill Boulevard Driveway:*

The northerly access driveway forms the east leg of the Oak Grove Drive/Foothill Boulevard intersection, which is currently controlled by a traffic signal. This driveway will remain in the same location. This driveway provides primary access to the internal roadways within the Hahamongna Watershed Park Annex area. Vehicles destined to the Annex site will utilize this driveway only to access the site. The northerly driveway will continue to accommodate full access (i.e., left-turn and right-turn ingress and egress turning movements).

- *Oak Grove Drive Driveway:*

The southerly access driveway is located along the east side of Oak Grove Drive, immediately north of the Oak Grove Drive/Berkshire Place intersection. It should be noted that this driveway is utilized for inbound pick-up and drop-off operations for the adjacent schools (e.g., La Canada High School) only. The driveway currently is open for a limited number of hours, primarily during the adjacent school pick-up and drop-off periods. The limited operations and use of the driveway are anticipated to continue as part of the HWP Annex project. Further discussion of the existing area school circulation is provided in the following subsections.

The above two driveways are connected by a frontage road located within the park property that parallels Oak Grove Drive. Primary vehicular access to the OGA and HWP is provided via another north-south internal roadway that extends from the existing stop-sign controlled intersection with the parallel frontage road. It should be noted that when the southerly driveway is in operation, this intersection accommodates the one-way student pick-up and drop-off circulation in addition to the OGA and HWP park users.

3.2 Project Site Access and Circulation

Vehicular access to the Annex site is provided via the primary north-south internal roadway that extends north from HWP. Access within the Annex site will be provided via existing internal roadways and drive aisles that surround the existing buildings and facilities, as well as the proposed parking areas. The permeable access roadways are planned to provide primary access to the main buildings and parking areas within the Annex. Unpaved secondary access roadways within the Annex site extend from the internal primary access roadways and provide access to uses along the eastern portion of the Annex (e.g., equestrian boarding areas, youth and adult camp, etc.). Existing public bus transit service is discussed in Section 4.5 of this report.

3.3 Existing Area School Circulation

Several public and private schools (i.e., La Canada High School, Crestview Preparatory Elementary School, Saint Francis High School, Saint Bede the Venerable Elementary School, Flintridge Preparatory High School) are located in the study area. La Canada High School is located at the southwest corner of the Oak Grove Drive/Foothill Drive intersection. Access to the La Canada High School campus is accommodated via driveways on Foothill Boulevard and on Oak Grove Drive west of the project site. The formal student drop-off and pick-up occurs in the La Canada High School parking lot along the west side of Oak Grove Drive and informal student drop-off and pick-up occurs within the OGA along the frontage road that parallels Oak Grove Drive, which is accessible from the Oak Grove Drive driveway situated north of Berkshire Place. Crestview Preparatory Elementary School and Saint Francis High School are located along the south side of Foothill Boulevard, west of Oak Grove Drive. Access to Crestview Preparatory Elementary School and Saint Francis High School is accommodated via driveways on Foothill Boulevard west of the project site. Saint Bede the Venerable Elementary School and Flintridge Preparatory High School are located along the north side of Foothill Boulevard near the Foothill Freeway. Access to Saint Bede the Venerable Elementary School and Flintridge Preparatory High School is accommodated via driveways on Crown Avenue.

It should be noted that over the past several years the City of La Canada Flintridge and the City of Pasadena staffs have worked together to review the traffic issues associated with congestion due to student arrival/dismissal and JPL traffic along Oak Grove Drive between Berkshire Place and Foothill Boulevard. The coordination effort, review and recommendations associated with the OGA temporary south access were documented in a green sheet item memorandum prepared by the City of Pasadena Public Works and Transportation Department dated July 2002. Measures were identified to address school-related traffic congestion and potential traffic safety issues along Oak Grove Drive and along the park access road. The measures included roadway widening along the west side of Oak Grove Drive, reconfiguration of the internal parking layout and the design of an onsite pick-up and drop-off area in the La Canada High School parking lot, installation of a traffic signal at the Oak Grove Drive/La Canada High School north driveway, and providing a temporary driveway at the south end of the OGA to facilitate student pick-up and drop-off operations along the frontage road within the park. All of these recommended measures have been constructed and are currently in operation. The student drop-off and pick-up operations occur in a one-way

counterclockwise circulation pattern along the frontage road within the OGA, with vehicles entering via the Oak Grove Drive driveway situated north of Berkshire Place and exiting via the previously described Oak Grove Drive/Foothill Boulevard intersection. A crosswalk across the OGA frontage road is provided north of the internal intersection that provides access to the park. Students that are dropped-off or picked-up within the OGA are directed to utilize the existing pedestrian gate and signalized crosswalk across Oak Grove Drive to reach the La Canada High School campus.

It is recommended that the City of Pasadena continue to coordinate with City of La Canada Flintridge staff to discuss additional measures to alleviate traffic congestion and minimize vehicular queuing along this portion of Oak Grove Drive, as well as to further enhance safety. This may include further review of the student pick-up and drop-off circulation within the OGA, limited utilization of the southerly Oak Grove Drive driveway, relocation of the pedestrian crosswalk across the internal frontage road so as to minimize conflicts between park users and school-related vehicles at the internal intersection, etc.

3.4 Bicycle Access

Bicycle access within the project study area is facilitated by the City of Pasadena bicycle roadway network. A total of five bicycle routes (i.e., Class II Bike Lanes, Class III Bike Routes or Enhanced Class III Bike Routes) in the City's bicycle network are located within an approximate one-mile radius from the study area. The following key bicycle routes are located near the HWP Annex project study area:

- North-South Routes
 - Oak Grove Drive: Class II Bike Lane
 - North Arroyo Boulevard: Class II Bike Lane
 - Linda Vista Avenue: Class III Bike Route (Enhanced)
 - Casitas Avenue: Class III Bike Route
- East-West Routes
 - Howard Street: Class III Bike Route

In addition to the above bicycle routes, bicycle access is provided through the Oak Grove area and Hahamongna Watershed Park along the main north-south internal roadway. Class II bikeways are lanes on the outside edge of roadways reserved for the exclusive use of bicycles and are designated with special signing and pavement markings. Class III bikeways are roadways recommended for bicycle use and are designated with signs posted along roadways. Enhanced Class III bikeways include 4-inch white edge lines and "Share the Road" signage.

4.0 EXISTING STREET SYSTEM

4.1 Regional Highway System

Primary regional access is provided by I-210 (Foothill) Freeway via Foothill Boulevard and Berkshire Place. Additional regional access is provided to and from I-210 Freeway via existing ramps at Arroyo Boulevard-Windsor Avenue and Lincoln Boulevard. A brief description of the I-210 Freeway is provided in the following paragraph.

I-210 (Foothill) Freeway is an east-west freeway connecting Pasadena with the San Fernando Valley to the west and the municipalities of the San Gabriel Valley to the east. In the project vicinity, four mixed-flow travel lanes are provided in each direction on I-210 Freeway. Interchanges with Foothill Boulevard, Berkshire Place, Arroyo Boulevard-Windsor Avenue and Lincoln Boulevard are located in the project vicinity.

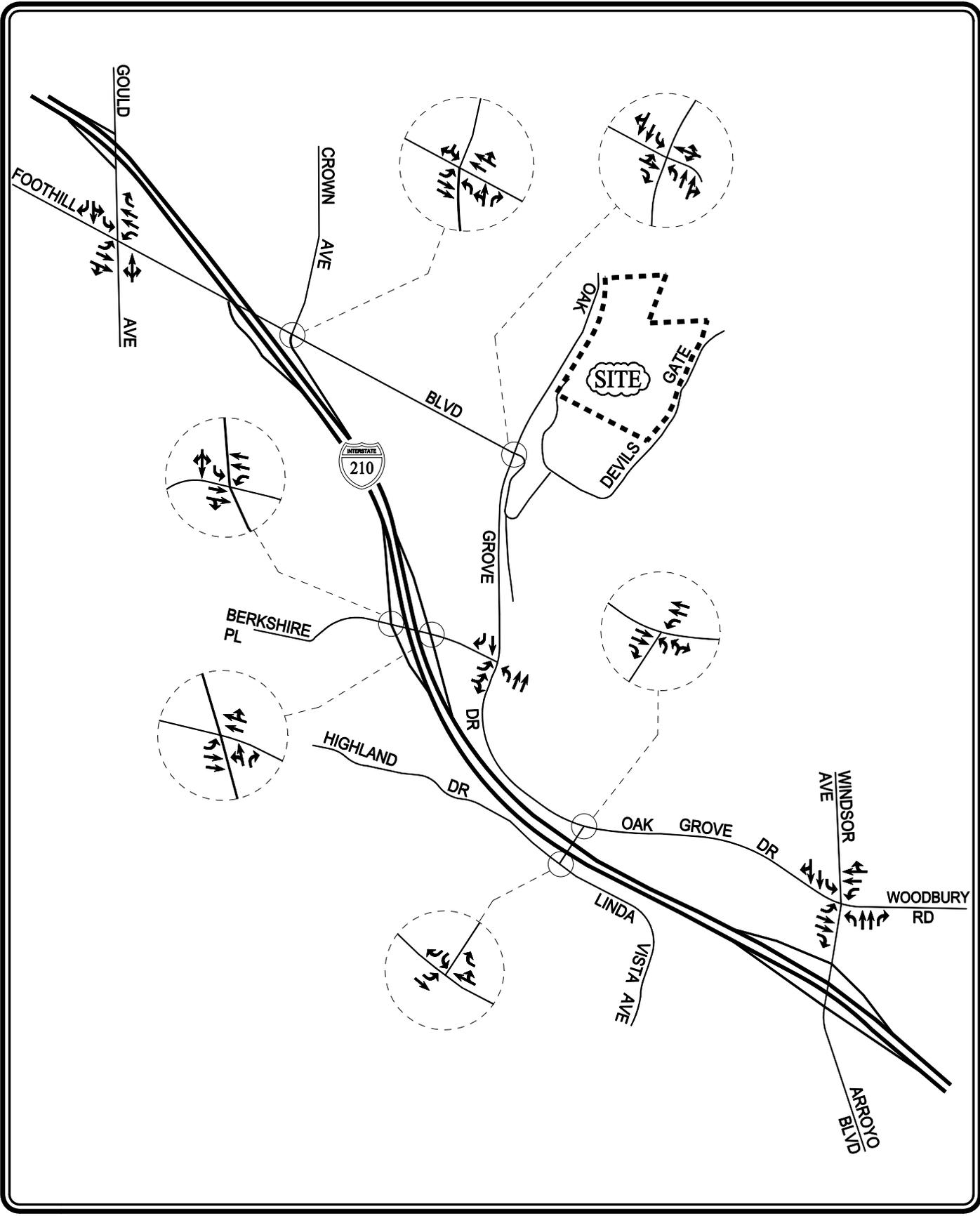
4.2 Existing Local Street System

Immediate access to the project site is provided via Foothill Boulevard and Oak Grove Drive. The following nine study intersections were selected for analysis by PasDOT staff in order to determine potential impacts related to the proposed project:

1. Gould Avenue/Foothill Boulevard.
2. Crown Avenue-I-210 Freeway Northbound (NB) Off-Ramp/Foothill Boulevard.
3. I-210 Freeway Southbound (SB) Ramps/Berkshire Place.
4. I-210 Freeway NB Ramps/Berkshire Place.
5. Oak Grove Drive/Foothill Boulevard.
6. Oak Grove Drive/Berkshire Place.
7. Linda Vista Avenue/Oak Grove Drive.
8. Highland Drive-Linda Vista Avenue/Highland Drive.
9. Windsor Avenue/Oak Grove Drive-Woodbury Road.

A total of five of the study intersections are presently controlled by traffic signals, while the remaining four study intersections (Study Intersection Nos. 3, 4, 7 and 8) are currently stop sign controlled with the stop signs facing the minor street approaches. The existing lane configurations at the nine study intersections are displayed in **Figure 4-1**.

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FIGURE 4-1
EXISTING LANE CONFIGURATIONS

4.3 Roadway Classifications

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

- *Freeways* are limited-access and high speed travel ways included in the state and federal highway systems. Their purpose is to carry regional through-traffic. Access is provided by interchanges with typical spacing of one mile or greater. No local access is provided to adjacent land uses.
- *Arterial* roadways are major streets that primarily serve through-traffic and provide access to abutting properties as a secondary function. Arterials are generally designed with two to six travel lanes and their major intersections are signalized. This roadway type is divided into two categories: principal and minor arterials. Principal arterials are typically four-or-more lane roadways and serve both local and regional through-traffic. Minor arterials are typically two-to-four lane streets that service local and commute traffic.
- *Collector* roadways are streets that provide access and traffic circulation within residential and non-residential (e.g., commercial and industrial) areas. Collector roadways connect local streets to arterials and are typically designed with two through travel lanes (i.e., one through travel lane in each direction) that may accommodate on-street parking. They may also provide access to abutting properties.
- *Local* roadways distribute traffic within a neighborhood, or similar adjacent neighborhoods, and are not intended for use as a through-street or a link between higher capacity facilities such as collector or arterial roadways. Local streets are fronted by residential uses and do not typically serve commercial uses.

4.4 Roadway Descriptions

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

Arroyo Boulevard is a north-south roadway that is located southeast of the project site. Arroyo Boulevard is classified as a Collector roadway south of I-210 Freeway in the City's General Plan Mobility Element (November 2004). North of Woodbury Road, Arroyo Boulevard becomes Windsor Avenue. Two through travel lanes are provided in each direction in the project vicinity. Exclusive left-turn lanes in both the northbound and southbound directions and a separate right-turn lane in the northbound direction are provided at the intersection with Oak Grove Drive-Woodbury Road. Parking is generally provided along both sides of Arroyo Boulevard in the project study area. Arroyo Boulevard is posted for a speed limit of 35 miles per hour near the project site.

Oak Grove Drive is a north-south oriented roadway that is located immediately west of the project site. Oak Grove Drive extends south from La Canada-Flintridge (north of JPL) to the Windsor Avenue-Arroyo Boulevard/Woodbury Road intersection. Oak Grove Drive provides access to and from the Upper Arroyo Seco area at Foothill Boulevard via the entrance to the OGA and HWP. Oak Grove Drive is classified as a Principal Arterial between the westerly City limits and Berkshire Place in the City's General Plan Mobility Element (November 2004). Between La Canada-Flintridge and Berkshire Place, Oak Grove Drive is classified as a Minor Arterial in the City's General Plan Mobility Element (November 2004). Two through travel lanes are provided in each direction in the project vicinity. Parking is generally prohibited along both sides of Oak Grove Drive in the project vicinity. A Class II Bike Lane is provided in each direction between Berkshire Place and Arroyo Boulevard. Oak Grove Drive is posted for a speed limit of 35 miles per hour in the project vicinity.

Linda Vista Avenue is a north-south oriented roadway that is located south of the project site. Linda Vista Avenue is classified as a Minor Arterial from the northerly City limits to south of SR-134 Freeway in the City's General Plan Mobility Element (November 2004). One through travel lane is provided in each direction in the project vicinity. Parking is generally allowed along both sides of the roadway in the project study area. A Class III Bike Route is provided in each direction on Linda Vista Avenue between the I-210 Freeway and SR-134 Freeway.

Crown Avenue is a north-south oriented roadway that is located west of the project site. One through lane is generally provided in each direction on Crown Avenue in the project vicinity. Curbside parking is prohibited along both sides of Crown Avenue near the intersection with Foothill Boulevard. The posted speed limit on Crown Avenue is 30 miles per hour in the project vicinity.

Gould Avenue is a north-south oriented roadway that is located west of the project site. One through travel lane is provided in each direction in the project study area. Curbside parking is permitted along both sides of Gould Avenue north of Foothill Boulevard, however, south of Foothill Boulevard parking is generally prohibited along both sides of the roadway. Gould Avenue is posted for a speed limit of 25 miles per hour in the project vicinity.

Foothill Boulevard is an east-west oriented roadway that is located immediately west of the project site. Foothill Boulevard provides access to and from the Upper Arroyo Seco area at Oak Grove Drive at the entrance to the OGA and HWP. Two through lanes are generally provided in each direction west of the I-210 Freeway ramps in the project vicinity. Exclusive left-turn lanes are provided on Foothill Boulevard at the intersections with Gould Avenue and Crown Avenue. A separate right-turn lane is provided in the westbound direction at the Gould Avenue intersection and in the eastbound direction at the Oak Grove Drive intersection. In the project study area, parking is generally prohibited along both sides of the roadway. However, some curbside parking is permitted along the south side of Foothill Boulevard between Gould Avenue and the I-210 Freeway ramps as well as along the north side of Foothill Boulevard east of Crown Avenue. Foothill Boulevard is posted for a speed limit of 30 miles per hour in the project study area.

Berkshire Place is an east-west roadway that is located southwest of the project site. One through travel lane is provided in each direction west of the I-210 Freeway ramps and two through travel lanes are provided in each direction east of the I-210 Freeway ramps to Oak Grove Drive. Exclusive left turn lanes are provided in the eastbound direction at the intersections with the I-210 Freeway northbound ramps and Oak Grove Drive, as well as in the westbound direction at the intersection with I-210 Freeway southbound ramps. Parking is generally prohibited along both sides of the roadway in the project study area. There is no posted speed limit on Berkshire Place in the project vicinity, thus it is assumed to be a prima facie speed limit of 25 miles per hour.

Woodbury Road is an east-west roadway that is located south of the project site. Two through travel lanes are provided in each direction in the project study area. Exclusive left-turn lanes are provided in both directions at the Windsor Avenue-Arroyo Boulevard intersection. Parking is generally allowed along both sides of Woodbury Road in the project study area. Woodbury Road is posted for a 35 miles per hour in the project vicinity.

4.5 Existing Public Bus Transit Service

Public bus transit service within the HWP Annex project study area is currently provided by the Los Angeles County Metropolitan Transportation Authority (Metro), Foothill Transit Service, City of Glendale Beeline, and Pasadena Area Rapid Transit Service (ARTS). A summary of the existing transit service, including the transit route, destinations and peak hour headways is presented in **Table 4-1**. The existing public transit routes in the HWP Annex project site vicinity are illustrated in **Figure 4-2**.

Table 4-1
EXISTING TRANSIT ROUTES [1]

11-Mar-2009

ROUTE	DESTINATIONS	ROADWAYS NEAR SITE	NO. OF BUSES DURING PEAK HOUR		
			DIR	AM	PM
Metro 177	Jet Propulsion Laboratory, California Institute of Technology, Pasadena City College, Hastings Ranch Center	Oak Grove Drive, Berkshire Place	EB WB	2 2	2 2
Metro 260	Artesia, North Long Beach, City of Commerce, San Marino, South Pasadena, Altadena	Fair Oaks Avenue, Woodbury Road	NB SB	3 2	2 2
Metro 267	El Monte Station, Santa Anita Park, Westfield Shoppingtown Santa Anita, Paseo Colorado, Altadena	Lincoln Avenue, Woodbury Road	NB SB	2 2	2 2
Metro 268	El Monte Airport, Santa Anita Park, Westfield Shoppingtown Santa Anita, Sierra Madre, Jet Propulsion Laboratory	Fair Oaks Avenue, Woodbury Road, Lincoln Avenue	NB SB	2 2	2 2
GB 3/La Canada Flintridge Shuttle [2]	Jet Propulsion Laboratory, Glendale Community College, Glendale Galleria	Oak Grove Drive, Foothill Boulevard	NB SB	5 5	5 5
ARTS 20 [3]	Old Pasadena, Paseo Colorado, Playhouse District, California Institute of Technology, Huntington Memorial Hospital, Art Center College of Design	Fair Oaks Avenue, Woodbury Road	CW CCW	2 3	2 3
ARTS 31/32 [3]	North Lake Business District, Eaton Canyon Park, Eaton Canyon Golf Course, Sierra Madre Villa Gold Line Station	Lincoln Avenue, Woodbury Road, Fair Oaks Avenue	EB WB	3 3	3 3
ARTS 51/52 [3]	Art Center College of Design, Brookside Golf Course, Rose Bowl, Old Pasadena, Huntington Memorial Hospital	Lincoln Avenue, Fair Oaks Avenue, Woodbury Road, Oak Grove Drive	NB SB	1 3	2 2

[1] Source: Los Angeles County Metropolitan Transportation Authority (Metro) website.

[2] Source: City of Glendale Public Works- Glendale Beeline website.

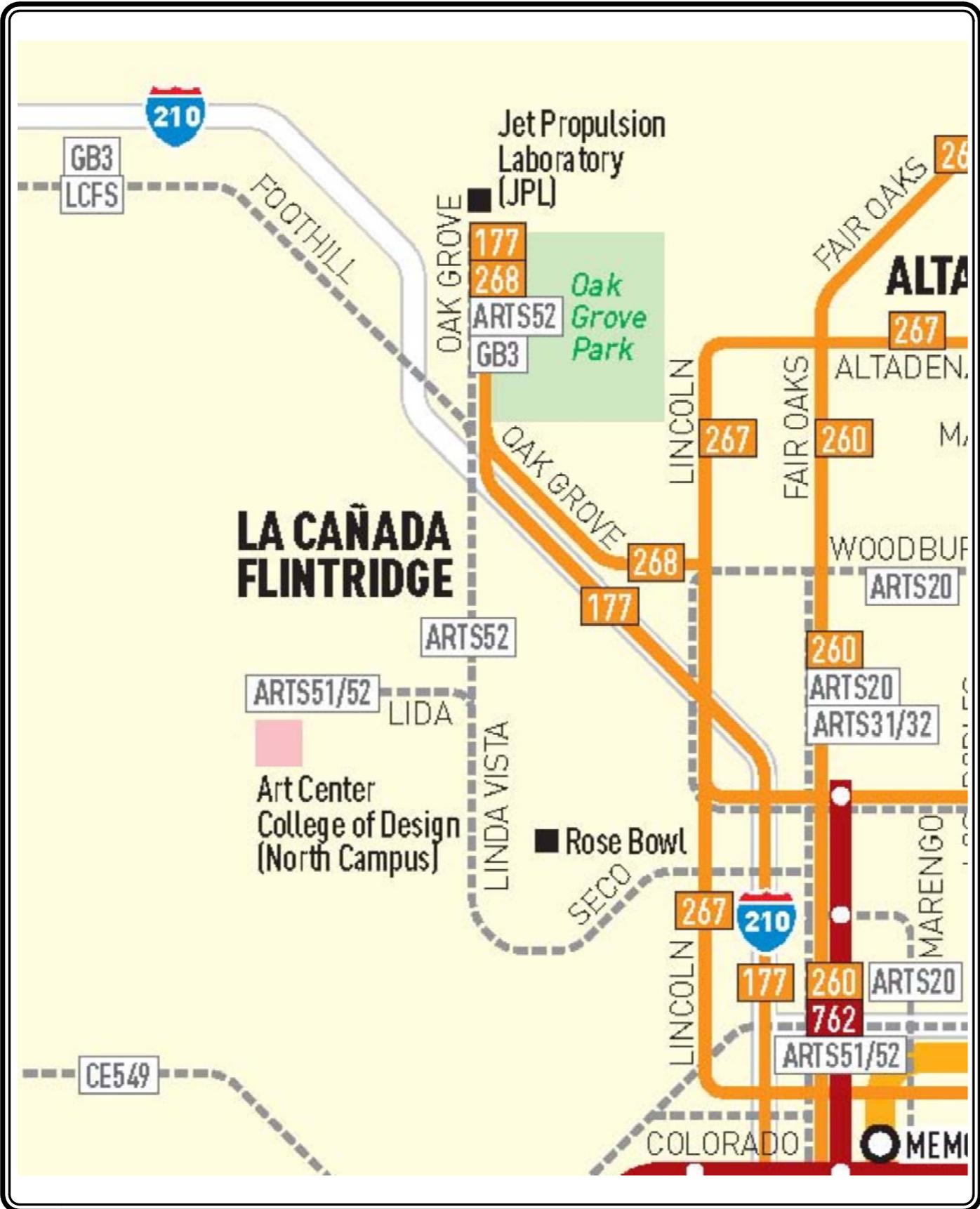
[3] Source: Pasadena Area Rapid Transit System (ARTS) website.

Note:

CW = Clockwise

CCW = Counter Clockwise

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MAP SOURCE: METROPOLITAN TRANSPORTATION AUTHORITY (METRO) WEBSITE

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FIGURE 4-2 EXISTING PUBLIC TRANSIT ROUTES

5.0 TRAFFIC COUNTS

5.1 Weekday Traffic Counts

Manual traffic counts of vehicular turning movements were conducted at each of the study intersections during the weekday morning and afternoon commuter periods to determine the peak hour traffic volumes.³ Traffic volumes at the study intersections show the typical peak periods between 7:00 and 9:00 AM generally associated with the peak morning commuter hours, and 4:00 and 6:00 PM generally associated with the afternoon commuter hours. These time periods generally correlate with peak commuter hours in the Los Angeles Basin area, including the City of Pasadena. The existing weekday traffic volumes for the above referenced nine study intersections were increased at an annual rate of 1.5 percent (1.5%) per year to reflect year 2009 existing conditions.

The weekday AM and PM peak period manual counts of vehicle movements at the study intersections are summarized in **Table 5-1**. The existing traffic volumes at the study intersections during the weekday AM and PM peak hours are shown in **Figures 5-1** and **5-2**, respectively. Summary data worksheets of the manual traffic counts at the study intersections are contained in **Appendix B**.

5.2 Weekend Traffic Counts

Manual counts of vehicular turning movements were also conducted at the study intersections during a weekend day (i.e., Saturday) mid-day period to determine the weekend peak hour traffic volumes. The manual counts were conducted at the study intersections from 11:00 AM to 2:00 PM to determine the weekend mid-day peak hour. Similar to the approach taken for the weekday traffic count data, the existing weekend traffic volumes for the above referenced nine study intersections were increased at an annual rate of 1.5 percent (1.5%) per year to reflect year 2009 existing conditions.

The weekend peak hour traffic volumes at the study intersections are also summarized in **Table 5-1**. The existing traffic volumes at the study intersections during the weekend mid-day peak hour are presented in **Figure 5-3**. Summary data worksheets of the weekend manual traffic counts at the study intersections are also contained in **Appendix B**.

³ Source for weekday traffic counts: *Final Traffic Impact Study, PWP Temporary Relocation Project, City of Pasadena, California*, dated October 15, 2008, prepared by LLG Engineers.

Table 5-1
EXISTING TRAFFIC VOLUMES [1]

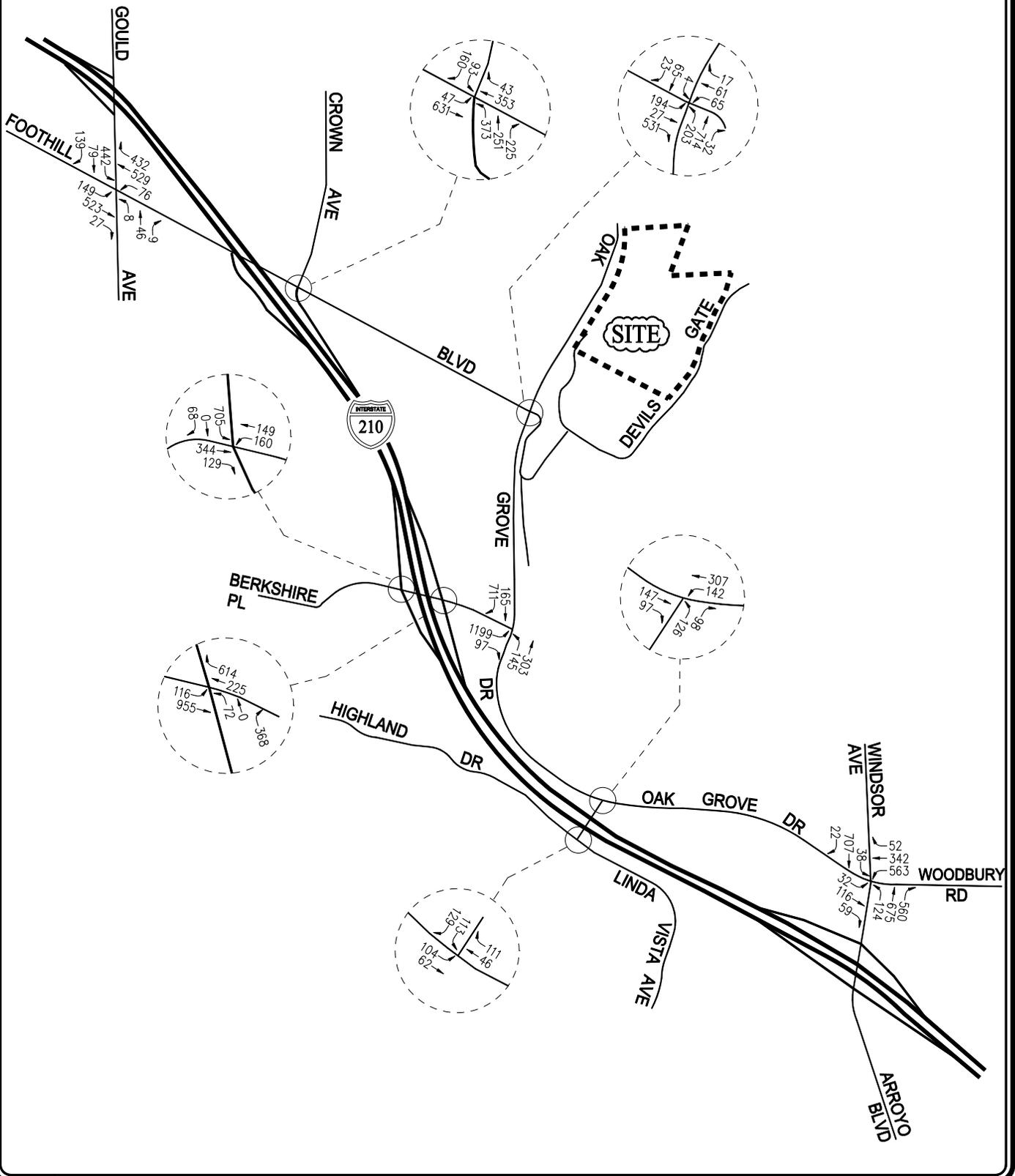
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NO.	INTERSECTION	DATE	DIR	AM PEAK HOUR		PM PEAK HOUR		DATE	WEEKEND MID-DAY	
				BEGAN	VOLUME	BEGAN	VOLUME		BEGAN	VOLUME
1	Gould Avenue/ Foothill Boulevard [2]	05/28/08	NB	7:30	62	5:00	81	10/11/08	12:30 PM	57
			SB		650		473			449
			EB		689		942			897
			WB		1,022		957			1,009
2	Crown Avenue, I-210 NB Off Ramp/ Foothill Boulevard [2]	05/28/08	NB	7:15	836	5:00	682	10/11/08	12:30 PM	531
			SB		250		215			144
			EB		668		429			300
			WB		390		504			295
3	I-210 Freeway SB On/Off Ramps/ Berkshire Place [2]	05/28/08	NB	7:15	0	5:00	0	10/11/08	1:00 PM	0
			SB		762		199			132
			EB		466		159			144
			WB		305		516			176
4	I-210 Freeway NB On/Off Ramps/ Berkshire Place [2]	05/28/08	NB	7:15	434	5:00	229	10/11/08	1:00 PM	139
			SB		0		0			0
			EB		1,055		240			150
			WB		827		854			250
5	Oak Grove Drive/ Foothill Boulevard [2]	05/28/08	NB	7:30	935	5:00	396	10/11/08	12:45 PM	226
			SB		91		981			82
			EB		741		280			239
			WB		141		35			69
6	Oak Grove Drive/ Berkshire Place [2]	05/28/08	NB	7:15	442	5:00	235	10/11/08	12:45 PM	209
			SB		863		1,044			326
			EB		1,277		293			182
			WB		0		0			0
7	Linda Vista Avenue/ Oak Grove Drive [2]	05/28/08	NB	7:30	221	5:00	144	10/11/08	1:00 PM	104
			SB		0		0			0
			EB		241		332			204
			WB		442		210			183
8	Highland Drive-Linda Vista Avenue/ Highland Drive [2]	05/28/08	NB	7:30	0	4:15	0	10/11/08	1:00 PM	0
			SB		238		133			105
			EB		163		96			72
			WB		154		147			93
9	Windsor Avenue/ Oak Grove Drive-Woodbury Road [3]	2004	NB		1,340		1,127	10/11/08	12:15 PM	734
			SB		756		714			364
			EB		205		366			151
			WB		943		568			453

[1] Counts conducted by The Traffic Solution.

[2] The year 2004 and 2008 manual traffic counts were increased at an annual rate of 1.5 percent (1.5%) to reflect existing year 2009 conditions.

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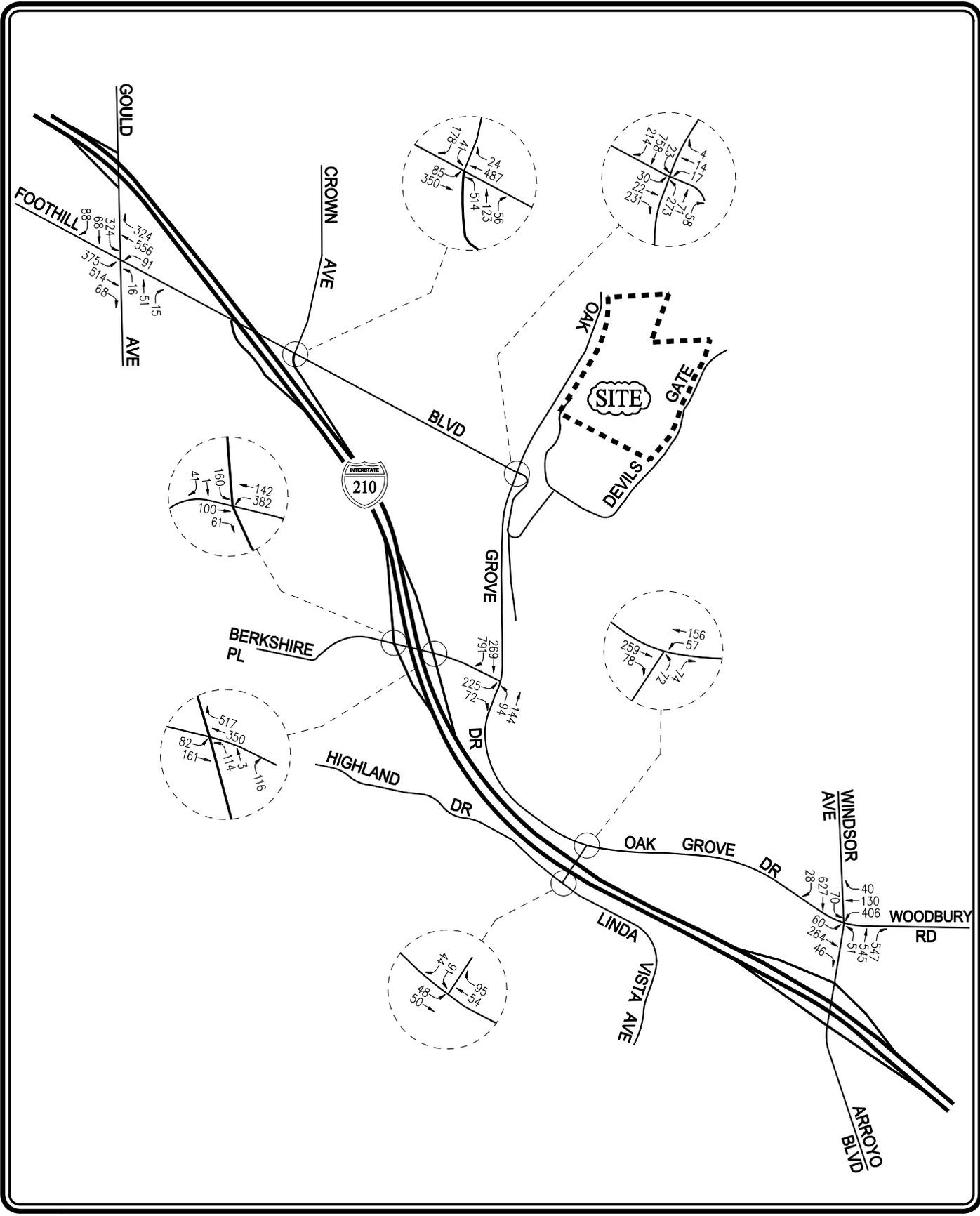


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LINSCOTT, LAW & GREENSPAN, engineers

FIGURE 5-1
EXISTING TRAFFIC VOLUMES
 WEEKDAY AM PEAK HOUR
 HWP ANNEX PROJECT

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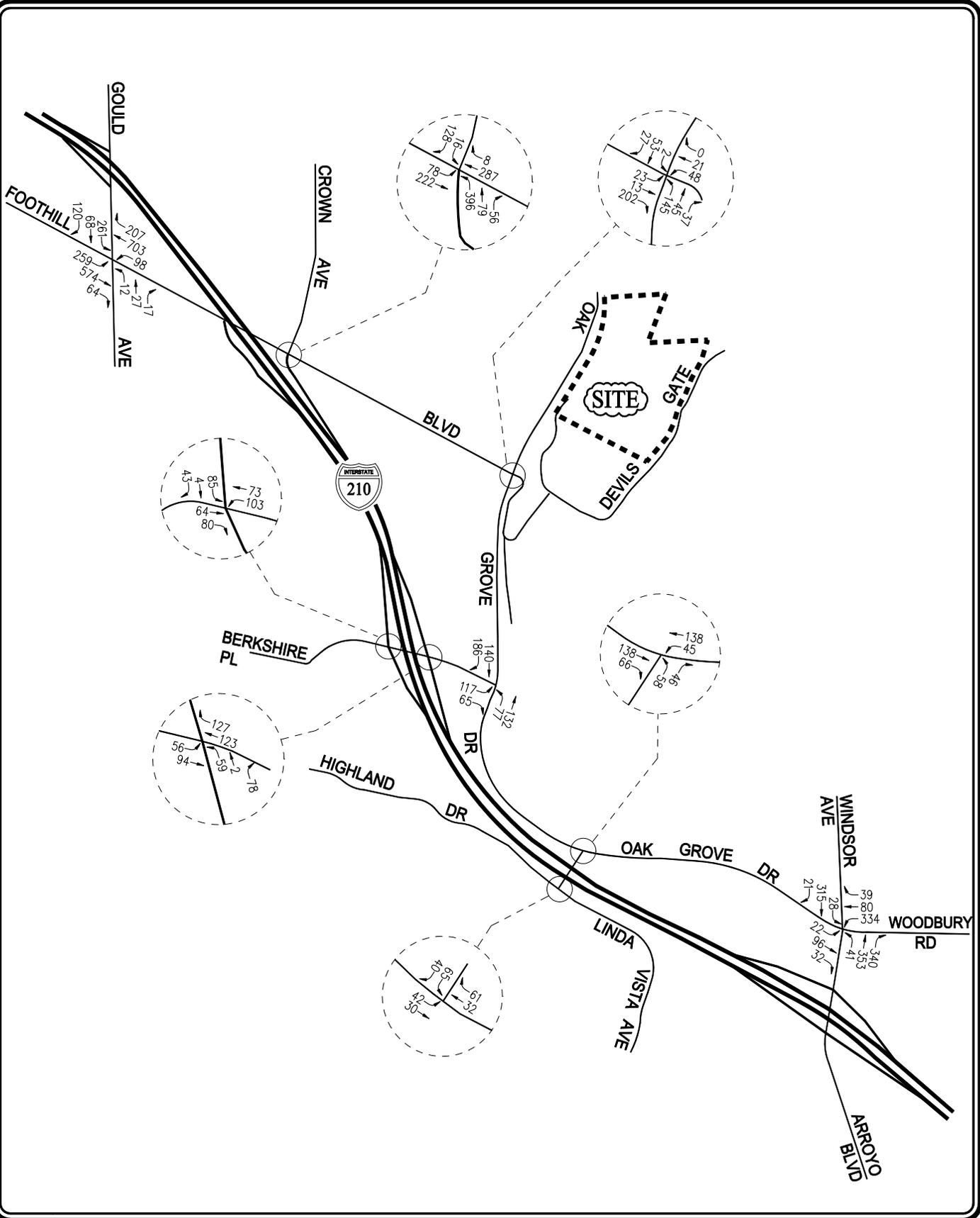


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FIGURE 5-2
EXISTING TRAFFIC VOLUMES
 WEEKDAY PM PEAK HOUR
 HWP ANNEX PROJECT

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FIGURE 5-3
EXISTING TRAFFIC VOLUMES
 WEEKEND MID-DAY PEAK HOUR
 HWP ANNEX PROJECT

6.0 CUMULATIVE PROJECTS

The forecast of future pre-project conditions was prepared in accordance with procedures outlined in Section 15130 of the CEQA Guidelines. Specifically, the CEQA Guidelines provides two options for developing the future traffic volume forecast:

“(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the [lead] agency, or

(B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or areawide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.”

Accordingly, the traffic analysis provides a highly conservative estimate of future pre-project traffic volumes as it incorporates both the “A” and “B” options outlined in the CEQA Guidelines for purposes of developing the forecast. In general, a review of cumulative impacts must address approved related projects under construction, approved related projects not yet under construction, and unapproved projects under environmental review with related impacts or which result in significant cumulative impacts.

6.1 Related Projects

A forecast of on-street traffic conditions prior to occupancy of the proposed project was prepared by incorporating the potential trips associated with other known development projects (related projects) in the area. With this information, the potential impact of the proposed project can be evaluated within the context of the cumulative impact of all ongoing development. The list of related projects was based on information on file at the City of Pasadena Departments of Planning and Transportation, City of La Canada and County of Los Angeles, as well as recently accepted traffic impact analysis reports prepared for projects in the vicinity of the proposed HWP Annex project site. The list of related projects in the project site area is presented in **Table 6-1**. The location of the related projects is shown in **Figure 6-1**. The list of related projects was submitted to City of Pasadena Department of Transportation staff for review and acceptance.

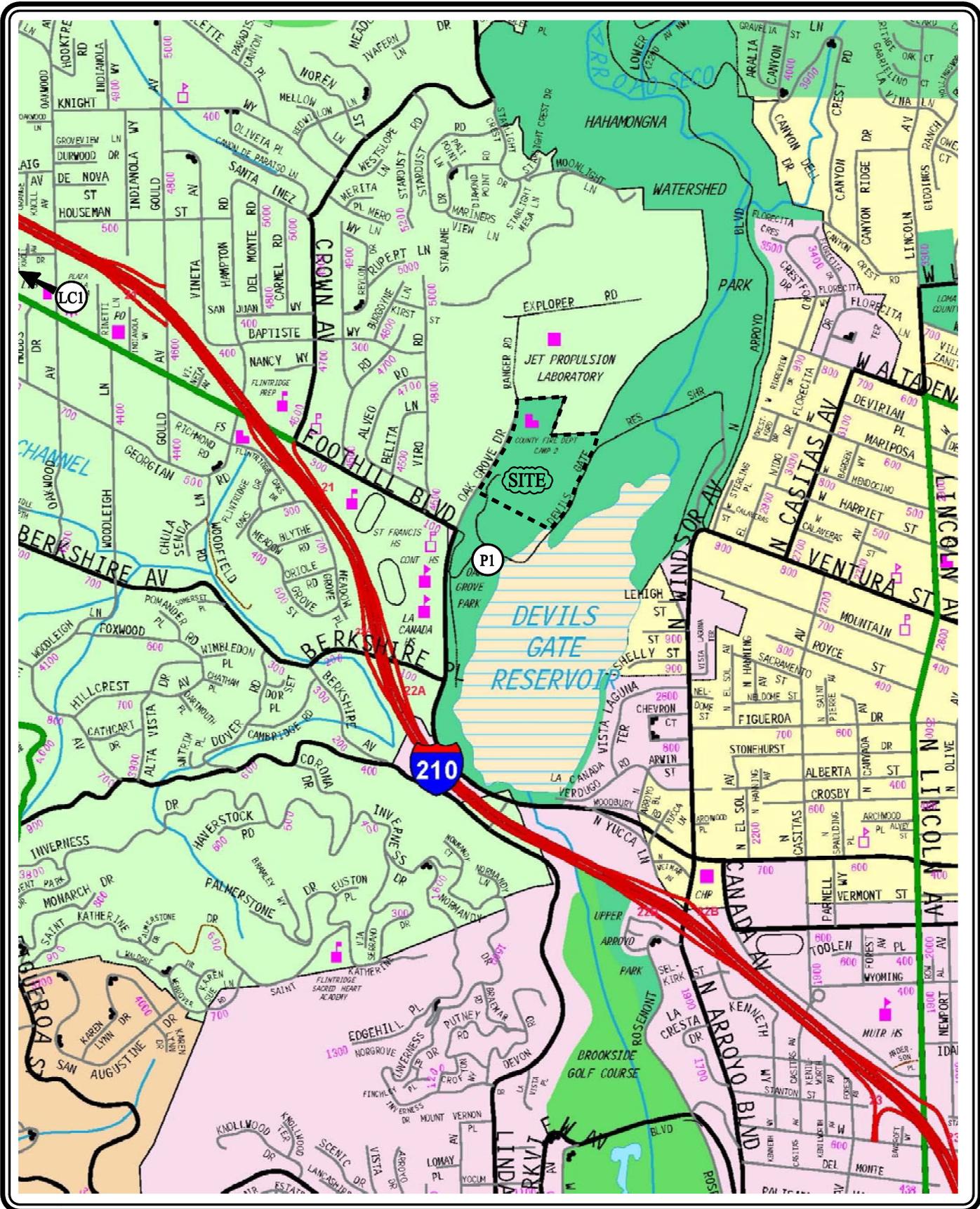
Table 6-1
LIST OF RELATED PROJECTS [1]

11-Mar-2009

MAP NO.	PROJECT NAME/ PROJECT NO.	LOCATION	LAND USE	SIZE	STATUS
CITY OF LA CAÑADA FLINTRIDGE					
LCF1	La Cañada Town Center Project [2]	South of Interstate 210, north of Foothill Boulevard, east of Angeles Crest Highway, and west of Lilian Court	Shopping Center Restaurant (Existing Shopping Center) (Existing Single-Family Detached Housing)	103,200 GLSF 8,000 GSF (28,000) GLSF (25) DU	Built & Occupied
CITY OF PASADENA					
PI	Upper Arroyo Seco Project [3] (Hahamongna Watershed Park Master Plan)	North of Oak Grove Drive, west of Windsor Avenue, and south of Explorer Road	West Side Picnic Amenities Sycamore Grove Field Sunrise Overlook Sunset Overlook	15 Acres 2 Fields 1 Acre 2 Acres	75% Complete Proposed Proposed Proposed

- [1] Sources:
 - City of La Cañada Flintridge Planning Department and website.
 - City of Pasadena Department of Planning, Parks & Natural Resources Division, and Pasadena Department of Transportation.
 - County of Los Angeles Department of Regional Planning.
- [2] Source: "Traffic Study for La Cañada Town Center", prepared by Meyer, Mohaddes Associates, June 2006.
- [3] Source: "Traffic Impact Study for the Arroyo Seco Master Plan Project", prepared by LLG Engineers, February 2002, and additional information provided by City of Pasadena Parks & Natural Resources Division staff.

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MAP SOURCE: THOMAS BROS. GUIDE

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FIGURE 6-1 LOCATION OF RELATED PROJECTS

LINSCOTT, LAW & GREENSPAN, engineers

HWP ANNEX PROJECT

Traffic volumes expected to be generated by the related projects were calculated using rates provided in the Seventh Edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE) [Washington D.C., 2003]. The related projects respective traffic generation for the weekday AM and PM peak hours and weekend mid-day peak hour, as well as on a daily basis for a typical weekday and weekend day, is summarized in **Table 6-2**. The anticipated distribution of the related projects traffic volumes to the study intersections during the weekday AM and PM peak hours is displayed in **Figures 6-2** and **6-3**, respectively. The anticipated distribution of the related projects traffic volumes to the study intersections during the weekend mid-day peak hour is displayed in **Figure 6-4**.

6.2 Ambient Traffic Growth Factor

In order to account for area-wide regional growth not included in this analysis, the existing traffic volumes were increased at an annual rate of one and one-half percent (1.5%) to the year 2014 (i.e., the anticipated year of project build-out). The ambient growth factor was based on general traffic growth factors provided in the *2004 Congestion Management Program for Los Angeles County* (the “CMP manual”) and determined in consultation with PasDOT staff. It is noted that based on review of the general traffic growth factors provided in the CMP manual for the San Gabriel Valley area, it is anticipated that the existing traffic volumes are expected to increase at an annual rate of less than 1.0% per year between the years 2005 and 2025. Thus, application of this annual growth factor allows for a conservative, worst case forecast of future traffic volumes in the area. Further, it is noted that the CMP manual’s traffic growth rate is intended to anticipate future traffic generated by development projects in the project vicinity. Thus, the inclusion in this traffic analysis of both a forecast of traffic generated by known related projects plus the use of an ambient growth traffic factor based on CMP traffic model data results in a conservative estimate of future traffic volumes at the study intersections.

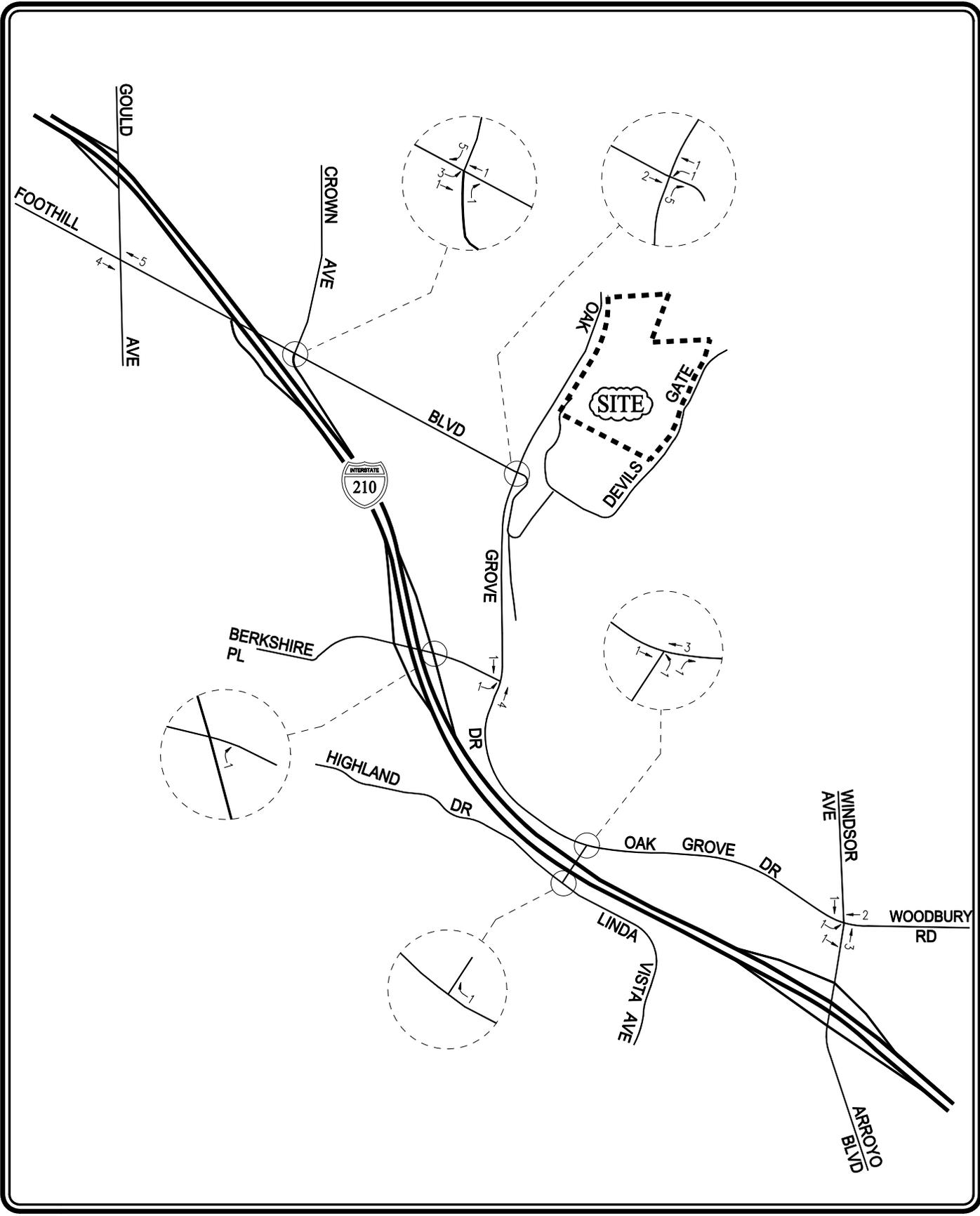
Table 6-2
RELATED PROJECTS WEEKDAY AND WEEKEND TRIP GENERATION [1]

11-Mar-2009

MAP NO.	LAND USE	SIZE	WEEKDAY CONDITIONS						WEEKEND CONDITIONS				
			DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]			DAILY TRIP ENDS [2] VOLUMES	MID-DAY PEAK HOUR VOLUMES [2]		
				IN	OUT	TOTAL	IN	OUT	TOTAL		IN	OUT	TOTAL
CITY OF LA CANADA FLINTRIDGE													
LCFI	La Cañada Town Center Project [3] Shopping Center Restaurant (Existing Shopping Center) (Existing Single Family Detached Housing)	103,200 GLSF 8,000 GSF (28,000)GLSF (25)DU	4,007	90	60	150	173	171	344	4,772	283	227	510
CITY OF PASADENA													
PI	Upper Arroyo Seco Project [4] West Side Picnic Amenities Sycamore Grove Field Sunrise Overlook Sunset Overlook	15 Acres 2 Fields 1 Acre 2 Acres	2,196	13	4	17	107	146	253	2,520	141	169	310
TOTAL			6,203	103	64	167	280	317	597	7,292	424	396	820

- [1] Source: ITE "Trip Generation", 7th Edition, 2003, unless otherwise noted.
- [2] Trips are one-way traffic movements, entering or leaving.
- [3] Source: "Traffic Study for La Cañada Town Center", prepared by Meyer, Mohaddes Associates, June 2006.
- [4] Source: "Traffic Impact Study for the Arroyo Seco Master Plan Project", prepared by LLG Engineers, February 2002.

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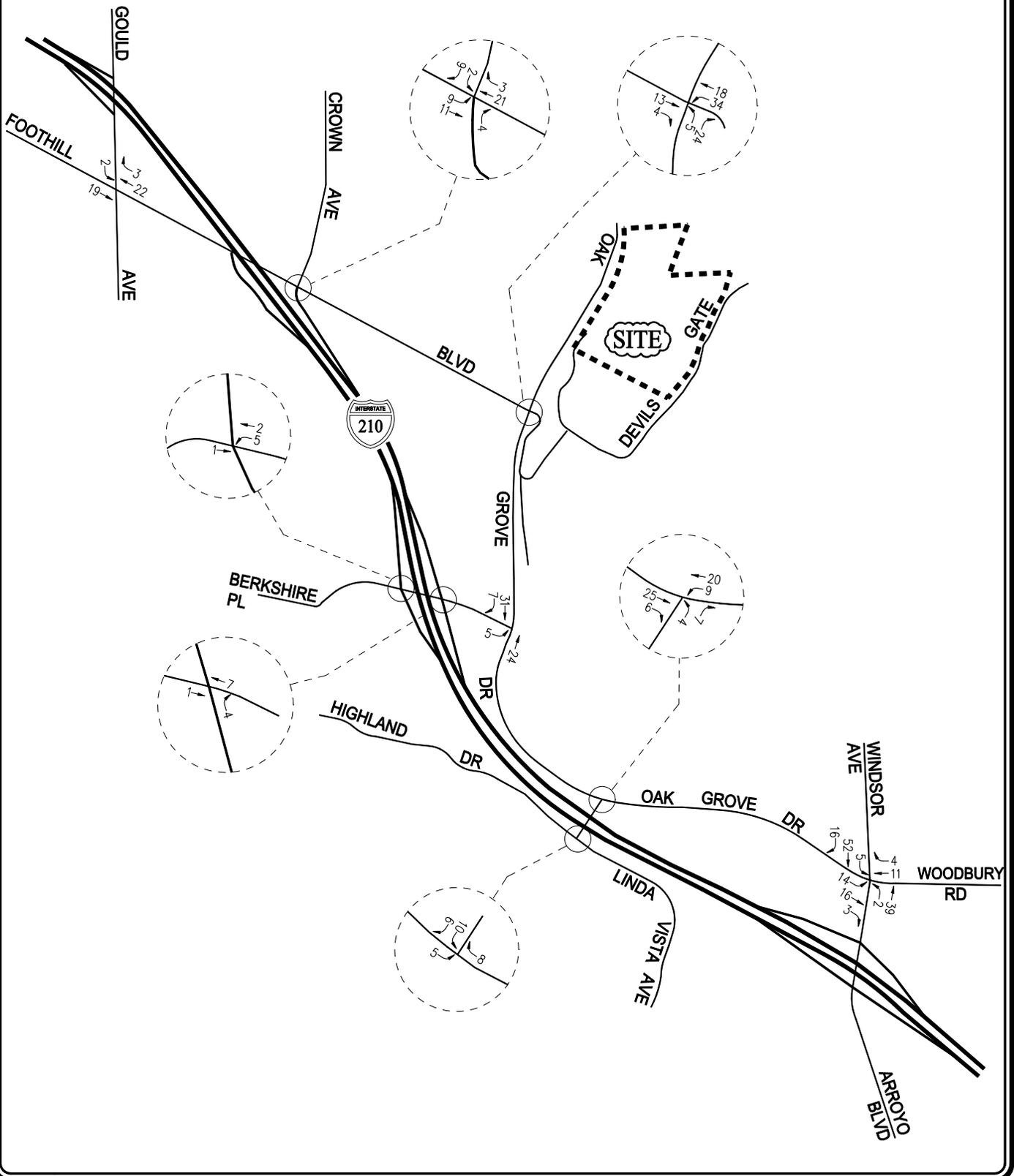


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FIGURE 6-2
RELATED PROJECTS TRAFFIC VOLUMES
 WEEKDAY AM PEAK HOUR
 HWP ANNEX PROJECT

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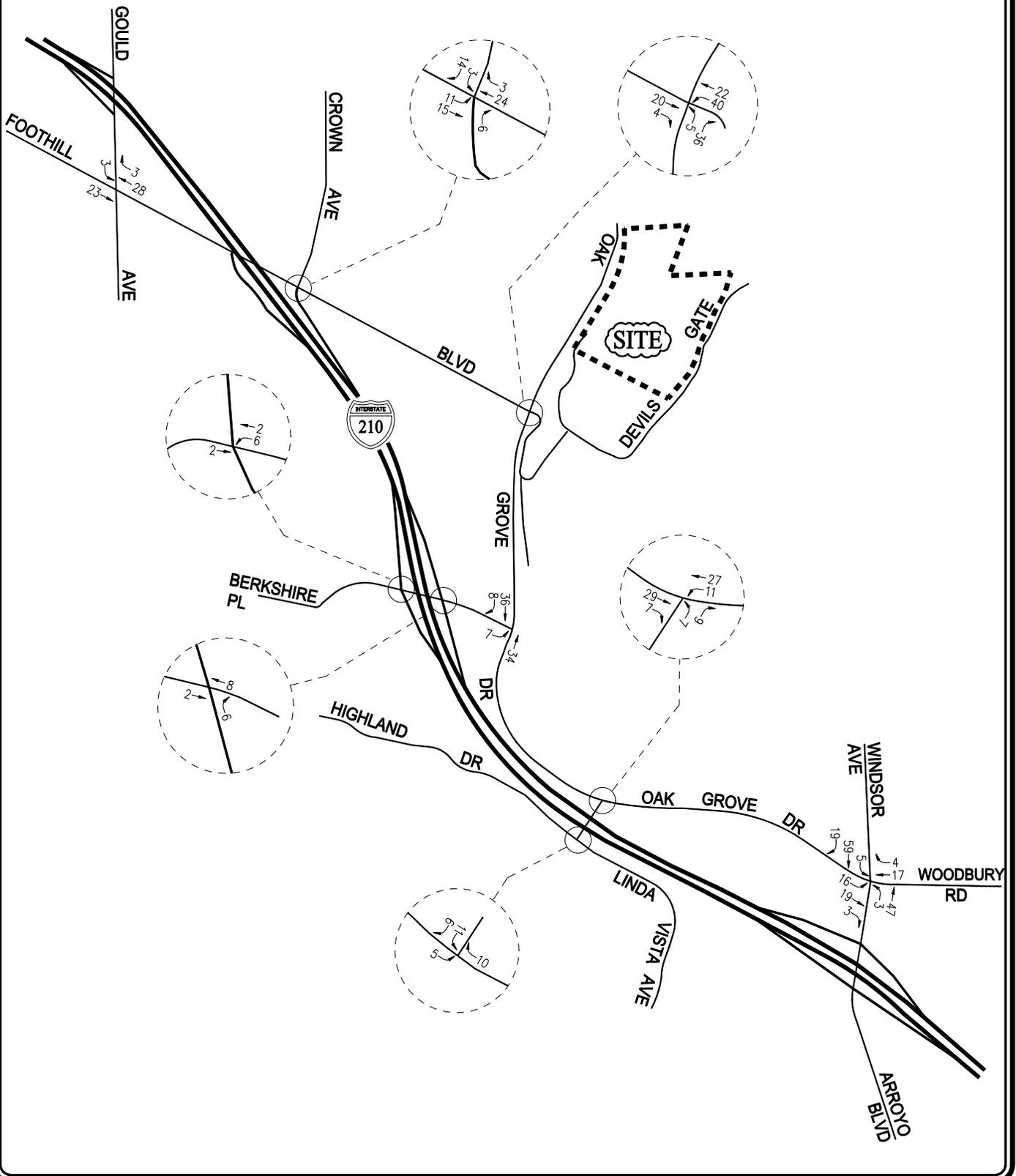
FIGURE 6-3 RELATED PROJECTS TRAFFIC VOLUMES

WEEKDAY PM PEAK HOUR

HWP ANNEX PROJECT

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FIGURE 6-4
RELATED PROJECTS TRAFFIC VOLUMES
WEEKEND MID-DAY PEAK HOUR
HWP ANNEX PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

7.0 TRAFFIC FORECASTING METHODOLOGY

In order to estimate the traffic impact characteristics of the HWP Annex project, a multi-step process has been utilized. The first step is trip generation, which estimates the total arriving and departing traffic volumes on a peak hour and daily basis. The traffic generation potential is forecast by applying the appropriate vehicle trip generation equations or rates to the project development tabulation.

The second step of the forecasting process is trip distribution, which identifies the origins and destinations of inbound and outbound project traffic volumes. These origins and destinations are typically based on demographics and existing/anticipated travel patterns in the study area.

The third step is traffic assignment, which involves the allocation of project traffic to study area streets and intersections. Traffic assignment is typically based on minimization of travel time, which may or may not involve the shortest route, depending on prevailing operating conditions and travel speeds. Traffic distribution patterns are indicated by general percentage orientation, while traffic assignment allocates specific volume forecasts to individual roadway links and intersection turning movements throughout the study area.

With the forecasting process complete and project traffic assignments developed, the impact of the proposed project is isolated by comparing operational (i.e., Levels of Service) conditions at the selected key intersections using expected future traffic volumes with and without forecast project traffic. The need for site-specific and/or cumulative local area traffic improvements can then be evaluated and the significance of the project's impacts identified.

7.1 Project Traffic Generation

Traffic generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Traffic volumes to be generated by the proposed HWP Annex project were forecast for the weekday AM and PM peak hours, and over a 24-hour period as well as for the weekend mid-day peak hour and weekend 24-hour period. The resource typically used by traffic engineers (including the City of Pasadena) to forecast trip generation for development projects is the ITE *Trip Generation* manual. However, in this instance, the ITE manual does not provide trip rates for a land use such as the project. The HWP Annex land use is unique due to the nature of the planned land use components of the proposed project, expected project programming (e.g., classes, events, exhibit halls), etc. Therefore, PasDOT staff determined it would be appropriate to forecast the trips generated by the project based on the project's land use components, anticipated visitor arrival and departure patterns during typical weekdays and weekend days, and expected class, event, etc., programming.

7.1.1 Trip Generation Assumptions

The trip generation forecasts for the HWP Annex project were derived based on information provided by City of Pasadena Parks & Natural Resources Division staff (i.e., the project's land use components, anticipated visitor arrival and departure patterns during typical weekdays and weekend days, and expected classes, event and other programming). As previously mentioned, a summary of anticipated visitor arrival and departure patterns for typical weekdays and weekend days is provided in *Appendix Tables A-1 and A-2*, respectively. The project trip generation was forecast based on the following considerations:

- Although other existing and ancillary users are envisioned (e.g., bicycle riders, picnic and outdoor area users, dog walkers, etc.) as part of the project, the Educational Center and Equestrian components of the project are anticipated to generate additional vehicular trips to the site;
- One general class/conference session during a typical weekday and two sessions during a typical weekend day will be held at the Educational Center;
- The Educational Center will accommodate an average of 175 class/conference attendees, which results in 70 vehicles based on an average vehicle ridership of 2.5 persons per vehicle;
- Visitors to the Educational Center (i.e., information booths, exhibit halls, area) are anticipated to arrive and depart the site after a brief stay during the morning, mid-day and afternoon periods (approximately 10 vehicles during typical weekdays and 20 vehicles during typical weekend days);
- The growing bed/plant labs are anticipated to accommodate two class sessions during a typical mid-weekday for educational groups (e.g., Caltech and Pasadena City College staff/students) that will arrive and depart the site via vans;
- The community volunteer center is anticipated to generate approximately nine vehicles during a typical weekday and nine vehicles during typical weekend days, with volunteers arriving in two sessions;
- It is envisioned that there will be an increase in the number and usage of the equestrian boarding facilities (i.e., 36 horse boarding stalls will increase to a maximum of 70 horse boarding stalls) during typical weekdays and weekend days (approximately nine additional vehicles two times per day during a typical weekday and eight additional vehicles during the morning and six additional vehicles in the afternoon during a typical weekend day);

- It is anticipated that there will be an increase in usage of the other equestrian facilities (i.e., public event area, riding ring, clubhouse, staging areas, etc.) during a typical weekdays and weekend days when they become available both to public and private groups as part of the proposed project (approximately one additional vehicle in the morning and five additional vehicles in the afternoon during a typical weekday and five additional vehicles two times per day during a typical weekend day);
- It is estimated that there will be an increase in usage of the existing therapeutic riding program/classes during a typical weekday and weekend day when this existing land use is relocated to a larger portion of the Annex site (approximately four additional vehicles two times per day during typical weekdays and three additional vehicles once during a weekend day);

7.1.2 Project Weekday Trip Generation

The forecast of the vehicular trips anticipated to be generated by the proposed project are presented in **Table 7-1**. The project trip generation forecast was submitted for review and acceptance by PasDOT staff. As summarized in *Table 7-1*, the proposed project is expected to generate 84 vehicle trips (84 inbound trips) during the weekday AM peak hour. During the weekday PM peak hour, the proposed project is expected to generate 79 vehicle trips (79 outbound trips). Over a 24-hour period, the proposed project is forecast to generate approximately 336 daily trip ends during a typical weekday (168 inbound trips and 168 outbound trips).

7.1.3 Project Weekend Trip Generation

The weekend traffic generation forecast for the proposed project also is summarized in *Table 7-1*. The project trip generation forecast was submitted for review and acceptance by PasDOT staff. As presented in *Table 7-1*, the proposed project is expected to generate 160 net new vehicle trips (90 inbound trips and 70 outbound trips) during the weekend mid-day peak hour. Over a 24-hour period, the proposed project is forecast to generate 490 net new daily trip ends during a typical weekend (245 inbound trips and 245 outbound trips).

Table 7-1
PROJECT TRIP GENERATION SUMMARY [1]
WEEKDAY AND WEEKEND CONDITIONS

11-Mar-2009

LAND USE	SIZE	WEEKDAY						WEEKEND					
		DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]			DAILY TRIP ENDS [2] VOLUMES	MID-DAY PEAK HOUR VOLUMES [2]			
			IN	OUT	TOTAL	IN	OUT	TOTAL		IN	OUT	TOTAL	
HWP Annex Project [3]	30 Acres	336	84	0	84	0	79	79	490	90	70	160	
TOTAL		336	84	0	84	0	79	79	490	90	70	160	

[1] Source: Information provided by City of Pasadena Parks & Natural Resources Division staff. Volumes presented reflect the additional traffic that is forecast to be generated by the Annex site with the project.

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

[3] Trip generation forecasts for the project have been derived based on the project's land use components, anticipated visitor arrival and departure patterns during typical weekdays and weekend days, and expected classes, event, etc., programming. Refer to Appendix Tables A-1 and A-2 for a summary of the anticipated visitor arrival and departure patterns during typical weekdays and weekend days, respectively, for land use components that are expected to generate additional vehicle trips to the Annex site.

The following project information and data was provided by City staff:

- Although other ancillary uses are envisioned (e.g., bike riders, picnic, and outdoor areas, etc.), the Educational Center and Equestrian components of the proposed project are anticipated to generate additional vehicular trips to the site. (Based on the 2007 Summary of Programs & Events, reported by Annex tenants and presented to the HWPAC on 4/13/08).
- At the Educational Center, one general class/conference session will be held during a typical weekday and two sessions during a typical weekend day.
- Visitors are anticipated at the Education Center (e.g., to the information area, exhibit halls, etc.).
- It is envisioned that the project would increase the usage of the existing equestrian boarding facility, other equestrian facilities (i.e., public event areas, riding ring, staging area, etc.), and the therapeutic riding program.
- Other equestrian facilities include public event areas, riding ring, staging areas, etc., provided within the Annex site.

The daily and peak hour traffic volume forecasts for the project are based on the following assumptions:

Weekday Conditions

Daily Trips		AM Peak Hour Trips		PM Peak Hour Trips			
Component	Trips	Component	In	Out	Component	In	Out
Conference Attendees	140	Conference Attendees	70	0	Conference Attendees	0	70
Visitors	60	Community Volunteer Ctr	9	0	Equestrian Boarding	0	9
Growing Beds/Labs	36	Other Equestrian Facilities	1	0	Total	0	79
Community Volunteer Ctr	36	Therapeutic Riding Pgm	4	0			
Equestrian Boarding	36	Total	84	0			
Other Equestrian Facilities	12						
Therapeutic Riding Pgm	16						
Total	336						

Weekend Conditions

Daily Trips		Mid-Day Peak Hour Trips		
Component	Trips	Component	In	Out
Conference Attendees	280	Conference Attendees	70	70
Visitors	120	Community Volunteer Ctr	9	0
Growing Beds/Labs	0	Equestrian Boarding	6	0
Community Volunteer Ctr	36	Other Equestrian Facilities	5	0
Equestrian Boarding	28	Total	90	70
Other Equestrian Facilities	20			
Therapeutic Riding Pgm	6			
Total	490			

7.1.4 Trip Generation Comparison

For comparison purposes, a project trip generation forecast based on trip rates from the ITE *Trip Generation* manual was reviewed. The ITE trip generation rates for Regional Park (ITE Land Use Code 417) indicate a weekday daily rate of 4.57 trips per acre, an AM peak hour rate of 0.20 trips per acre, and a PM peak hour of generator rate of 0.26 trips per acre. For a weekend condition (i.e., Saturday), the manual indicates a daily rate of 5.65 trips per acre and a mid-day peak hour rate of 0.34 trips per acre. Application of these ITE trip generation rates to the 30-acre Annex site would yield a total of six AM peak hour vehicle trips, eight PM peak hour vehicle trips, and 137 daily trips during a weekday. For a weekend day, application of the ITE trip generation rates would yield a total of 10 mid-day peak hour vehicle trips and 170 daily trips. It should be noted that the ITE trip generation forecast reflects trips associated with both the existing and proposed uses at the Annex site, as compared to the employed methodology (i.e., based on planned land use components and expected programming, and typical weekday and weekend day visitor arrival and departure patterns at the site) which forecasts only the new vehicle trips anticipated to be generated by the project. By comparison, the estimated new vehicular trip generation based on the methodology employed in the traffic analysis is higher than the ITE trip generation forecast based on the entire site (existing and proposed uses). Therefore, a forecast based on the incorporated methodology provides a conservative estimate of new vehicular trips associated with the project.

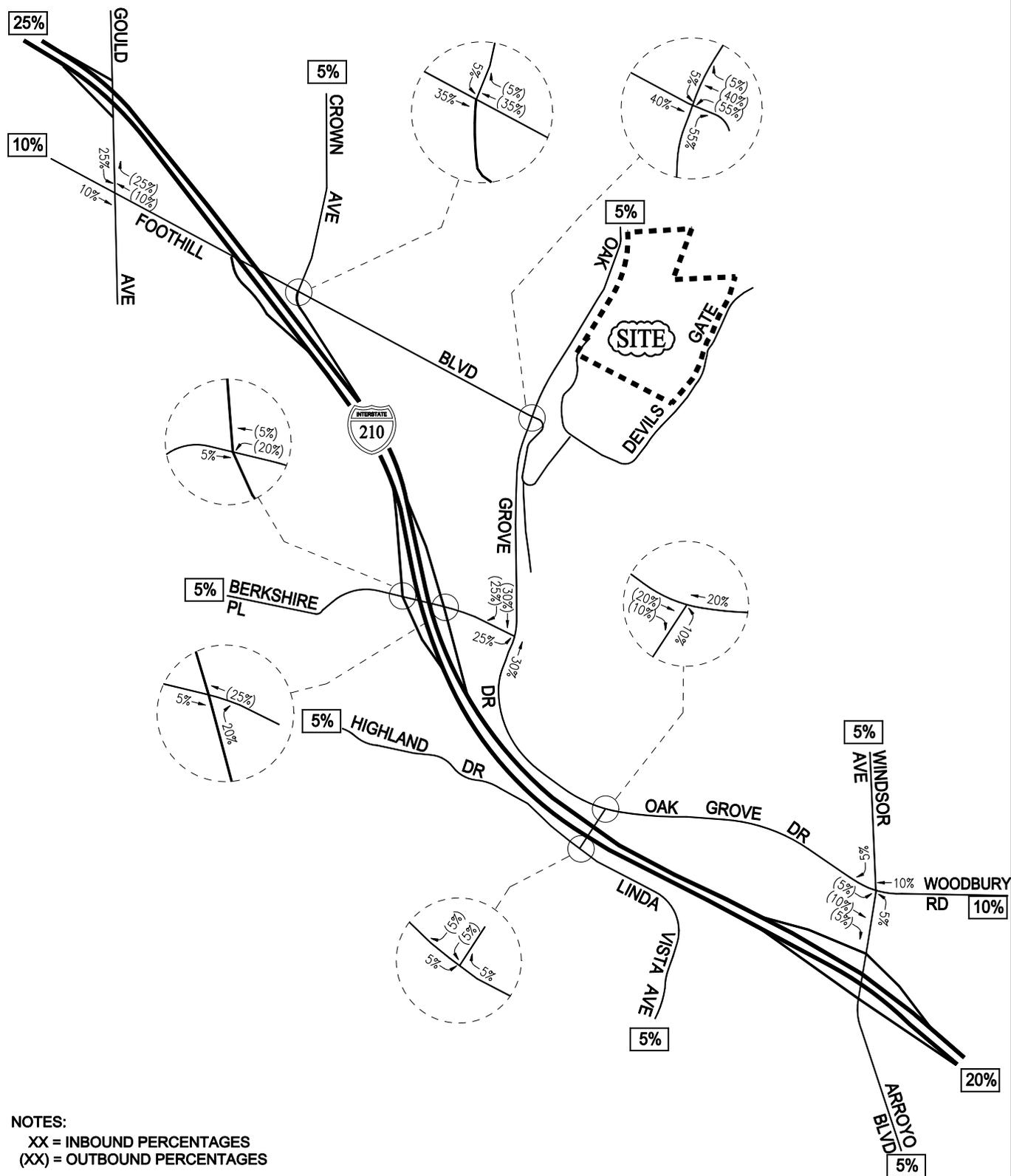
7.2 Project Trip Distribution and Assignment

Project traffic volumes both entering and exiting the site have been distributed and assigned to the adjacent street system based on the following considerations:

- The site's proximity to major traffic corridors (i.e., Foothill Boulevard, Arroyo Boulevard, Woodbury Road, etc.);
- Expected localized traffic flow patterns based on adjacent roadway channelization and presence of traffic signals;
- Existing intersection traffic volumes;
- The anticipated visitor arrival and departure information for each land use component provided by City staff;
- Ingress/egress availability planned for the proposed project; and
- Input from PasDOT staff.

The general, directional traffic distribution patterns for the proposed HWP Annex project during the weekday AM and PM and weekend mid-day peak hours are presented in *Figure 7-1*.

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FIGURE 7-1 PROJECT TRIP DISTRIBUTION

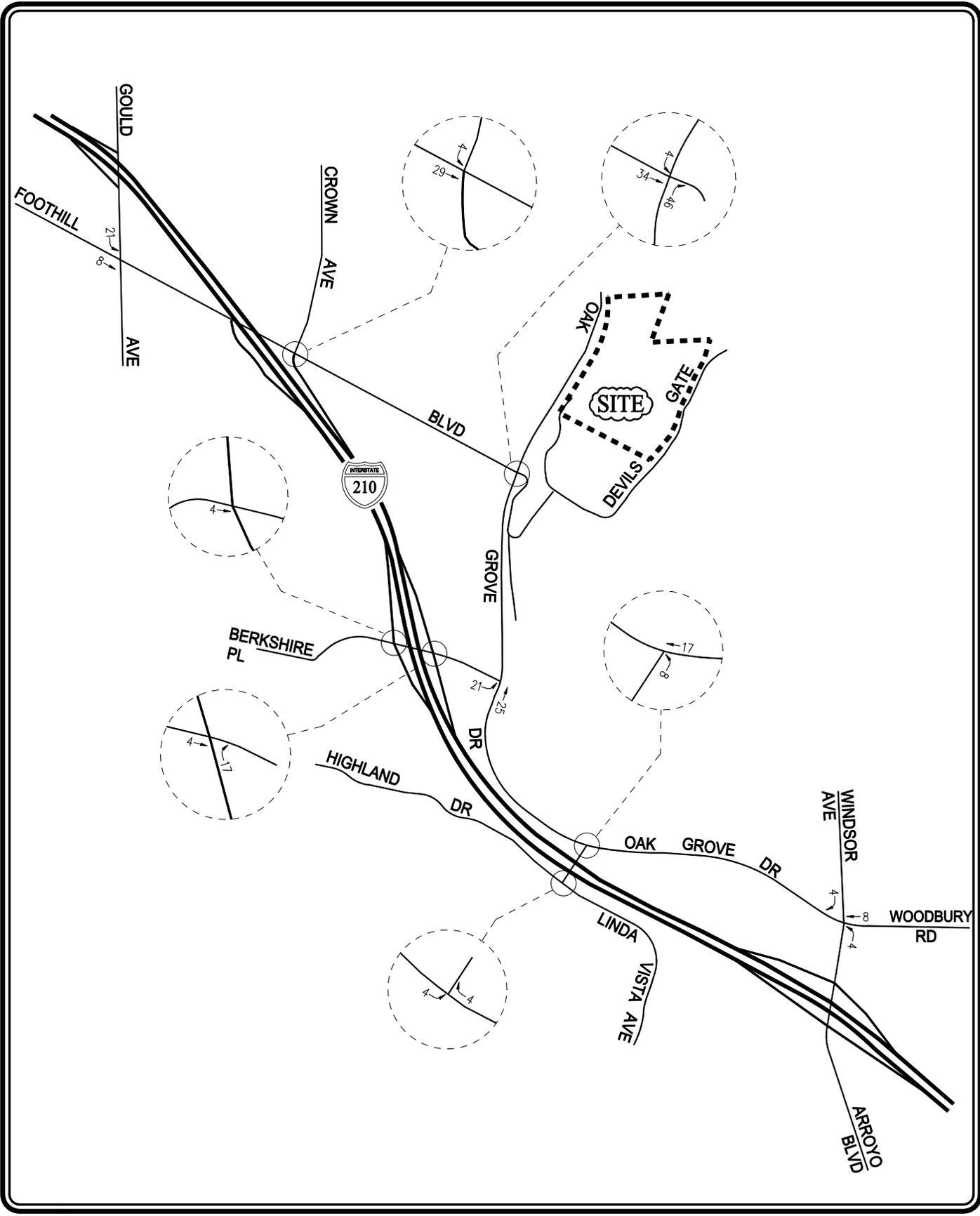
7.2.1 Project Weekday Trip Assignment

The forecast weekday AM and PM peak hour project traffic volumes at the study intersections associated with the proposed project are presented in **Figures 7-2** and **7-3**, respectively. The traffic volume assignments presented in *Figures 7-2* and *7-3* reflect the traffic distribution characteristics shown in *Figure 7-1* and the project traffic generation forecast presented in *Table 7-1*.

7.2.2 Project Weekend Trip Assignment

The forecast weekend mid-day peak hour project traffic volumes at the study intersections associated with the proposed project are presented in **Figure 7-4**. The traffic volume assignments presented in *Figure 7-4* reflect the traffic distribution characteristics shown in *Figure 7-1* and the project traffic generation forecast presented in *Table 7-1*.

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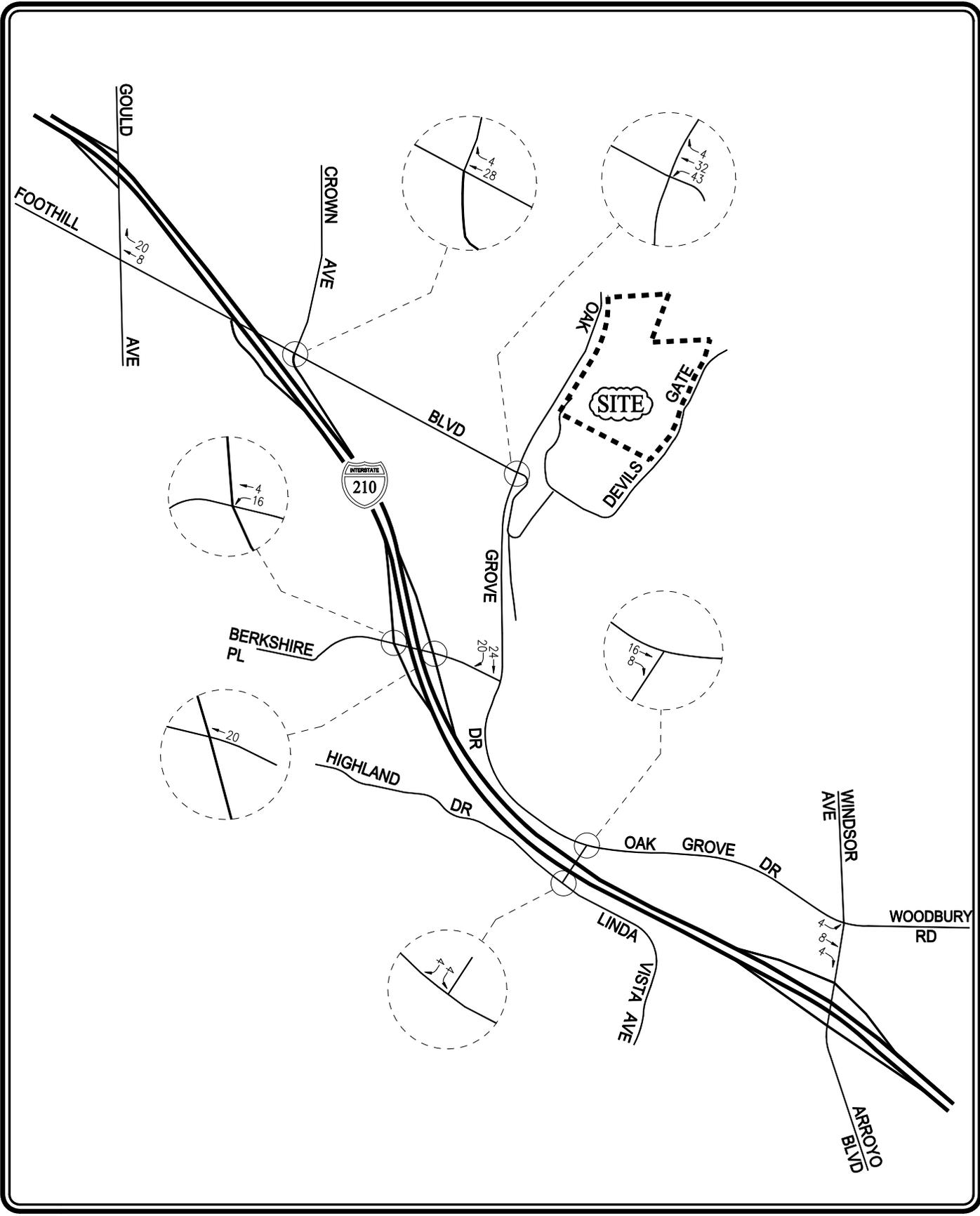


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FIGURE 7-2
PROJECT TRAFFIC VOLUMES
 WEEKDAY AM PEAK HOUR
 HWP ANNEX PROJECT

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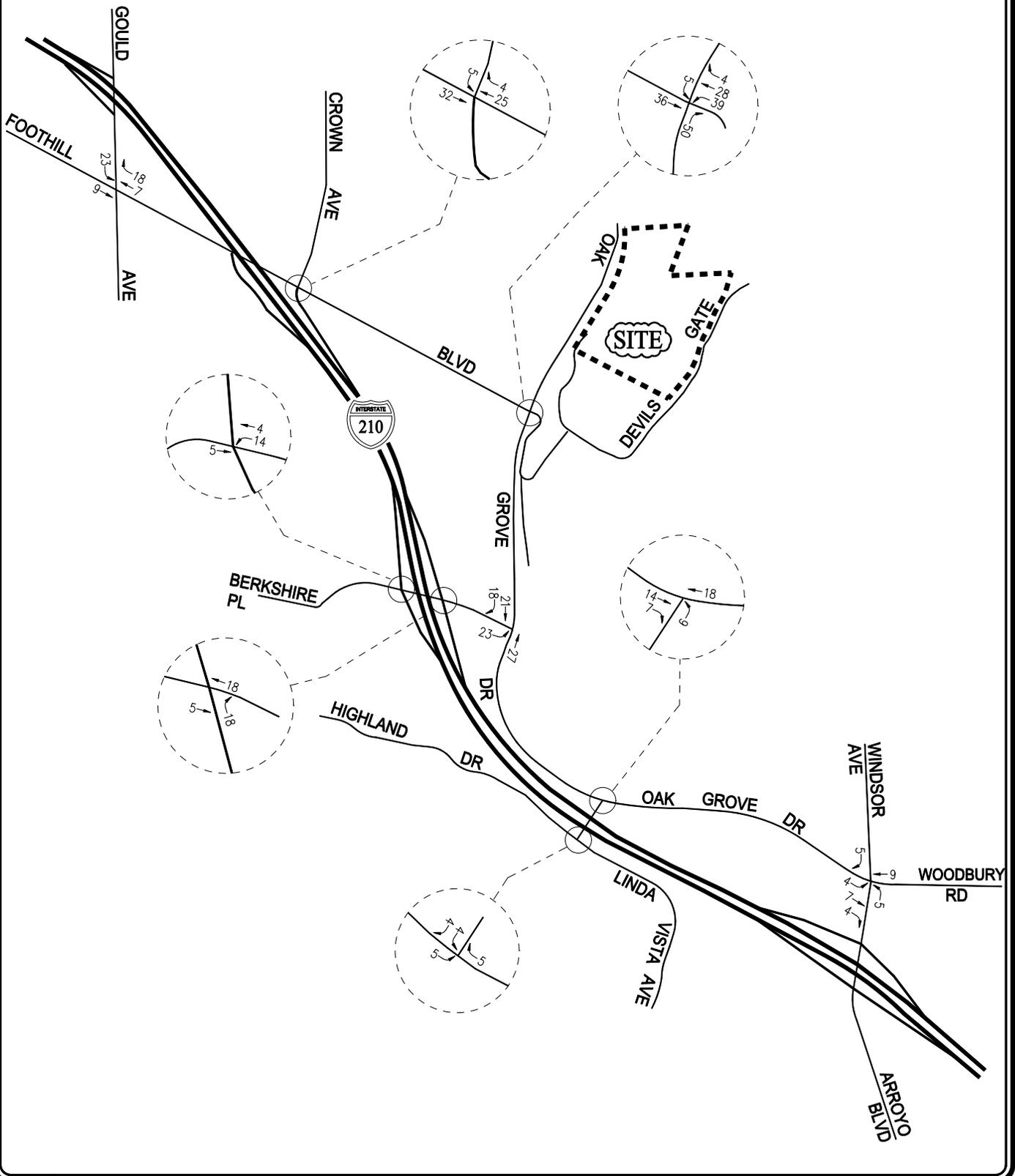


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FIGURE 7-3
PROJECT TRAFFIC VOLUMES
 WEEKDAY PM PEAK HOUR
 HWP ANNEX PROJECT

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FIGURE 7-4
PROJECT TRAFFIC VOLUMES
 WEEKEND MID-DAY PEAK HOUR
 HWP ANNEX PROJECT

8.0 TRAFFIC IMPACT ANALYSIS METHODOLOGY

The nine study intersections were evaluated using the Intersection Capacity Utilization (ICU) method of analysis, which determines Volume-to-Capacity (v/c) ratios on a critical lane basis. The overall intersection v/c ratio is subsequently assigned a Level of Service (LOS) value to describe intersection operations. Level of Service varies from LOS A (free flow) to LOS F (jammed condition). A description of the ICU method and corresponding Level of Service is provided in *Appendix C*.

8.1 Impact Criteria and Thresholds

The relative impact of the added project traffic volumes to be generated by the proposed HWP Annex project during the weekday AM and PM peak hours and weekend mid-day peak hour was evaluated based on analysis of future operating conditions at the study intersections, without and with the proposed project. The previously discussed capacity analysis procedures were utilized to evaluate the future v/c relationships and service level characteristics at each study intersection.

The significance of the potential impacts of project-generated traffic at each study intersection was identified using criteria set forth in the City of Pasadena's *Transportation Impact Review Current Practice and Guidelines*. According to the City's Sliding Scale Method for calculating the level of impact due to traffic generated by the proposed project, a significant transportation impact is determined based on the criteria presented in *Table 8-1*.

Final v/c	Level of Service	Project Related Increase in v/c
0.000 - 0.600	A	equal to or greater than 0.06
> 0.600 - 0.700	B	equal to or greater than 0.05
> 0.700 - 0.800	C	equal to or greater than 0.04
> 0.800 - 0.900	D	equal to or greater than 0.03
> 0.900 - 1.000	E	equal to or greater than 0.02
> 1.000	F	equal to or greater than 0.01

The City's Sliding Scale Method requires mitigation of project traffic impacts whenever traffic generated by the proposed development causes an increase of the analyzed intersection v/c ratio by an amount equal to or greater than the values shown above.

The ICU calculations use a lane capacity of 1,700 vehicles per hour (vph) for left-turn, through and right-turn lanes, and a dual turn lane capacity of 3,060 vph. A clearance interval of 0.10 is also included in the ICU calculations.

8.2 Traffic Impact Analysis Scenarios

Traffic impacts at the study intersections were analyzed for the following conditions:

- [a] Existing conditions.
- [b] Condition [a] plus 1.5 percent (1.5%) ambient traffic growth through year 2014.
- [c] Condition [b] with completion and occupancy of the related projects.
- [d] Condition [c] with completion and occupancy of the proposed project.
- [e] Conditions [d] with implementation of project mitigation measures, where necessary.

The traffic volumes for each new condition were added to the volumes in the prior condition to determine the change in capacity utilization at the nine study intersections. The proposed project ICU data worksheets for the analyzed intersections are contained in *Appendix C*.

9.0 TRAFFIC ANALYSIS

Summaries of the v/c ratios and LOS values for the study intersections during the weekday AM and PM and weekend mid-day peak hours are shown in **Table 9-1**.

9.1 Existing Conditions

9.1.1 Existing Weekday Conditions

As indicated in column [1] of *Table 9-1*, all of the study intersections are presently operating at LOS C or better during the weekday AM and PM peak hours under existing conditions. As previously mentioned, the existing traffic volumes at the study intersections during the weekday AM and PM peak hours are displayed in *Figures 5-1* and *5-2*, respectively.

9.1.2 Existing Weekend Conditions

As indicated in column [1] of *Table 9-1*, all of the study intersections are presently operating at LOS C or better during the weekend mid-day peak hour under existing conditions. As previously mentioned, the existing traffic volumes at the study intersections during the weekend mid-day peak hour are displayed in *Figure 5-3*.

9.2 Existing With Ambient Growth Conditions

9.2.1 Existing With Ambient Growth Weekday Conditions

Growth in traffic due to the combined effects of continuing development, intensification of existing developments and other factors was assumed to be 1.5 percent (1.5%) per year through year 2014. This ambient growth incrementally increases the v/c ratios at all of the study intersections. As shown in column [2] of *Table 9-1*, all of the study intersections are expected to operate at LOS D or better during the weekday AM and PM peak hours with the addition of ambient growth traffic.

The existing with ambient growth traffic volumes at the study intersections during the weekday AM and PM peak hours are shown in **Figures 9-1** and **9-2**, respectively.

9.2.2 Existing With Ambient Growth Weekend Conditions

Growth in traffic due to the combined effects of continuing development, intensification of existing developments and other factors was assumed to be 1.5 percent (1.5%) per year through year 2014. This ambient growth incrementally increases the v/c ratios at all of the study intersections. As shown in column [2] of *Table 9-1*, all of the study intersections are expected to continue operating at LOS C or better during the weekend mid-day peak hour with the addition of ambient growth traffic.

The existing with ambient growth traffic volumes at the study intersections during the weekend mid-day peak hour is shown in **Figure 9-3**

Table 9-1
SUMMARY OF VOLUME TO CAPACITY RATIOS
AND LEVELS OF SERVICE
WEEKDAY AND WEEKEND CONDITIONS

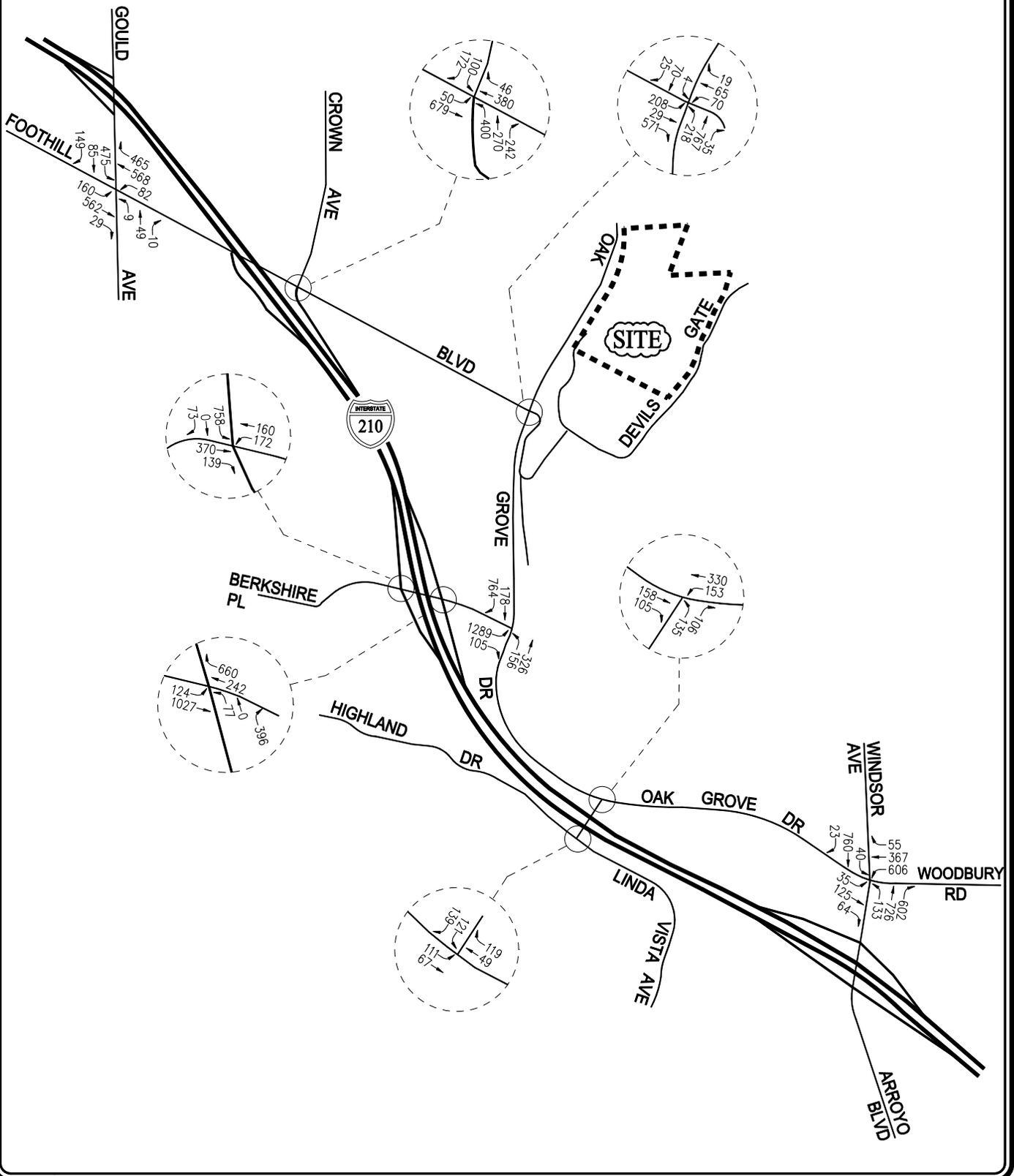
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NO.	INTERSECTION	PEAK HOUR	[1]		[2]		[3]		[4]			
			YEAR 2009 EXISTING V/C	LOS	YEAR 2014 W/ AMBIENT GROWTH V/C	LOS	YEAR 2014 W/ RELATED PROJECTS V/C	LOS	YEAR 2014 W/ PROPOSED PROJECT V/C	LOS	CHANGE V/C [(4)-(3)]	SIGNIF. IMPACT
1	Gould Avenue/ Foothill Boulevard	Weekday AM	0.632	B	0.672	B	0.672	B	0.678	B	0.006	NO
		Weekday PM	0.674	B	0.717	C	0.720	C	0.732	C	0.012	NO
		Weekend Mid-day	0.589	A	0.626	B	0.635	B	0.644	B	0.009	NO
2	Crown Avenue- I-210 Fwy. NB Off-Ramp/ Foothill Boulevard	Weekday AM	0.618	B	0.657	B	0.660	B	0.671	B	0.011	NO
		Weekday PM	0.616	B	0.655	B	0.674	B	0.683	B	0.009	NO
		Weekend Mid-day	0.457	A	0.484	A	0.509	A	0.520	A	0.011	NO
3	I-210 Freeway SB On/Off Ramps/ Berkshire Place	Weekday AM	0.561	A	0.595	A	0.595	A	0.597	A	0.002	NO
		Weekday PM	0.431	A	0.456	A	0.459	A	0.469	A	0.010	NO
		Weekend Mid-day	0.242	A	0.252	A	0.256	A	0.266	A	0.010	NO
4	I-210 Freeway NB On/Off Ramps/ Berkshire Place	Weekday AM	0.746	C	0.794	C	0.795	C	0.805	D	0.010	NO
		Weekday PM	0.521	A	0.552	A	0.554	A	0.554	A	0.000	NO
		Weekend Mid-day	0.253	A	0.265	A	0.271	A	0.292	A	0.021	NO
5	Oak Grove Drive/ Foothill Boulevard	Weekday AM	0.672	B	0.715	C	0.717	C	0.733	C	0.016	NO
		Weekday PM	0.693	B	0.737	C	0.763	C	0.788	C	0.025	NO
		Weekend Mid-day	0.356	A	0.375	A	0.404	A	0.427	A	0.023	NO
6	Oak Grove Drive/ Berkshire Place	Weekday AM	0.706	C	0.752	C	0.753	C	0.760	C	0.007	NO
		Weekday PM	0.644	B	0.685	B	0.689	B	0.701	C	0.012	NO
		Weekend Mid-day	0.287	A	0.301	A	0.325	A	0.345	A	0.020	NO
7	Linda Vista Avenue/ Oak Grove Drive	Weekday AM	0.307	A	0.322	A	0.323	A	0.325	A	0.002	NO
		Weekday PM	0.253	A	0.264	A	0.280	A	0.285	A	0.005	NO
		Weekend Mid-day	0.197	A	0.205	A	0.224	A	0.231	A	0.007	NO
8	Highland Drive-Linda Vista Avenue/ Highland Drive	Weekday AM	0.283	A	0.296	A	0.297	A	0.300	A	0.003	NO
		Weekday PM	0.226	A	0.235	A	0.246	A	0.249	A	0.003	NO
		Weekend Mid-day	0.190	A	0.197	A	0.209	A	0.216	A	0.007	NO
9	Windsor Avenue/ Oak Grove Drive-Woodbury Road	Weekday AM	0.753	C	0.802	D	0.803	D	0.806	D	0.003	NO
		Weekday PM	0.639	B	0.680	B	0.705	C	0.708	C	0.003	NO
		Weekend Mid-day	0.447	A	0.474	A	0.504	A	0.510	A	0.006	NO

City of Pasadena intersection impact threshold criteria is as follows:

Final v/c	LOS	Project Related Increase in v/c
>=0.000 - 0.600	A	equal to or greater than 0.06
>=0.600 - 0.700	B	equal to or greater than 0.05
>=0.700 - 0.800	C	equal to or greater than 0.04
>=0.800 - 0.900	D	equal to or greater than 0.03
>=0.900 - 1.000E		equal to or greater than 0.02
> 1.000	F	equal to or greater than 0.01

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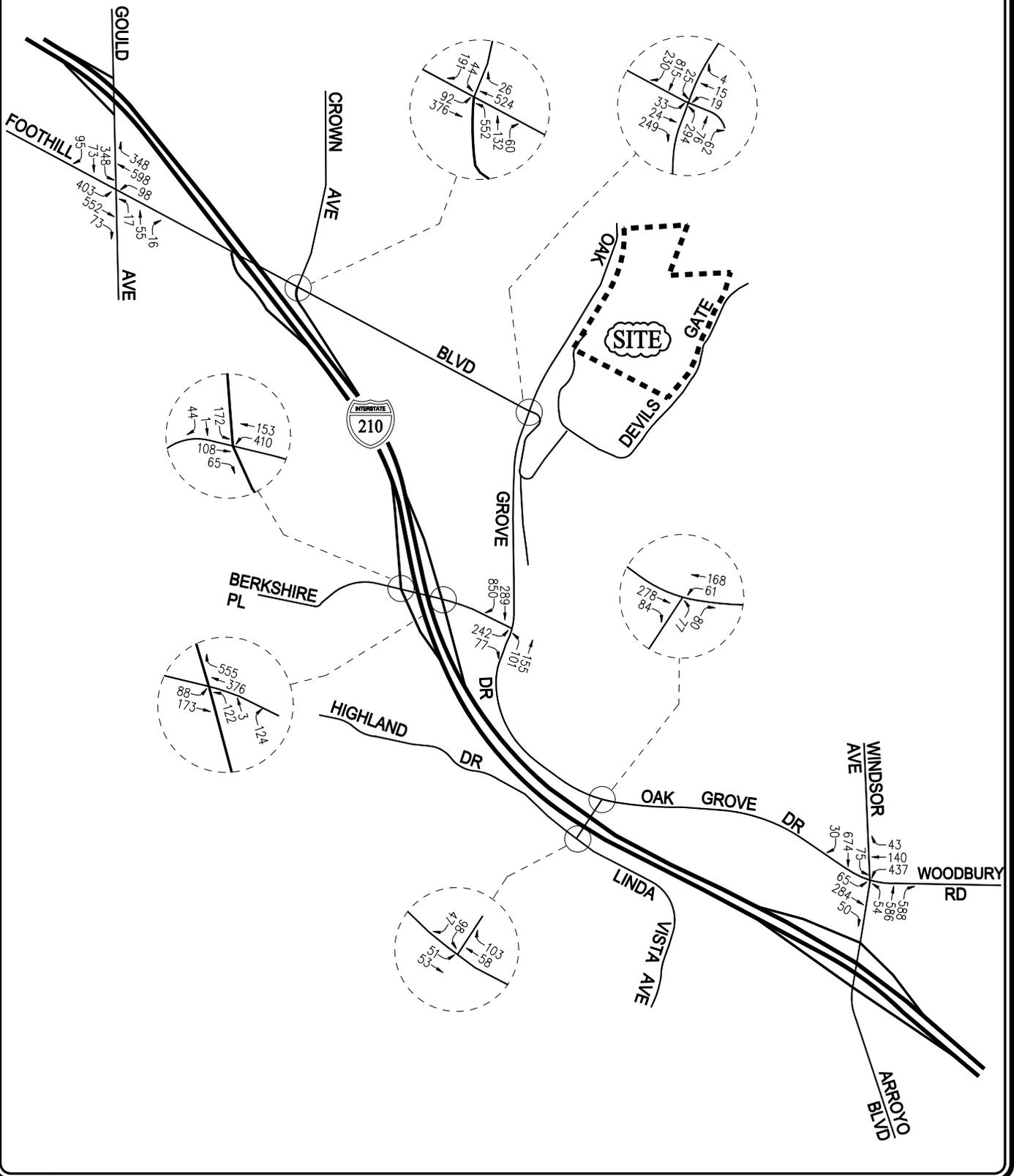


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FIGURE 9-1
EXISTING WITH AMBIENT GROWTH
TRAFFIC VOLUMES
WEEKDAY AM PEAK HOUR
HWP ANNEX PROJECT

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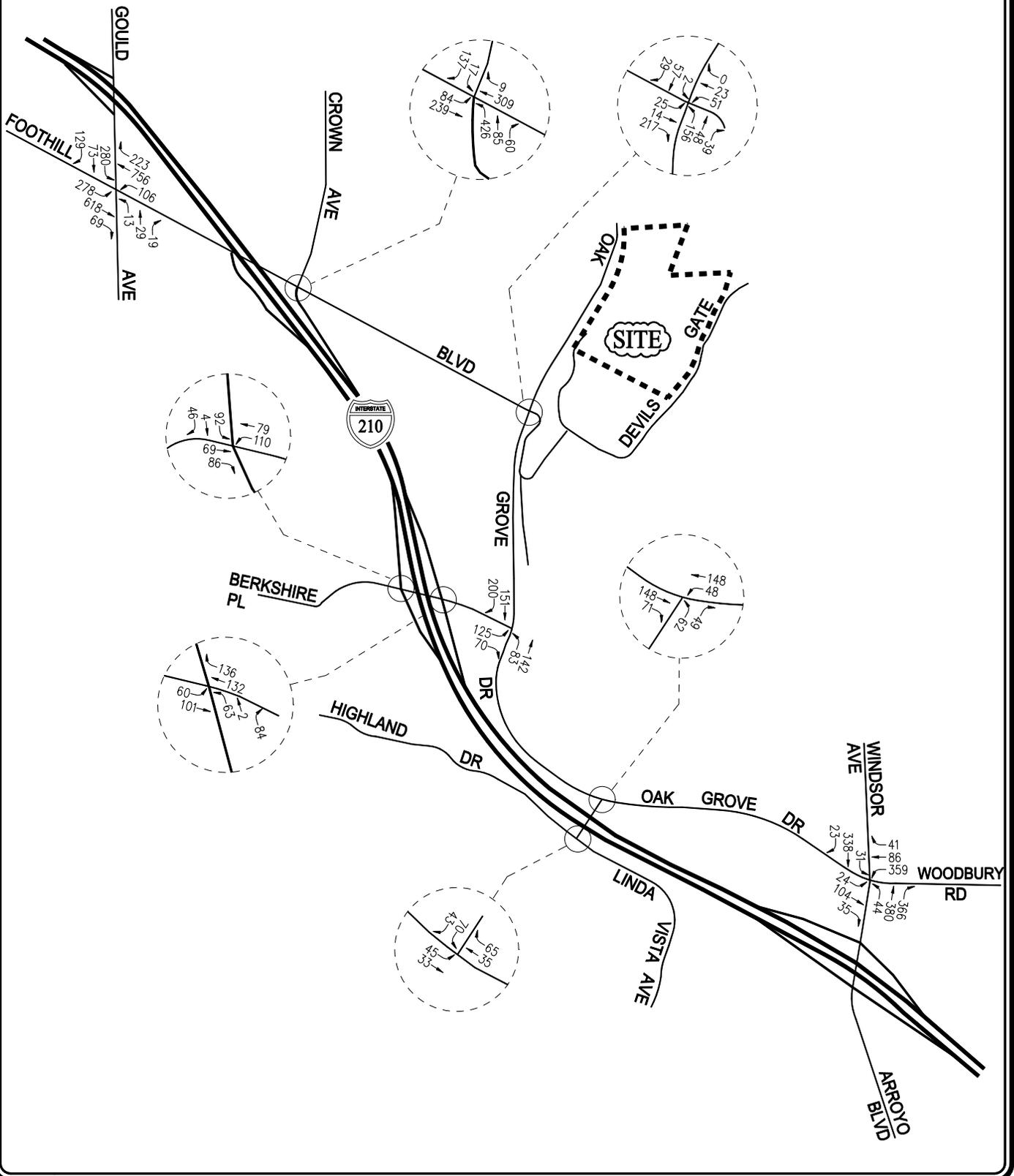


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FIGURE 9-2
EXISTING WITH AMBIENT GROWTH
TRAFFIC VOLUMES
WEEKDAY PM PEAK HOUR
HWP ANNEX PROJECT

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FIGURE 9-3
EXISTING WITH AMBIENT GROWTH
TRAFFIC VOLUMES
WEEKEND MID-DAY PEAK HOUR
HWP ANNEX PROJECT

9.3 Future Pre-Project Conditions

9.3.1 Future Pre-Project Weekday Conditions

The *v/c* ratios at all nine study intersections are incrementally increased with the addition of traffic generated by the related projects listed in *Table 6-1*. As presented in column [3] of *Table 9-1*, all of the study intersections are expected to continue operating at LOS D or better during the weekday AM and PM peak hours with the addition of ambient traffic growth and the traffic due to the related projects.

The future pre-project (existing, ambient growth and related projects) traffic volumes at the study intersections during the weekday AM and PM peak hours are presented in *Figures 9-4* and *9-5*, respectively.

9.3.2 Future Pre-Project Weekend Conditions

As presented in column [3] of *Table 9-1*, all of the study intersections are expected to continue operating at LOS C or better during the weekday AM and PM peak hours with the addition of ambient traffic growth and the traffic due to the related projects.

The future pre-project (existing, ambient growth and related projects) traffic volumes at the study intersections during the weekend mid-day peak hour are presented in *Figure 9-6*.

9.4 Future With Project Conditions

9.4.1 Future With Project Weekday Conditions

As shown in column [4] of *Table 9-1*, application of the City's threshold criteria to the "With Proposed Project" indicates that the proposed project is not expected to create any significant impacts at the study intersections. Incremental but not significant impacts are noted at the study intersections, as presented in *Table 9-1*. Because there are no significant impacts, no traffic mitigation measures are required or recommended for the study intersections.

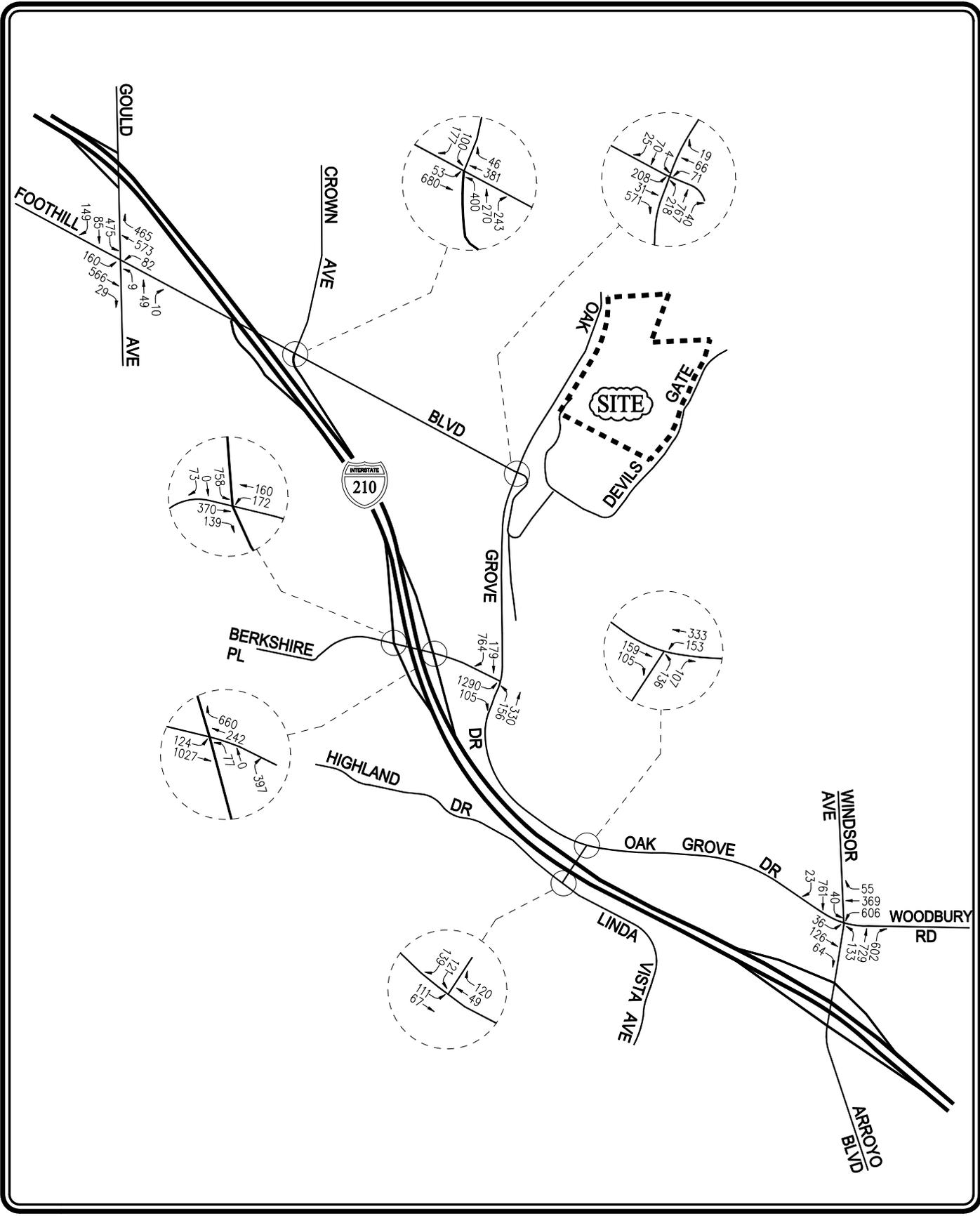
The future with project (existing, ambient growth, related projects and project) traffic volumes at the study intersections during the weekday AM and PM peak hours are illustrated in *Figures 9-7* and *9-8*, respectively.

9.4.2 Future With Project Weekend Conditions

As shown in column [4] of *Table 9-1*, application of the City's threshold criteria to the "With Proposed Project" indicates that the proposed project is not expected to create any significant impacts at the study intersections during the weekend mid-day peak hour. Incremental but not significant impacts are noted at the study intersections, as presented in *Table 9-1*. Because there are no significant impacts, no traffic mitigation measures are required or recommended for the study intersections.

The future with project (existing, ambient growth, related projects and project) traffic volumes at the study intersections during the weekday AM and PM peak hours are illustrated in *Figure 9-9*.

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NOT TO SCALE

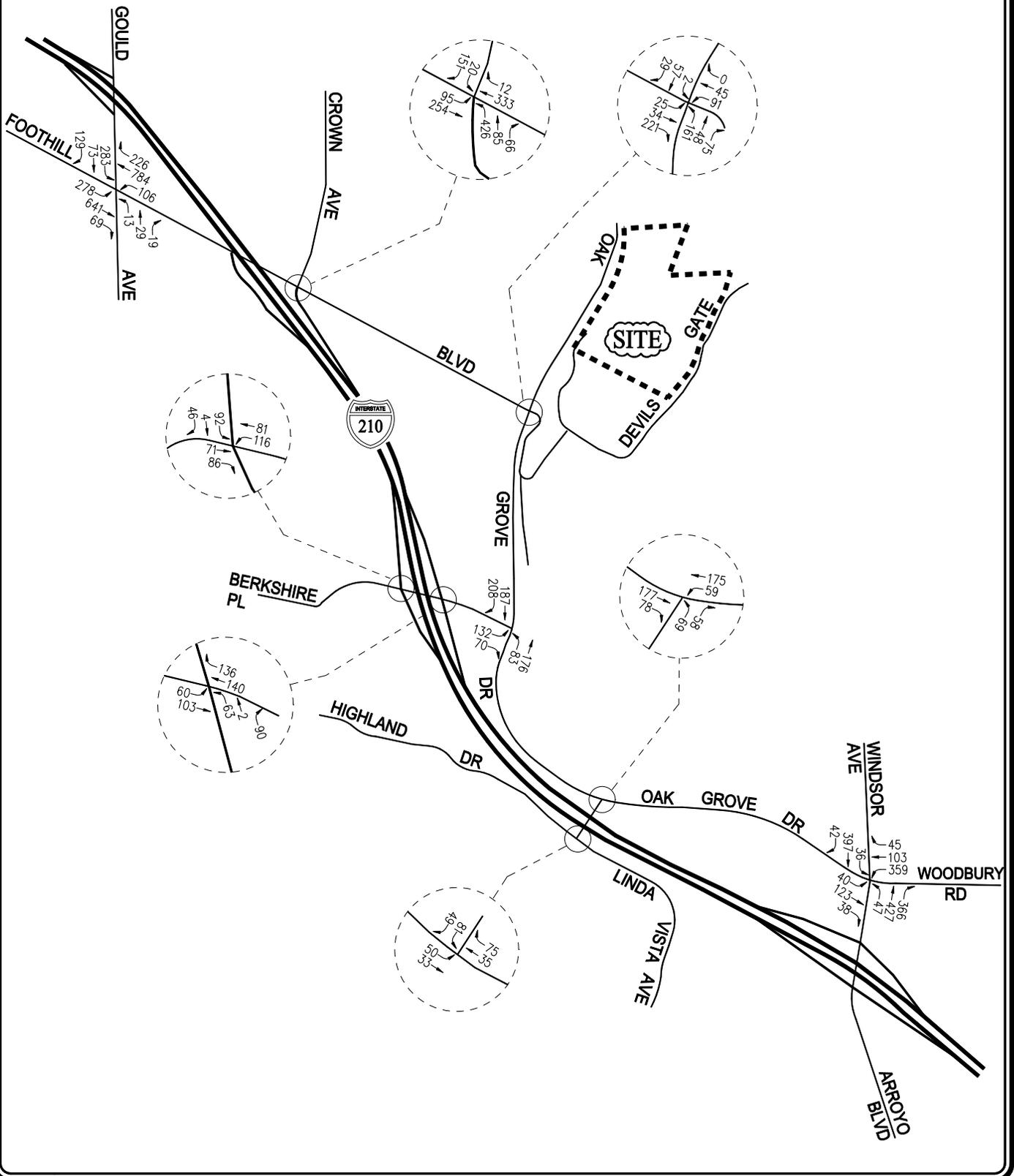
FUTURE PRE-PROJECT TRAFFIC VOLUMES

WEEKDAY AM PEAK HOUR

HWP ANNEX PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

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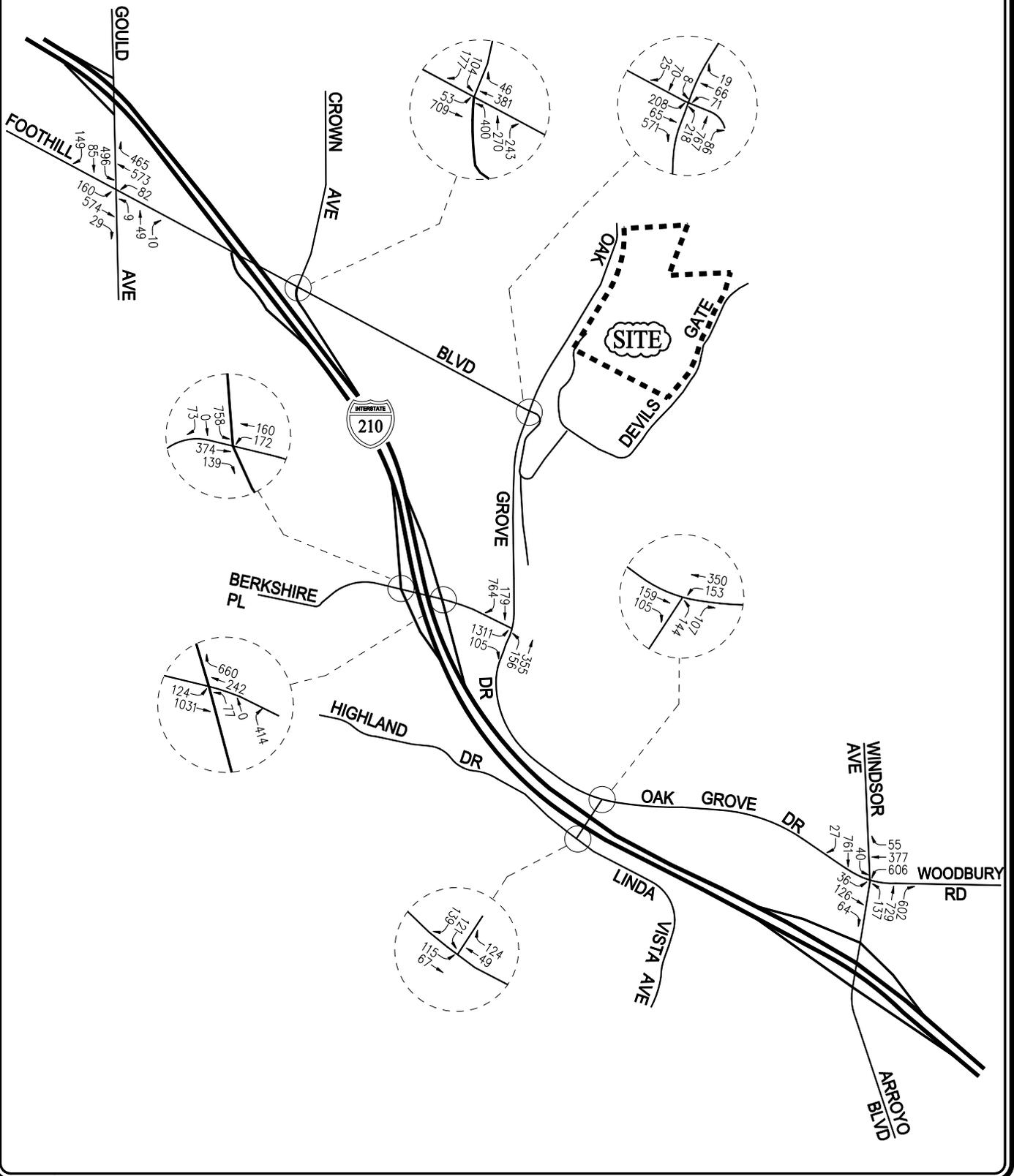


NOT TO SCALE

FIGURE 9-6
FUTURE PRE-PROJECT TRAFFIC VOLUMES
WEEKEND MID-DAY PEAK HOUR
HWP ANNEX PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

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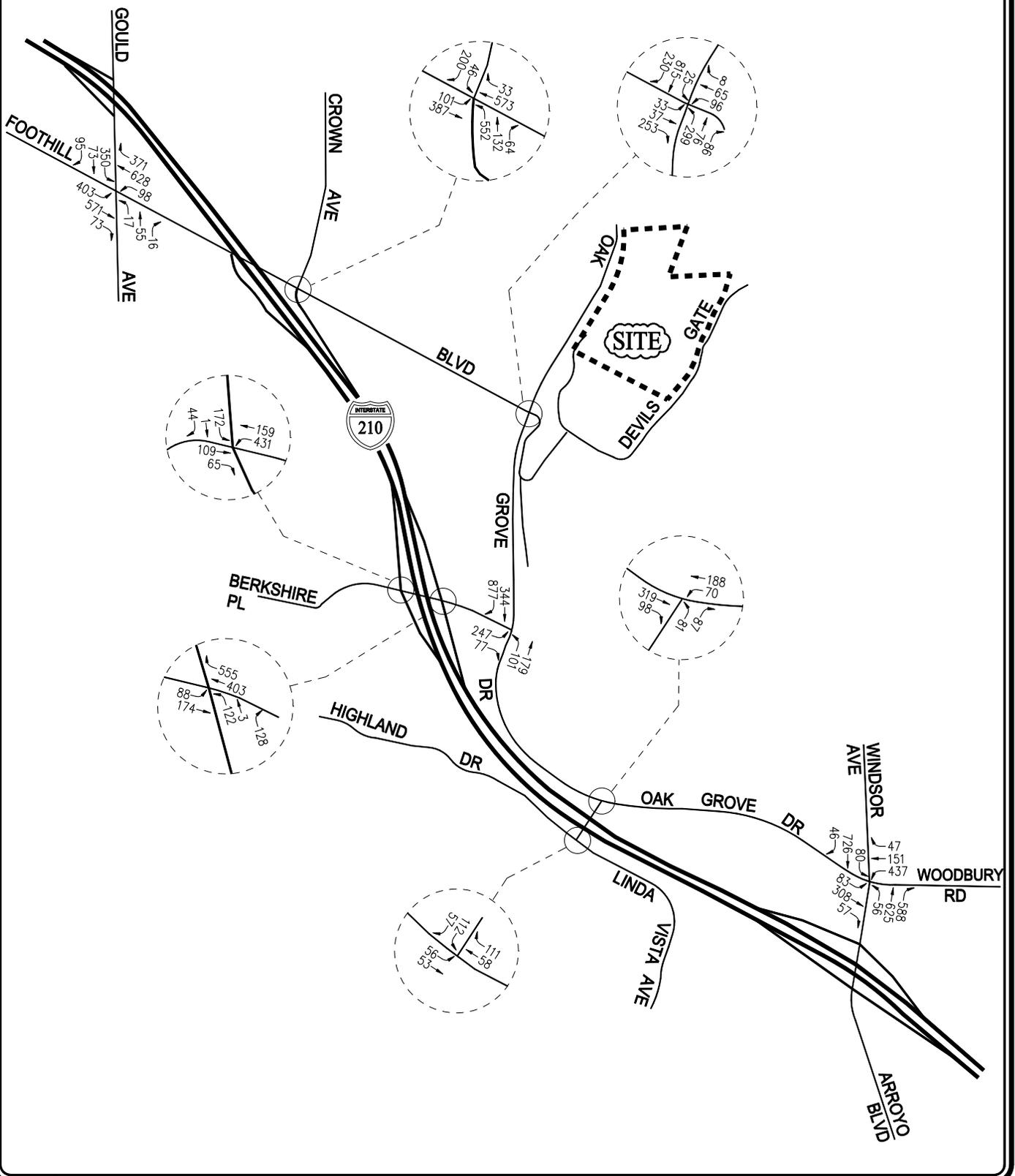
FUTURE WITH PROJECT TRAFFIC VOLUMES

WEEKDAY AM PEAK HOUR

HWP ANNEX PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

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NOT TO SCALE

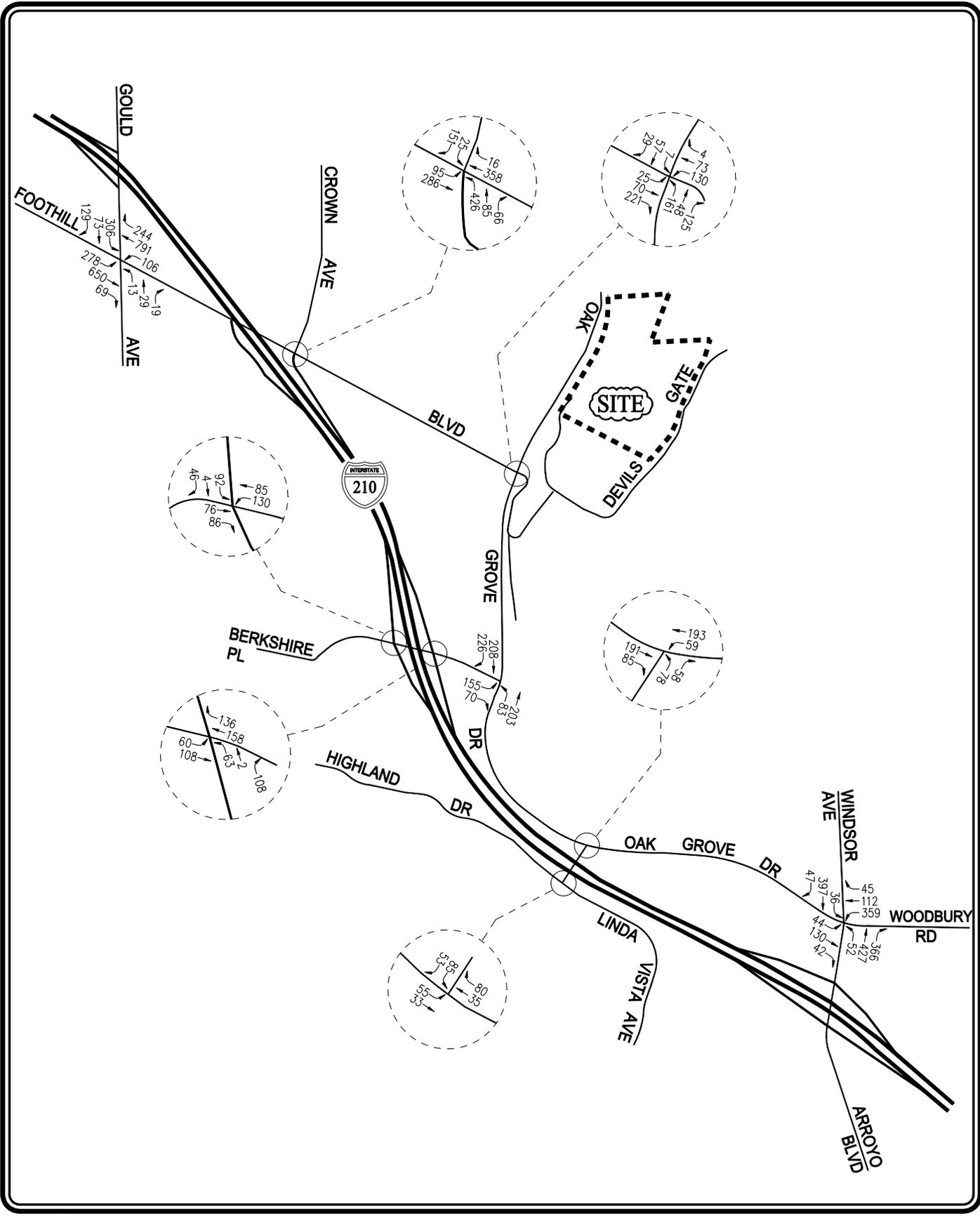
FIGURE 9-8 FUTURE WITH PROJECT TRAFFIC VOLUMES

WEEKDAY PM PEAK HOUR

HWP ANNEX PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

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NOT TO SCALE

FIGURE 9-9
FUTURE WITH PROJECT TRAFFIC VOLUMES
WEEKEND MID-DAY PEAK HOUR
HWP ANNEX PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

10.0 STREET SEGMENT ANALYSIS

As required by City of Pasadena traffic study guidelines, existing and existing with project Average Daily Traffic (ADT) volumes were determined at two street segment locations in the vicinity of the proposed HWP Annex project. The City of Pasadena ADT impact threshold criteria for street segments are listed in *Table 10-1*.

Table 10-1 CITY OF PASADENA STREET SEGMENT IMPACT THRESHOLD CRITERIA	
ADT Growth on Street Segment	Required Traffic Mitigation
<u>0.0-2.4% ADT Growth</u> Project Review and Initial Study	Staff Review and Conditions
<u>2.5-4.9% ADT Growth</u> Examined by Initial Study Focused Traffic Study	Soft Mitigation Required TDM, Rideshare, etc.
<u>5.0-7.4% ADT Growth</u> Examined by Initial Study Full Traffic Study Required	Soft Mitigation Required Physical Mitigation Required Project Alternatives Considered
<u>7.5% + ADT Growth</u> Examined by Initial Study Full Traffic Study Required	Soft Mitigation Required Extensive Physical Mitigation Required Project Alternatives Considered

The following two street segment locations were identified for analysis by City of Pasadena staff for inclusion in the ADT analysis:

1. Highland Drive east of Berkshire Avenue.
2. Linda Vista Avenue east of Highland Drive

Automatic 24-hour machine traffic counts of the study street segments were conducted by a traffic subconsultant. Copies of the weekday and weekend 24-hour machine traffic counts for the study street segment locations are contained in *Appendix D*.

10.1 Summary of Weekday Street Segment Analysis

The existing and forecast existing with project ADT volumes at the street segment study locations during a typical weekday are summarized in **Table 10-2**. The existing weekday ADT volume is shown in column [1]. The forecast project weekday ADT volume at the study locations are shown in column [2]. In addition, the forecast existing with project weekday ADT volume for the study locations are presented in column [3]. Finally, the project-related percent increase in ADT growth for the analyzed street segments during a typical weekday are presented in column [4].

Application of the City's threshold criteria to the "Existing With Project" scenario indicates that the proposed HWP Annex project is not expected to create significant impacts at either of the two study street segments during a typical weekday. As indicated in *Table 10-2*, the proposed project is forecast to increase ADT volumes on the study street segments during a typical weekday by approximately 0.5 to 0.6 percent, which requires PasDOT staff review and conditions.

10.2 Summary of Weekend Street Segment Analysis

The existing and forecast existing with project ADT volumes at the street segment study locations during a typical weekend day are summarized in **Table 10-3**. The existing weekend ADT volume is shown in column [1]. The forecast project weekend ADT volume at the study locations are shown in column [2]. In addition, the forecast existing with project weekend ADT volume for the study locations are presented in column [3]. Finally, the project-related percent increase in ADT growth for the analyzed street segments during a typical weekend are presented in column [4].

Application of the City's threshold criteria to the "Existing With Project" scenario indicates that the proposed HWP Annex project is not expected to create significant impacts at either of the two study street segments during a typical weekend day. As indicated in *Table 10-3*, the proposed project is forecast to increase ADT volumes on the study street segments during a typical weekend day by approximately 0.9 to 1.5 percent, which requires PasDOT staff review and conditions.

Table 10-2
SUMMARY OF WEEKDAY STREET SEGMENT ANALYSIS

11-Mar-09

Location	Dir.	[1] Existing Weekday ADT Volume	[2] Daily Project Trip Ends Volume	[3] Existing W/Project ADT Volume ([1]+[2])	[4] Percent ADT Growth ([2]/[3])
1 Highland Drive east of Berkshire Avenue	NB	1,260	8	1,268	0.6%
	SB	1,206	8	1,214	0.7%
Total Location 1		2,465	16	2,481	0.6%
2 Linda Vista Avenue east of Highland Drive	NB	1,701	8	1,709	0.5%
	SB	1,703	8	1,711	0.5%
Total Location 2		3,404	16	3,420	0.5%

- [1] Existing ADT volumes based on traffic counts conducted on May 28, 2008. Copies of the summary data worksheets of the 24-hour traffic count are provided in Appendix D. The year 2008 traffic volumes were increased at an annual rate of 1.5 percent (1.5%) to reflect existing year 2009 conditions.
- [2] Weekday daily project volume includes inbound and outbound trips based on the proposed project increase of 336 daily trip ends (168 inbound trips and 168 outbound trips).
- [3] Total of columns [1] and [2].
- [4] Column [2] divided by column [3].

City of Pasadena ADT impact thresholds for street segments are as follows:

<u>ADT Growth on Street Segment</u>	<u>Review</u>	<u>Required Mitigation</u>
0.0 - 2.4% ADT Growth	Project review/initial study	Staff review and conditions
2.5 - 4.9% ADT Growth	Initial study/focused traffic study	Soft mitigation (TDM, etc.)
5.0 - 7.4% ADT Growth	Initial study/full traffic study	Soft/physical mitigation; alternatives
7.5% + ADT Growth	Initial study/full traffic study	Soft/physical mitigation; alternatives

Table 10-3
SUMMARY OF WEEKEND STREET SEGMENT ANALYSIS

11-Mar-09

Location	Dir.	[1] Existing Weekend ADT Volume	[2] Daily Project Trip Ends Volume	[3] Existing W/Project ADT Volume ([1]+[2])	[4] Percent ADT Growth ([2]/[3])
1 Highland Drive east of Berkshire Avenue	NB	807	12	819	1.5%
	SB	790	12	802	1.5%
Total Location 1		1,597	24	1,621	1.5%
2 Linda Vista Avenue east of Highland Drive	NB	1,415	12	1,427	0.8%
	SB	1,364	12	1,376	0.9%
Total Location 2		2,779	24	2,803	0.9%

[1] Existing ADT volumes based on traffic counts conducted on Saturday, October 11, 2008. Copies of the summary data worksheets of the 24-hour traffic count are provided in Appendix D. The year 2008 traffic counts were increased at an annual rate of 1.5 percent (1.5%) to reflect existing year 2009 conditions.

[2] Weekend daily project volume includes inbound and outbound trips based on the proposed project increase of 490 daily trip ends (245 inbound trips and 245 outbound trips).

[3] Total of columns [1] and [2].

[4] Column [2] divided by column [3].

City of Pasadena ADT impact thresholds for street segments are as follows:

<u>ADT Growth on Street Segment</u>	<u>Review</u>	<u>Required Mitigation</u>
0.0 - 2.4% ADT Growth	Project review/initial study	Staff review and conditions
2.5 - 4.9% ADT Growth	Initial study/focused traffic study	Soft mitigation (TDM, etc.)
5.0 - 7.4% ADT Growth	Initial study/full traffic study	Soft/physical mitigation; alternatives
7.5% + ADT Growth	Initial study/full traffic study	Soft/physical mitigation; alternatives

11.0 TRANSPORTATION IMPROVEMENT MEASURES

The following sections provide an overview of transportation improvement measures that are recommended to address project-related increases in ADT volumes on the local roadway network. It is important to note that the traffic analysis has been based on a conservative approach with respect to the analysis of potential project-related impacts.

11.1 Summary of Improvement Measures

As previously discussed, the proposed project is not expected to create any significant impacts at the study intersections and thus, no traffic mitigation measures are required or recommended. Application of the City's threshold criteria indicates that the proposed project is subject to staff review and conditions at the two study street segments. The following improvement measures are recommended:

- It is recommended that the City of Pasadena Parks and Natural Resources Division implement a policy to monitor special events and programs at the Annex site through the permitting process. It is envisioned that permits would be issued such that the parking demands generated by any event or simultaneous activities held at the Annex facilities would not exceed the proposed parking supply within the Annex unless sufficient off-site parking is identified and secured (e.g., JPL leased parking lot, parking within HWP [if available], other parking lots within City of Pasadena, etc.).
- If necessary to ensure clear visibility along the internal OGA north-south roadway at both the existing stop-sign controlled internal intersection and near the east-west roadway that provides access to the project site, selective pruning of any tree or understory vegetation (i.e., in keeping with what is allowed within a natural park setting) under the supervision of the park maintenance supervisor may be required.
- Install all-way stop control at the internal north-south roadway intersection with the east-west roadway that provides access within the Annex site.
- Install appropriate wayfinding signage to and from the proposed HWP Annex project site.
- Require vendor visits and service/deliveries at the project site to occur outside school peak periods.
- Establish travel routes to and from the site for City service vehicles (e.g., require all HWP Annex service vehicles to enter/exit at signalized Oak Grove Drive/Foothill Boulevard intersection entrance to the OGA and HWP).
- Public Works Department review the conditions and pavement integrity of access roadways within the OGA and HWP in terms of facilitating project-related vehicle traffic (i.e., roadway traffic index review).

11.2 Transportation Demand Management

In accordance with the City of Pasadena Trip Reduction Ordinance (No. 6573) and the City's traffic study guidelines, it is recommended that the proposed project implement a TDM program. The TDM measures implemented as part of the project should be aimed at decreasing the number of vehicular trips generated by persons traveling to the site by offering specific facilities, services and actions designed to increase the use of alternative transportation modes (e.g., transit, rail, walking, bicycling, carpool, etc.).

The TDM strategies will identify opportunities to reduce parking demand and automobile dependency, as well as to promote alternative travel modes. The final TDM program for the proposed project will be developed in conjunction with the City of Pasadena.

during either the AM or PM weekday peak hours to the CMP freeway monitoring location, which is the threshold for preparing a traffic impact assessment, as stated in the CMP manual. Therefore, no further review of potential impacts to freeway monitoring locations that are part of the CMP highway system is required.

12.3 Transit Impact Review

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

The project trip generation, as shown in *Table 7-1*, was adjusted by values set forth in the CMP (i.e., person trips equal 1.4 times vehicle trips, and transit trips equal 3.5 percent of the total person trips) to estimate transit trip generation. Pursuant to the CMP guidelines, the proposed project is forecast to generate demand for four inbound transit trips during the weekday AM peak hour. During the weekday PM peak hour, the proposed project is anticipated to generate demand for four outbound transit trips. Over a 24-hour period, the proposed project is forecast to generate demand for 16 daily weekday transit trips. During the weekend mid-day peak hour, the proposed project is anticipated to generate demand for eight transit trips (four inbound trips and four outbound trips). Over a 24-hour period, the proposed project is forecast to generate demand for 24 daily weekend transit trips. The calculations are as follows:

- Weekday AM Peak Hour = $84 \times 1.4 \times 0.035 = 4$ Transit Trips
- Weekday PM Peak Hour = $79 \times 1.4 \times 0.035 = 4$ Transit Trips
- Daily Weekday Trips = $336 \times 1.4 \times 0.035 = 16$ Transit Trips
- Weekend Mid-Day Peak Hour = $160 \times 1.4 \times 0.035 = 8$ Transit Trips
- Daily Weekend Trips = $490 \times 1.4 \times 0.035 = 24$ Transit Trips

As shown in *Table 4-1*, eight transit lines and routes are provided adjacent to or in close proximity to the project site. As outlined in *Table 4-1*, under the “No. of Buses During Peak Hour” column, these lines generally provide services for an average of (i.e., average of the directional number of buses during the peak hours) 42 buses during the AM peak hour and 41 buses during the PM peak hour. Therefore, based on the above calculated AM and PM peak hour transit trips, this would correspond to less than one additional transit rider per bus. It is anticipated that the existing transit service in the project area will adequately accommodate the project-generated transit trips. Thus, given the low number of project-generated transit trips per bus, based on the calculated number of generated transit trips, no project impacts on existing or future transit services in the project area are expected to occur as a result of the proposed project.

13.0 CONCLUSIONS

This traffic analysis has been conducted to identify and evaluate the potential impacts of traffic generated by the proposed project. This traffic analysis evaluates potential project-related impacts at 11 locations, including nine study intersections and two street segments. Application of the City's threshold criteria to the "With Proposed Project" scenario indicates that none of the study intersections are anticipated to be significantly impacted by the proposed project traffic. Incremental, but not significant, impacts are noted at the study intersections. Application of the City's threshold criteria indicates that the proposed project is subject to staff review and conditions at the two study street segments. Transportation improvement measures are recommended to address project-related increases in ADT volumes along the local roadway network.

APPENDIX A
HWP ANNEX PROJECT ANTICIPATED USAGE DATA

Appendix Table A-1
WEEKDAY CONDITIONS
SUMMARY OF VISITOR ARRIVAL AND DEPARTURE PATTERNS [1]

11-Mar-09

LAND USE COMPONENT	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM
EDUCATIONAL CENTER:													
Class/Conference Attendees [2]			70 Vehicles										
Visitors				10 Vehicles			10 Vehicles			10 Vehicles			
Growing Beds/Plant Labs [3]				9 Vehicles				9 Vehicles					
Community Volunteer Center [4]			9 Vehicles					9 Vehicles					
EQUESTRIAN:													
Equestrian Boarding [5]		9 Vehicles								9 Vehicles			
Other Equestrian Facilities [6]			1 Vehicle								5 Vehicles		
Therapeutic Riding Program [7]			4 Vehicles							4 Vehicles			

- [1] Source: City of Pasadena Parks and Natural Resources Division. Although other project components and uses are envisioned (i.e., existing and ancillary uses), this table reflects the arrival and departure patterns for those project components that are anticipated to generate additional vehicle trips and parking demand at the Annex site. The information presented reflects typical weekday conditions when the Annex is anticipated to be heavily utilized (i.e., June).
- [2] Based on an estimated average of 175 attendees with average vehicle ridership of 2.5 persons per vehicle. Also, it is anticipated that one general session will be held during a typical mid-week day, with attendees arriving during the commuter AM peak hour and departing during the commuter PM peak hour.
- [3] It is anticipated that large educational groups will arrive and depart the site via vans. Also, it is assumed that two class sessions will be held at the site during a typical mid-week day.
- [4] Volunteers are anticipated to arrive in two sessions. The morning session volunteers are anticipated to arrive during the commuter AM peak hour.
- [5] It is envisioned that there will be an increase in the number and usage of the equestrian boarding facilities (i.e., 36 horse boarding stalls will increase to a maximum of 70 horse boarding stalls) during a typical mid-week day. It is anticipated that vehicles related to the equestrian boarding facilities would depart during the commuter PM peak hour.
- [6] It is anticipated that there will be an increase in usage of the other equestrian facilities (i.e., public event area, riding ring, staging area, etc.) during a typical mid-week day when they become available both to public and private groups as part of the proposed project. It is anticipated that vehicles related to these equestrian facilities would arrive during the commuter AM peak hour.
- [7] It is estimated that there will be an increase in usage of the existing therapeutic riding program during a typical mid-week day when this existing land use is relocated within the site as part of the proposed project. It is anticipated that vehicles associated with the therapeutic riding program would arrive during the commuter AM peak hour.

Appendix Table A-2
WEEKEND CONDITIONS
SUMMARY OF VISITOR ARRIVAL AND DEPARTURE PATTERNS [1]

11-Mar-09

<i>LAND USE COMPONENT</i>	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM
EDUCATIONAL CENTER:													
Class/Conference Attendees [2]			70 Vehicles					70 Vehicles					
Visitors				20 Vehicles			20 Vehicles			20 Vehicles			
Growing Beds/Plant Labs [3]													
Community Volunteer Center [4]			9 Vehicles					9 Vehicles					
EQUESTRIAN:													
Equestrian Boarding [5]			8 Vehicles					6 Vehicles					
Other Equestrian Facilities [6]			5 Vehicles					5 Vehicles					
Therapeutic Riding Program [7]			3 Vehicles										

[1] Source: City of Pasadena Parks and Natural Resources Division. Although other project components and uses are envisioned (i.e., existing and ancillary uses), this table reflects the arrival and departure patterns for those project components that are anticipated to generate additional vehicle trips and parking demand at the Annex site. The information presented reflects typical weekend day (Saturday) conditions when the Annex is anticipated to be heavily utilized (i.e., June).

[2] Based on an estimated average of 175 attendees with average vehicle ridership of 2.5 persons per vehicle. Also, it is anticipated that two general sessions (i.e., one during the morning and one during the afternoon) will be held during a typical weekend day (Saturday), with the morning session attendees departing and afternoon session attendees arriving during the weekend mid-day peak hour.

[3] No educational group classes or activities are planned as part of the proposed project during weekends.

[4] Volunteers are anticipated to arrive in two sessions. The afternoon session volunteers are anticipated to arrive during the weekend mid-day peak hour.

[5] It is envisioned that there will be an increase in the number and usage of the equestrian boarding facilities (i.e., 36 horse boarding stalls will increase to a maximum of 70 horse boarding stalls) during a typical weekend day (Saturday). It is anticipated that vehicles related to the equestrian boarding facilities would arrive during the weekend mid-day peak hour.

[6] It is anticipated that there will be an increase in usage of the other equestrian facilities (i.e., public event area, riding ring, staging area, etc.) during a typical weekend day (Saturday) when they become available both to public and private groups as part of the proposed project. It is anticipated that vehicles related to these equestrian facilities would arrive during the weekend mid-day peak hour.

[7] It is estimated that there will be an increase in usage of the existing therapeutic riding program during a typical weekend day (Saturday) when this existing land use is relocated within the site as part of the proposed project.

Appendix Table A-3
ANNEX SPECIAL EVENT SCENARIO
SUMMARY OF VISITOR ARRIVAL AND DEPARTURE PATTERNS [1]

<i>LAND USE COMPONENT</i>	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM
<small>11-Mar-09</small>													
EDUCATIONAL CENTER:													
Class/Conference Attendees [2]			87 Vehicles										
Visitors				20 Vehicles			20 Vehicles			20 Vehicles			
Growing Beds/Plant Labs [3]				9 Vehicles				9 Vehicles					
Community Volunteer Center [4]			9 Vehicles				9 Vehicles						
EQUESTRIAN:													
Equestrian Boarding [5]		14 Vehicles					14 Vehicles						
Other Equestrian Facilities [6]		80 Vehicles											
Youth Camp			12 Vehicles				12 Vehicles						
Therapeutic Riding Program			6 Vehicles										

[1] Source: City of Pasadena Parks and Natural Resources Division. This table reflects the arrival and departure patterns for all project components (i.e., existing and proposed) that are anticipated to generate parking demand at the Annex site for a special event scenario in which the site's land uses may be used concurrently or events may overlap. The information presented reflects conditions when the Annex is anticipated to be heavily utilized (i.e., June).

[2] Assumes an environmental conference/event of 190 attendees.

[3] Assumes two class sessions for large educational groups will be held.

[4] Assumes volunteers are anticipated to arrive in two sessions.

[5] Assumes an increase in the number and usage of the equestrian boarding facilities (i.e., 36 horse boarding stalls will increase to a maximum of 70 horse boarding stalls).

[6] Assumes a horse show/special event of 200 attendees at the other equestrian facilities (i.e., public event area, riding ring, staging area, etc.).

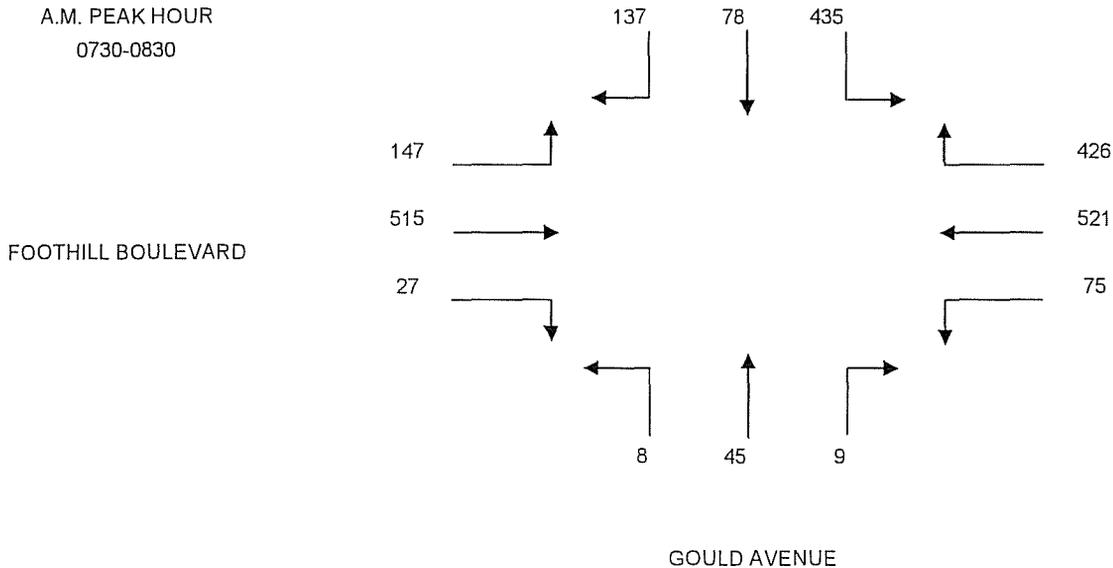
APPENDIX B
MANUAL TRAFFIC COUNTS

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - ENGINEERS
 PROJECT: HAHAMONGUA ANNEX - CITY OF LOS ANGELES
 DATE: WEDNESDAY, MAY 28, 2008
 PERIOD: 07:00 AM TO 09:00 AM
 INTERSECTION: N/S GOULD AVENUE
 E/W FOOTHILL BOULEVARD
 FILE NUMBER: 1-AM

15 MINUTE TOTALS	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
700-715	14	15	79	55	68	10	1	4	0	9	104	23
715-730	16	17	91	51	66	12	2	4	1	7	113	20
730-745	20	25	134	90	121	25	1	7	2	6	169	37
745-800	39	20	114	145	142	26	2	11	3	9	127	34
800-815	43	18	107	116	143	14	4	15	1	6	109	43
815-830	35	15	80	75	115	10	2	12	2	6	110	33
830-845	27	23	63	44	93	15	5	7	5	11	75	27
845-900	22	18	70	49	99	12	7	10	7	10	83	19

1 HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
700-800	89	77	418	341	397	73	6	26	6	31	513	114	2091
715-815	118	80	446	402	472	77	9	37	7	28	518	134	2328
730-830	137	78	435	426	521	75	9	45	8	27	515	147	2423
745-845	144	76	364	380	493	65	13	45	11	32	421	137	2181
800-900	127	74	320	284	450	51	18	44	15	33	377	122	1915



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

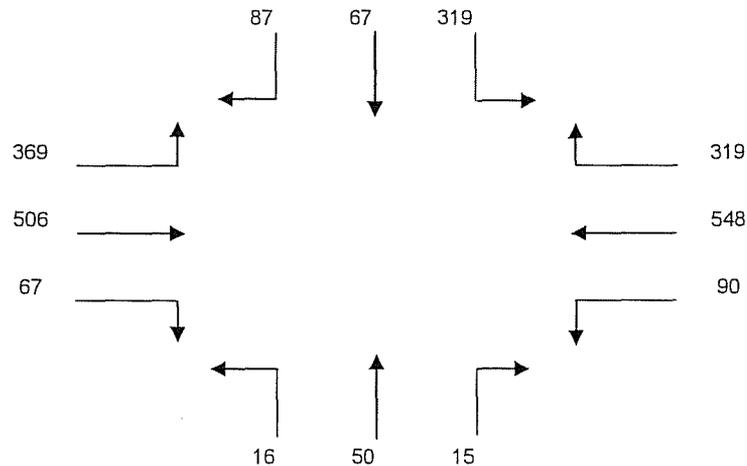
CLIENT: LLG - ENGINEERS
 PROJECT: HAHAMONGUA ANNEX - CITY OF LOS ANGELES
 DATE: WEDNESDAY, MAY 28, 2008
 PERIOD: 04:00 PM TO 06:00 PM
 INTERSECTION: N/S GOULD AVENUE
 EW FOOTHILL BOULEVARD
 FILE NUMBER: 1-PM

15 MINUTE TOTALS	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
400-415	5	15	73	75	125	19	2	10	5	19	108	88
415-430	23	13	75	87	131	19	3	12	2	15	120	103
430-445	24	18	83	75	137	18	4	12	3	17	123	90
445-500	22	15	74	78	115	24	3	10	2	21	130	90
500-515	14	12	71	96	162	24	3	13	5	16	128	106
515-530	27	22	91	70	134	24	5	15	6	13	125	83
530-545	22	18	80	71	132	24	5	14	3	17	109	84
545-600	18	19	75	62	142	18	7	9	4	19	100	77

1 HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
400-500	74	61	305	315	508	80	12	44	12	72	481	371	2335
415-515	83	58	303	336	545	85	13	47	12	69	501	389	2441
430-530	87	67	319	319	548	90	15	50	16	67	506	369	2453
445-545	85	67	316	315	543	96	16	52	16	67	492	363	2428
500-600	81	71	317	299	570	90	20	51	18	65	462	350	2394

P.M. PEAK HOUR
0430-0530

FOOTHILL BOULEVARD



GOULD AVENUE

THE TRAFFIC SOLUTION
 329 DIAMOND STREET
 ARCADIA, CALIFORNIA 91006
 626.446.7978

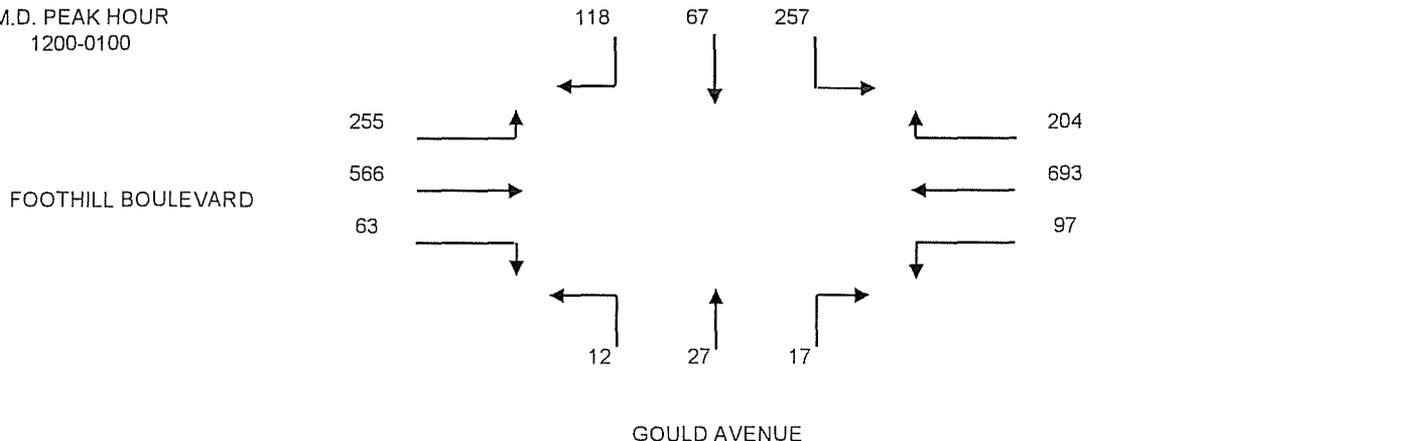
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
 PROJECT: HAHAMONGNA ANNEX - PASADENA
 DATE: SATURDAY, OCTOBER 11, 2008
 PERIOD: 11:00 AM TO 02:00 PM
 INTERSECTION: N/S GOULD AVENUE
 E/W FOOTHILL BOULEVARD
 FILE NUMBER: 1-MD

15 MINUTE TOTALS	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
1100-1115	33	18	56	37	157	14	5	7	5	19	131	55
1115-1130	38	19	49	50	161	18	3	4	8	24	158	51
1130-1145	34	14	40	48	144	20	2	6	4	20	144	67
1145-1200	31	14	52	46	148	21	3	8	3	25	138	59
1200-1215	28	18	67	66	178	29	6	9	2	19	140	64
1215-1230	32	16	51	55	151	22	5	6	2	10	128	51
1230-1245	28	15	71	40	176	21	3	6	5	18	157	73
1245-0100	30	18	68	43	188	25	3	6	3	16	141	67
0100-0115	29	11	61	44	163	18	2	7	2	22	130	71
0115-0130	32	11	47	36	152	23	3	6	3	21	144	63
0130-0145	40	11	56	25	152	15	5	5	2	22	123	69
0145-0200	36	9	43	27	146	13	5	7	1	16	108	50

1 HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
1100-1200	136	65	197	181	610	73	13	25	20	88	571	232	2211
1115-1215	131	65	208	210	631	88	14	27	17	88	580	241	2300
1130-1230	125	62	210	215	621	92	16	29	11	74	550	241	2246
1145-1245	119	63	241	207	653	93	17	29	12	72	563	247	2316
1200-0100	118	67	257	204	693	97	17	27	12	63	566	255	2376
1215-0115	119	60	251	182	678	86	13	25	12	66	556	262	2310
1230-0130	119	55	247	163	679	87	11	25	13	77	572	274	2322
1245-0145	131	51	232	148	655	81	13	24	10	81	538	270	2234
0100-0200	137	42	207	132	613	69	15	25	8	81	505	253	2087

M.D. PEAK HOUR
1200-0100



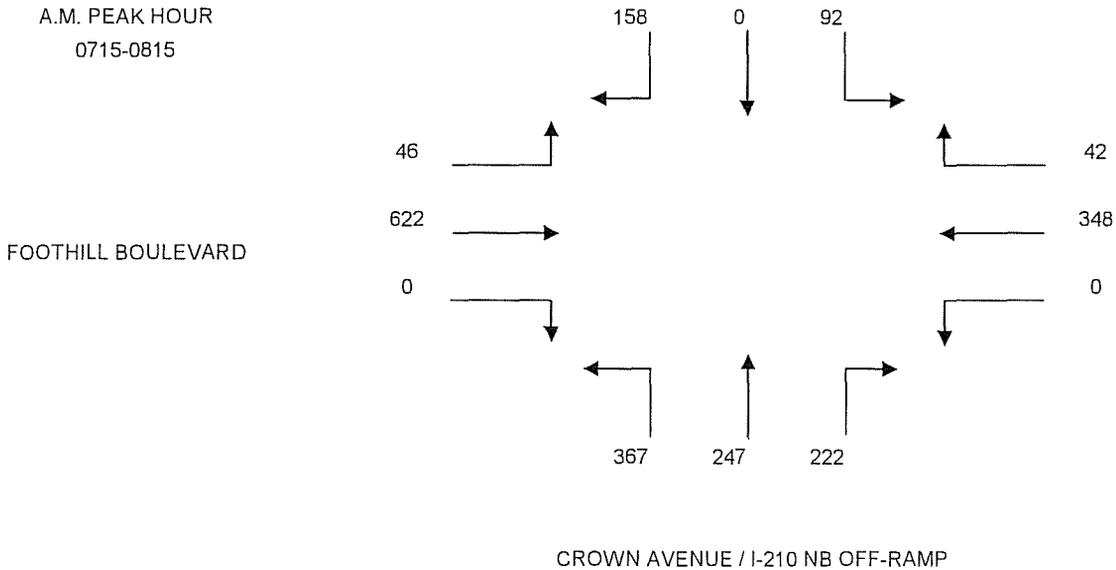
THE TRAFFIC SOLUTION
 329 DIAMOND STREET
 ARCADIA, CALIFORNIA 91006
 626.446.7978

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - ENGINEERS
 PROJECT: HAHAMONGUA ANNEX - CITY OF LOS ANGELES
 DATE: WEDNESDAY, MAY 28, 2008
 PERIOD: 07:00 AM TO 09:00 AM
 INTERSECTION: N/S CROWN AVENUE / I-210 NB OFF-RAMP
 E/W FOOTHILL BOULEVARD
 FILE NUMBER: 2-AM

15 MINUTE TOTALS	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
700-715	13	0	26	2	22	0	28	19	62	0	122	5
715-730	21	0	22	6	48	0	49	46	79	0	104	10
730-745	32	0	43	16	129	0	82	71	95	0	179	19
745-800	26	0	14	15	117	0	65	66	83	0	224	12
800-815	79	0	13	5	54	0	26	64	110	0	115	5
815-830	47	0	10	3	50	0	39	23	57	0	81	7
830-845	31	0	3	4	59	0	16	10	71	0	84	2
845-900	28	0	4	3	64	0	8	9	93	0	70	1

1 HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
700-800	92	0	105	39	316	0	224	202	319	0	629	46	1972
715-815	158	0	92	42	348	0	222	247	367	0	622	46	2144
730-830	184	0	80	39	350	0	212	224	345	0	599	43	2076
745-845	183	0	40	27	280	0	146	163	321	0	504	26	1690
800-900	185	0	30	15	227	0	89	106	331	0	350	15	1348

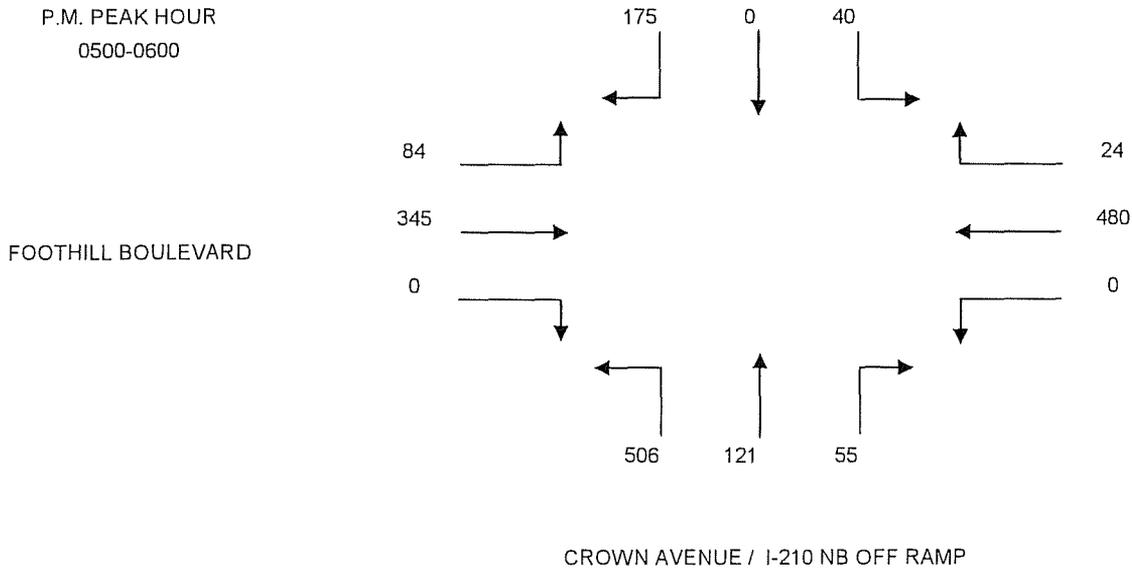


INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - ENGINEERS
 PROJECT: HAHAMONGUA ANNEX - CITY OF LOS ANGELES
 DATE: WEDNESDAY, MAY 28, 2008
 PERIOD: 04:00 PM TO 06:00 PM
 INTERSECTION: N/S CROWN AVENUE / I-210 NB OFF RAMP
 E/W FOOTHILL BOULEVARD
 FILE NUMBER: 2-PM

15 MINUTE TOTALS	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
400-415	51	0	5	7	97	0	21	21	104	0	71	19
415-430	47	0	5	11	98	0	22	32	111	0	73	18
430-445	38	0	7	6	97	0	29	29	114	0	77	26
445-500	47	0	6	4	102	0	15	24	131	0	74	20
500-515	47	0	10	4	114	0	11	35	111	0	74	20
515-530	48	0	12	8	121	0	11	29	129	0	84	24
530-545	35	0	9	5	117	0	15	31	129	0	88	19
545-600	45	0	9	7	128	0	18	26	137	0	99	21

1 HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
400-500	183	0	23	28	394	0	87	106	460	0	295	83	1659
415-515	179	0	28	25	411	0	77	120	467	0	298	84	1689
430-530	180	0	35	22	434	0	66	117	485	0	309	90	1738
445-545	177	0	37	21	454	0	52	119	500	0	320	83	1763
500-600	175	0	40	24	480	0	55	121	506	0	345	84	1830



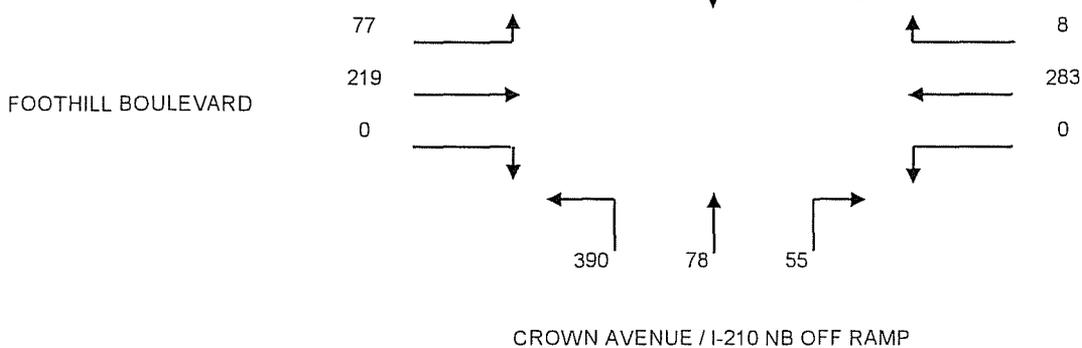
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
 PROJECT: HAHAMONGNA ANNEX - PASADENA
 DATE: SATURDAY, OCTOBER 11, 2008
 PERIOD: 11:00 AM TO 02:00 PM
 INTERSECTION: N/S CROWN AVENUE / I-210 NB OFF RAMP
 E/W FOOTHILL BOULEVARD
 FILE NUMBER: 2-MD

15 MINUTE TOTALS	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
1100-1115	24	0	5	3	68	0	10	13	68	0	32	16
1115-1130	29	0	4	3	68	0	17	18	76	0	37	14
1130-1145	31	0	3	3	66	0	16	17	98	0	58	19
1145-1200	30	0	4	1	99	0	16	16	92	0	50	17
1200-1215	39	0	6	2	68	0	13	26	98	0	51	22
1215-1230	26	0	3	2	50	0	10	19	102	0	60	19
1230-1245	28	0	4	3	47	0	7	14	108	0	52	17
1245-0100	31	0	2	0	58	0	10	16	92	0	37	13
0100-0115	23	0	1	1	58	0	12	10	96	0	54	10
0115-0130	36	0	3	2	53	0	19	18	91	0	54	14
0130-0145	30	0	4	3	44	0	18	12	84	0	42	13
0145-0200	22	0	3	4	39	0	11	10	72	0	33	14

1 HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
1100-1200	114	0	16	10	301	0	59	64	334	0	177	66	1141
1115-1215	129	0	17	9	301	0	62	77	364	0	196	72	1227
1130-1230	126	0	16	8	283	0	55	78	390	0	219	77	1252
1145-1245	123	0	17	8	264	0	46	75	400	0	213	75	1221
1200-0100	124	0	15	7	223	0	40	75	400	0	200	71	1155
1215-0115	108	0	10	6	213	0	39	59	398	0	203	59	1095
1230-0130	118	0	10	6	216	0	48	58	387	0	197	54	1094
1245-0145	120	0	10	6	213	0	59	56	363	0	187	50	1064
0100-0200	111	0	11	10	194	0	60	50	343	0	183	51	1013

M.D. PEAK HOUR
1130-1230



THE TRAFFIC SOLUTION
 329 DIAMOND STREET
 ARCADIA, CALIFORNIA 91006
 626.446.7978

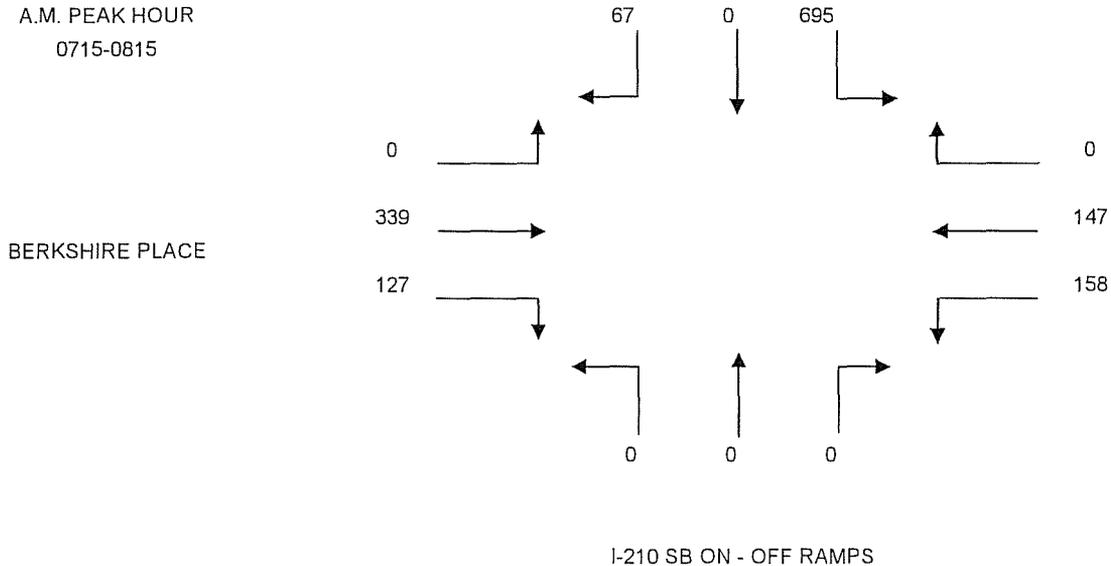
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - ENGINEERS
 PROJECT: HAHAMONGUA ANNEX - CITY OF LOS ANGELES
 DATE: WEDNESDAY, MAY 28, 2008
 PERIOD: 07:00 AM TO 09:00 AM
 INTERSECTION: N/S I-210 SB ON - OFF RAMPS
 E/W BERKSHIRE PLACE
 FILE NUMBER: 3-AM

15 MINUTE TOTALS	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
700-715	11	0	113	0	20	18	0	0	0	11	30	0
715-730	19	0	199	0	17	27	0	0	0	32	77	0
730-745	14	0	232	0	45	62	0	0	0	33	131	0
745-800	17	0	149	0	57	42	0	0	0	31	70	0
800-815	17	0	115	0	28	27	0	0	0	31	61	0
815-830	15	0	84	0	22	23	0	0	0	25	29	0
830-845	10	0	50	0	20	27	0	0	0	13	12	0
845-900	12	0	51	0	18	24	0	0	0	10	16	0

1 HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
700-800	61	0	693	0	139	149	0	0	0	107	308	0	1457
715-815	67	0	695	0	147	158	0	0	0	127	339	0	1533
730-830	63	0	580	0	152	154	0	0	0	120	291	0	1360
745-845	59	0	398	0	127	119	0	0	0	100	172	0	975
800-900	54	0	300	0	88	101	0	0	0	79	118	0	740

A.M. PEAK HOUR
0715-0815



THE TRAFFIC SOLUTION
 329 DIAMOND STREET
 ARCADIA, CALIFORNIA 91006
 626.446.7978

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

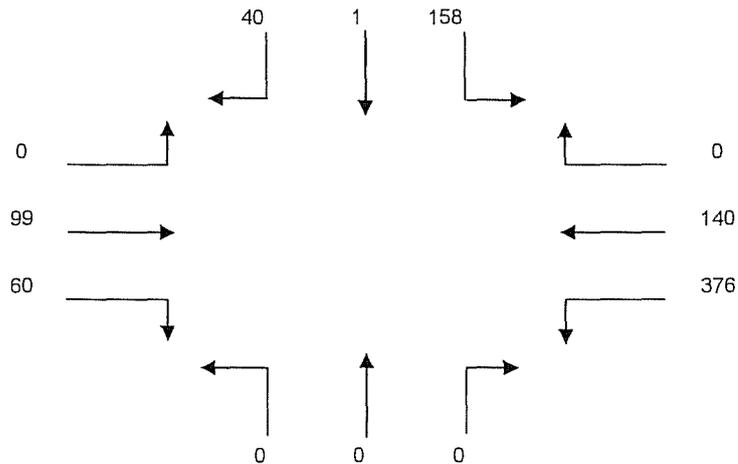
CLIENT: LLG - ENGINEERS
 PROJECT: HAHAMONGUA ANNEX - CITY OF LOS ANGELES
 DATE: WEDNESDAY, MAY 28, 2008
 PERIOD: 04:00 PM TO 06:00 PM
 INTERSECTION: N/S I-210 SB ON - OFF RAMP
 E/W BERKSHIRE PLACE
 FILE NUMBER: 3-PM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
400-415	17	1	28	0	21	64	0	0	0	19	29	0
415-430	10	0	27	0	25	70	0	0	0	23	24	0
430-445	10	0	50	0	39	102	0	0	0	18	24	0
445-500	11	1	38	0	40	103	0	0	0	11	28	0
500-515	10	0	31	0	29	84	0	0	0	16	20	0
515-530	9	0	39	0	32	87	0	0	0	15	27	0
530-545	11	1	32	0	31	66	0	0	0	12	21	0
545-600	5	0	34	0	38	74	0	0	0	10	27	0

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
400-500	48	2	143	0	125	339	0	0	0	71	105	0	833
415-515	41	1	146	0	133	359	0	0	0	68	96	0	844
430-530	40	1	158	0	140	376	0	0	0	60	99	0	874
445-545	41	2	140	0	132	340	0	0	0	54	96	0	805
500-600	35	1	136	0	130	311	0	0	0	53	95	0	761

P.M. PEAK HOUR
0430-0530

BERKSHIRE PLACE



I-210 SB ON - OFF RAMP

THE TRAFFIC SOLUTION
 329 DIAMOND STREET
 ARCADIA, CALIFORNIA 91006
 626.446.7978

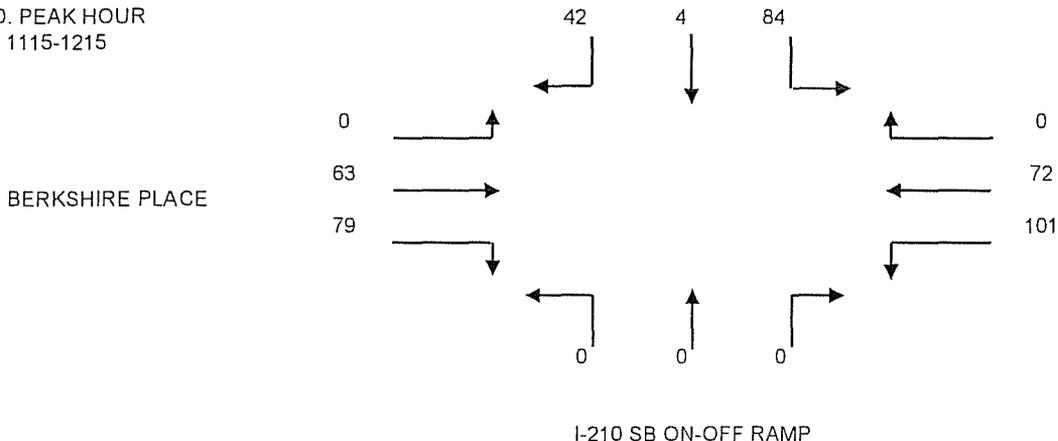
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
 PROJECT: HAHAMONGNA ANNEX - PASADENA
 DATE: SATURDAY, OCTOBER 11, 2008
 PERIOD: 11:00 AM TO 02:00 PM
 INTERSECTION: N/S I-210 SB ON-OFF RAMP
 E/W BERKSHIRE PLACE
 FILE NUMBER: 3-MD

15 MINUTE TOTALS	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
1100-1115	9	0	25	0	14	20	0	0	0	14	13	0
1115-1130	9	1	17	0	22	22	0	0	0	19	18	0
1130-1145	11	1	22	0	17	29	0	0	0	17	14	0
1145-1200	10	1	27	0	14	30	0	0	0	23	12	0
1200-1215	12	1	18	0	19	20	0	0	0	20	19	0
1215-1230	7	0	19	0	17	17	0	0	0	22	13	0
1230-1245	11	0	13	0	17	21	0	0	0	15	12	0
1245-0100	10	0	20	0	19	25	0	0	0	16	18	0
0100-0115	12	0	24	0	16	25	0	0	0	13	13	0
0115-0130	10	0	18	0	12	19	0	0	0	17	10	0
0130-0145	12	1	20	0	19	18	0	0	0	22	15	0
0145-0200	7	0	28	0	20	11	0	0	0	23	11	0

1 HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
1100-1200	39	3	91	0	67	101	0	0	0	73	57	0	431
1115-1215	42	4	84	0	72	101	0	0	0	79	63	0	445
1130-1230	40	3	86	0	67	96	0	0	0	82	58	0	432
1145-1245	40	2	77	0	67	88	0	0	0	80	56	0	410
1200-0100	40	1	70	0	72	83	0	0	0	73	62	0	401
1215-0115	40	0	76	0	69	88	0	0	0	66	56	0	395
1230-0130	43	0	75	0	64	90	0	0	0	61	53	0	386
1245-0145	44	1	82	0	66	87	0	0	0	68	56	0	404
0100-0200	41	1	90	0	67	73	0	0	0	75	49	0	396

M.D. PEAK HOUR
1115-1215



THE TRAFFIC SOLUTION
 329 DIAMOND STREET
 ARCADIA, CALIFORNIA 91006
 626.446.7978

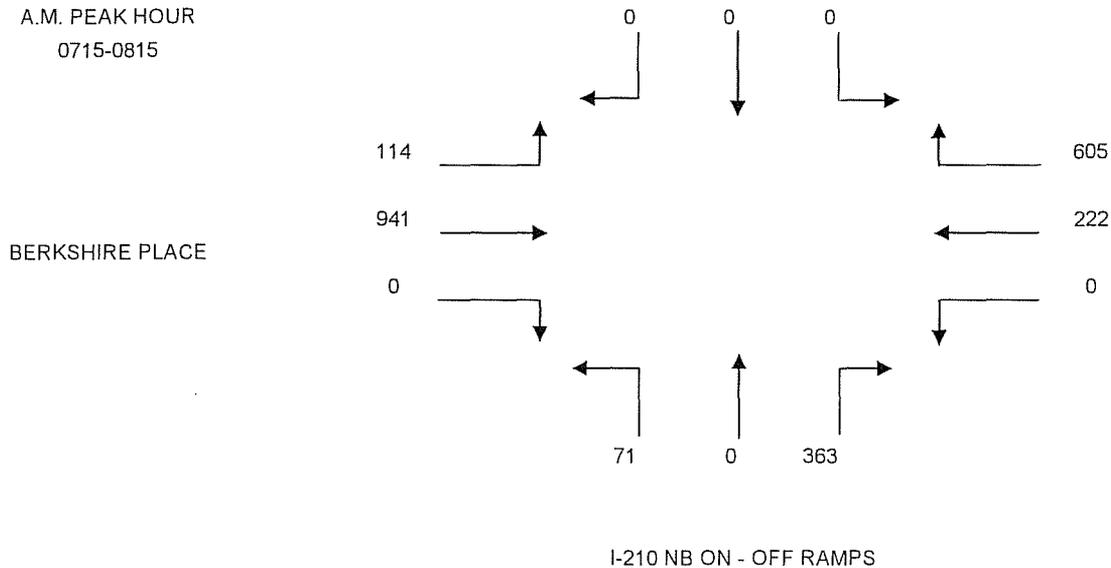
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - ENGINEERS
 PROJECT: HAHAMONGUA ANNEX - CITY OF LOS ANGELES
 DATE: WEDNESDAY, MAY 28, 2008
 PERIOD: 07:00 AM TO 09:00 AM
 INTERSECTION: N/S I-210 NB ON - OFF RAMP
 E/W BERKSHIRE PLACE
 FILE NUMBER: 4-AM

15 MINUTE TOTALS	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
700-715	0	0	0	36	24	0	87	1	9	0	115	9
715-730	0	0	0	87	37	0	113	0	16	0	252	19
730-745	0	0	0	246	80	0	85	0	17	0	382	28
745-800	0	0	0	207	75	0	99	0	16	0	185	32
800-815	0	0	0	65	30	0	66	0	22	0	122	35
815-830	0	0	0	39	33	0	59	0	15	0	88	18
830-845	0	0	0	40	32	0	44	0	15	0	90	10
845-900	0	0	0	26	20	0	10	0	11	0	61	7

1 HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
700-800	0	0	0	576	216	0	384	1	58	0	934	88	2257
715-815	0	0	0	605	222	0	363	0	71	0	941	114	2316
730-830	0	0	0	557	218	0	309	0	70	0	777	113	2044
745-845	0	0	0	351	170	0	268	0	68	0	485	95	1437
800-900	0	0	0	170	115	0	179	0	63	0	361	70	958

A.M. PEAK HOUR
0715-0815



THE TRAFFIC SOLUTION
 329 DIAMOND STREET
 ARCADIA, CALIFORNIA 91006
 626.446.7978

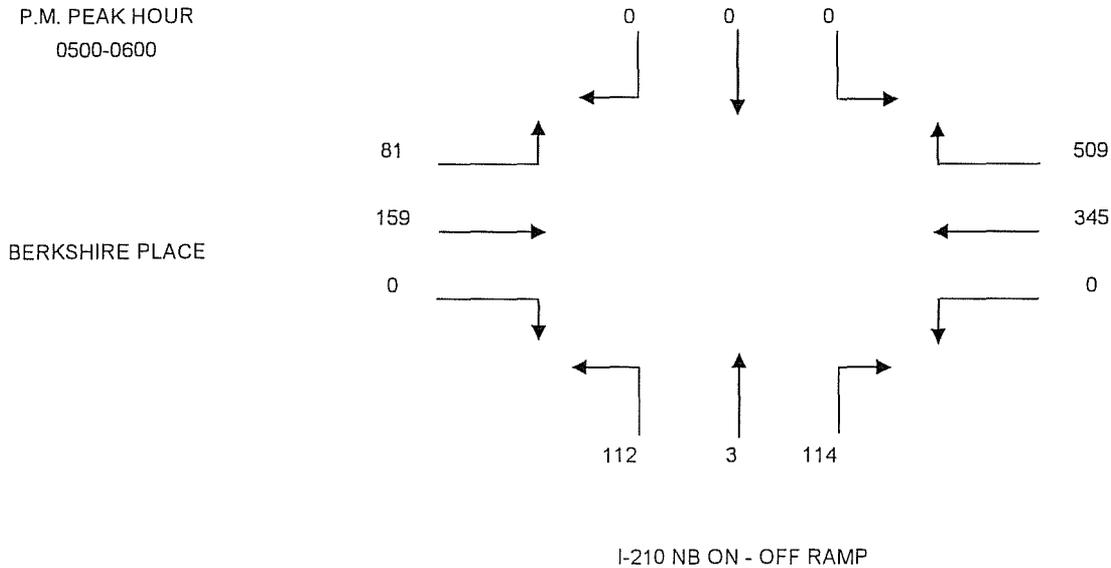
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - ENGINEERS
 PROJECT: HAHAMONGUA ANNEX - CITY OF LOS ANGELES
 DATE: WEDNESDAY, MAY 28, 2008
 PERIOD: 04:00 PM TO 06:00 PM
 INTERSECTION: N/S I-210 NB ON - OFF RAMP
 E/W BERKSHIRE PLACE
 FILE NUMBER: 4-PM

15 MINUTE TOTALS	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
400-415	0	0	0	89	86	0	10	0	14	0	33	17
415-430	0	0	0	100	73	0	17	0	20	0	39	13
430-445	0	0	0	131	100	0	29	1	31	0	58	11
445-500	0	0	0	118	99	0	28	0	29	0	42	21
500-515	0	0	0	86	93	0	38	0	22	0	32	16
515-530	0	0	0	115	98	0	20	2	31	0	43	23
530-545	0	0	0	157	80	0	22	1	30	0	44	23
545-600	0	0	0	151	74	0	34	0	29	0	40	19

1 HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
400-500	0	0	0	438	358	0	84	1	94	0	172	62	1209
415-515	0	0	0	435	365	0	112	1	102	0	171	61	1247
430-530	0	0	0	450	390	0	115	3	113	0	175	71	1317
445-545	0	0	0	476	370	0	108	3	112	0	161	83	1313
500-600	0	0	0	509	345	0	114	3	112	0	159	81	1323

P.M. PEAK HOUR
0500-0600



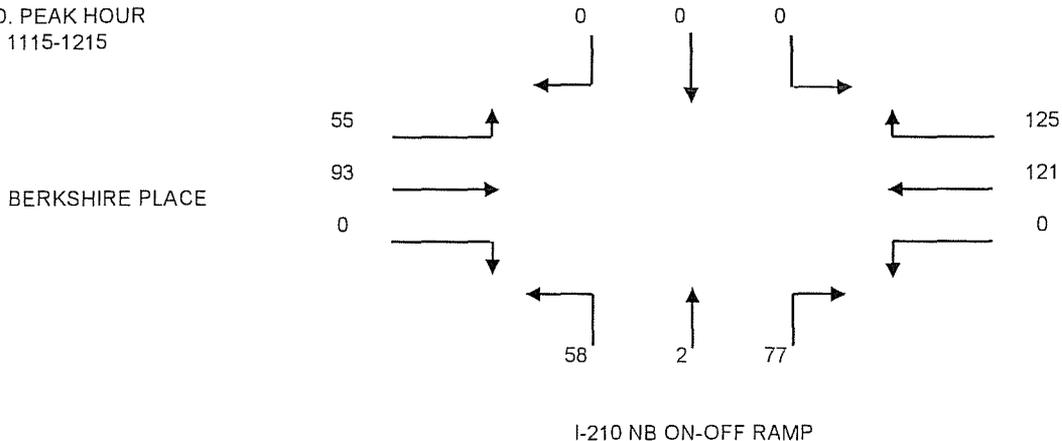
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
 PROJECT: HAHAMONGNA ANNEX - PASADENA
 DATE: SATURDAY, OCTOBER 11, 2008
 PERIOD: 11:00 AM TO 02:00 PM
 INTERSECTION: N/S I-210 NB ON-OFF RAMP
 E/W BERKSHIRE PLACE
 FILE NUMBER: 4MD

15 MINUTE TOTALS	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
1100-1115	0	0	0	28	22	0	12	1	8	0	25	9
1115-1130	0	0	0	41	35	0	19	0	14	0	23	15
1130-1145	0	0	0	31	31	0	27	1	13	0	26	11
1145-1200	0	0	0	29	34	0	20	1	13	0	24	13
1200-1215	0	0	0	24	21	0	11	0	18	0	20	16
1215-1230	0	0	0	29	17	0	12	1	18	0	19	13
1230-1245	0	0	0	32	22	0	13	2	16	0	15	10
1245-0100	0	0	0	25	28	0	16	0	19	0	22	15
0100-0115	0	0	0	22	25	0	19	1	17	0	26	10
0115-0130	0	0	0	22	18	0	21	0	12	0	21	9
0130-0145	0	0	0	28	23	0	17	0	17	0	20	13
0145-0200	0	0	0	21	18	0	12	0	14	0	29	16

1 HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
1100-1200	0	0	0	129	122	0	78	3	48	0	98	48	526
1115-1215	0	0	0	125	121	0	77	2	58	0	93	55	531
1130-1230	0	0	0	113	103	0	70	3	62	0	89	53	493
1145-1245	0	0	0	114	94	0	56	4	65	0	78	52	463
1200-0100	0	0	0	110	88	0	52	3	71	0	76	54	454
1215-0115	0	0	0	108	92	0	60	4	70	0	82	48	464
1230-0130	0	0	0	101	93	0	69	3	64	0	84	44	458
1245-0145	0	0	0	97	94	0	73	1	65	0	89	47	466
0100-0200	0	0	0	93	84	0	69	1	60	0	96	48	451

M.D. PEAK HOUR
1115-1215



THE TRAFFIC SOLUTION
 329 DIAMOND STREET
 ARCADIA, CALIFORNIA 91006
 626.446.7978

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

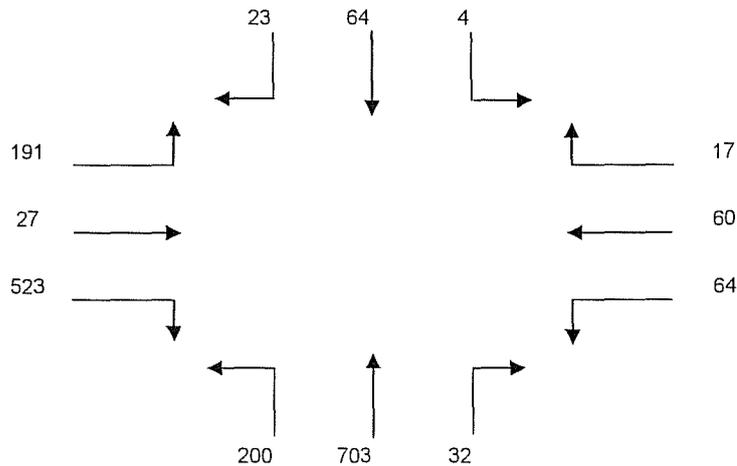
CLIENT: LLG - ENGINEERS
 PROJECT: HAHAMONGUA ANNEX - CITY OF LOS ANGELES
 DATE: WEDNESDAY, MAY 28, 2008
 PERIOD: 07:00 AM TO 09:00 AM
 INTERSECTION: N/S OAK GROVE DRIVE
 EW FOOTHILL BOULEVARD
 FILE NUMBER: 5-AM

15 MINUTE TOTALS	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
700-715	3	13	0	1	1	0	3	208	21	54	0	38
715-730	5	10	1	4	3	4	2	191	26	98	2	24
730-745	6	23	0	8	29	28	6	178	51	194	6	26
745-800	6	10	2	5	26	32	14	197	69	177	13	68
800-815	5	19	2	2	3	2	5	165	34	80	3	33
815-830	6	12	0	2	2	2	7	163	46	72	5	64
830-845	8	19	2	1	3	2	5	107	29	56	3	43
845-900	5	17	0	1	2	1	9	117	33	25	2	37

1 HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
700-800	20	56	3	18	59	64	25	774	167	523	21	156	1886
715-815	22	62	5	19	61	66	27	731	180	549	24	151	1897
730-830	23	64	4	17	60	64	32	703	200	523	27	191	1908
745-845	25	60	6	10	34	38	31	632	178	385	24	208	1631
800-900	24	67	4	6	10	7	26	552	142	233	13	177	1261

A.M. PEAK HOUR
0730-0830

FOOTHILL BOULEVARD



OAK GROVE DRIVE

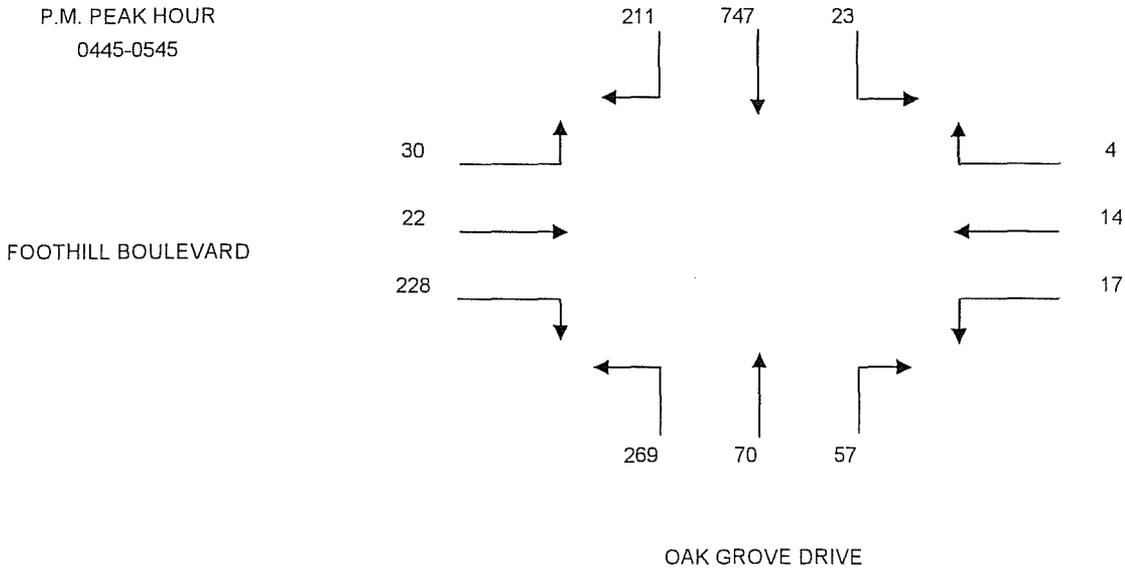
THE TRAFFIC SOLUTION
 329 DIAMOND STREET
 ARCADIA, CALIFORNIA 91006
 626.446.7978

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - ENGINEERS
 PROJECT: HAHAMONGUA ANNEX - CITY OF LOS ANGELES
 DATE: WEDNESDAY, MAY 28, 2008
 PERIOD: 04:00 PM TO 06:00 PM
 INTERSECTION: N/S OAK GROVE DRIVE
 E/W FOOTHILL BOULEVARD
 FILE NUMBER: 5-PM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
400-415	32	124	3	1	2	4	6	22	59	52	6	10
415-430	42	150	2	2	3	8	5	18	62	52	5	10
430-445	42	179	2	2	4	3	10	24	44	57	9	9
445-500	60	198	3	2	7	5	12	23	53	61	7	9
500-515	42	152	9	1	3	4	13	20	50	69	3	9
515-530	56	198	8	0	1	3	19	10	78	45	5	6
530-545	53	199	3	1	3	5	13	17	88	53	7	6
545-600	44	187	1	0	7	4	7	14	63	68	3	6

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
400-500	176	651	10	7	16	20	33	87	218	222	27	38	1505
415-515	186	679	16	7	17	20	40	85	209	239	24	37	1559
430-530	200	727	22	5	15	15	54	77	225	232	24	33	1629
445-545	211	747	23	4	14	17	57	70	269	228	22	30	1692
500-600	195	736	21	2	14	16	52	61	279	235	18	27	1656



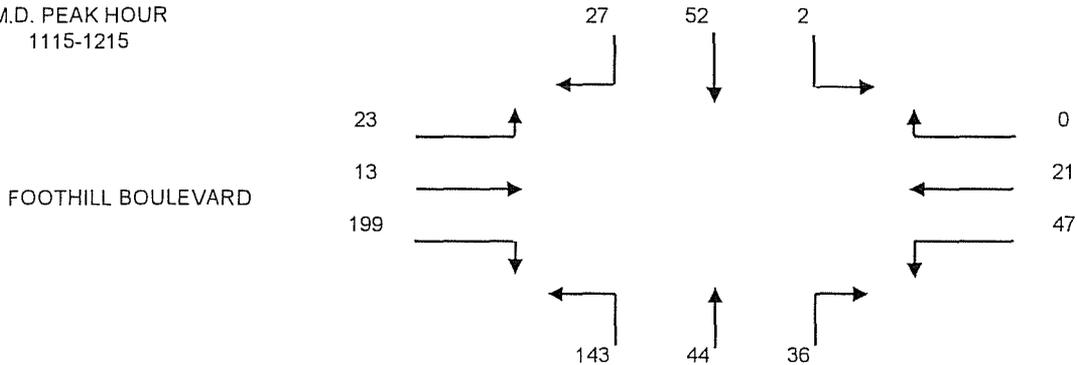
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
 PROJECT: HAHAMONGNA ANNEX - PASADENA
 DATE: SATURDAY, OCTOBER 11, 2008
 PERIOD: 11:00 AM TO 02:00 PM
 INTERSECTION: N/S OAK GROVE DRIVE
 E/W FOOTHILL BOULEVARD
 FILE NUMBER: 5-MD

15 MINUTE TOTALS	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
1100-1115	8	7	0	0	6	7	9	8	38	44	8	5
1115-1130	7	12	0	0	8	11	10	11	32	41	5	3
1130-1145	4	14	0	0	3	12	11	14	39	52	3	5
1145-1200	5	15	2	0	4	11	9	11	37	65	3	5
1200-1215	11	11	0	0	6	13	6	8	35	41	2	10
1215-1230	7	8	2	0	7	8	6	9	39	35	4	11
1230-1245	9	10	0	0	7	13	3	10	30	39	5	8
1245-0100	5	10	0	1	5	7	5	10	29	28	7	5
0100-0115	6	7	0	1	8	10	7	15	32	34	4	4
0115-0130	9	14	0	1	4	16	5	14	37	26	5	3
0130-0145	5	10	0	0	6	12	5	17	27	38	7	2
0145-0200	3	11	0	0	3	9	3	10	37	40	3	2

1 HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
1100-1200	24	48	2	0	21	41	39	44	146	202	19	18	604
1115-1215	27	52	2	0	21	47	36	44	143	199	13	23	607
1130-1230	27	48	4	0	20	44	32	42	150	193	12	31	603
1145-1245	32	44	4	0	24	45	24	38	141	180	14	34	580
1200-0100	32	39	2	1	25	41	20	37	133	143	18	34	525
1215-0115	27	35	2	2	27	38	21	44	130	136	20	28	510
1230-0130	29	41	0	3	24	46	20	49	128	127	21	20	508
1245-0145	25	41	0	3	23	45	22	56	125	126	23	14	503
0100-0200	23	42	0	2	21	47	20	56	133	138	19	11	512

M.D. PEAK HOUR
1115-1215



OAK GROVE DRIVE

THE TRAFFIC SOLUTION
 329 DIAMOND STREET
 ARCADIA, CALIFORNIA 91006
 626.446.7978

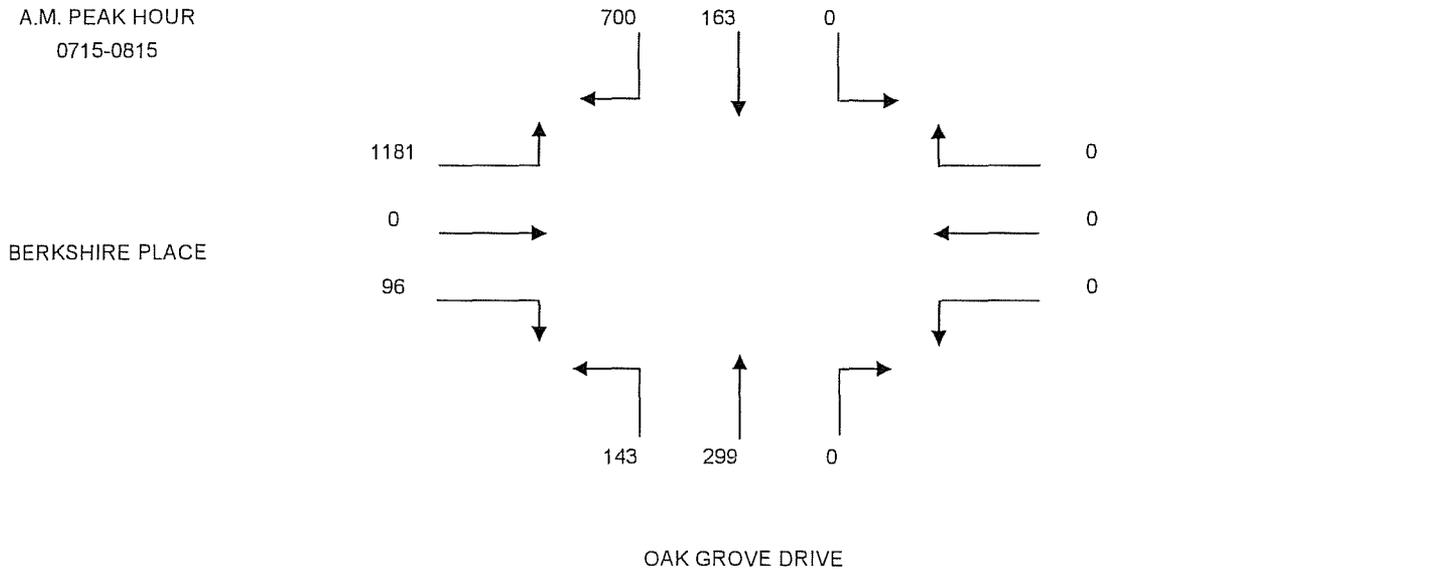
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - ENGINEERS
 PROJECT: HAHAMONGUA ANNEX - CITY OF LOS ANGELES
 DATE: WEDNESDAY, MAY 28, 2008
 PERIOD: 07:00 AM TO 09:00 AM
 INTERSECTION: N/S OAK GROVE DRIVE
 E/W BERKSHIRE PLACE
 FILE NUMBER: 6-AM

15 MINUTE TOTALS	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
700-715	78	15	0	0	0	0	0	48	7	10	0	243
715-730	85	22	0	0	0	0	0	60	20	21	0	284
730-745	261	41	0	0	0	0	0	79	32	24	0	367
745-800	290	59	0	0	0	0	0	105	48	27	0	309
800-815	64	41	0	0	0	0	0	55	43	24	0	221
815-830	50	31	0	0	0	0	0	54	29	23	0	113
830-845	37	33	0	0	0	0	0	34	16	14	0	71
845-900	46	29	0	0	0	0	0	29	15	16	0	69

1 HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
700-800	714	137	0	0	0	0	0	292	107	82	0	1203	2535
715-815	700	163	0	0	0	0	0	299	143	96	0	1181	2582
730-830	665	172	0	0	0	0	0	293	152	98	0	1010	2390
745-845	441	164	0	0	0	0	0	248	136	88	0	714	1791
800-900	197	134	0	0	0	0	0	172	103	77	0	474	1157

A.M. PEAK HOUR
0715-0815



THE TRAFFIC SOLUTION
 329 DIAMOND STREET
 ARCADIA, CALIFORNIA 91006
 626.446.7978

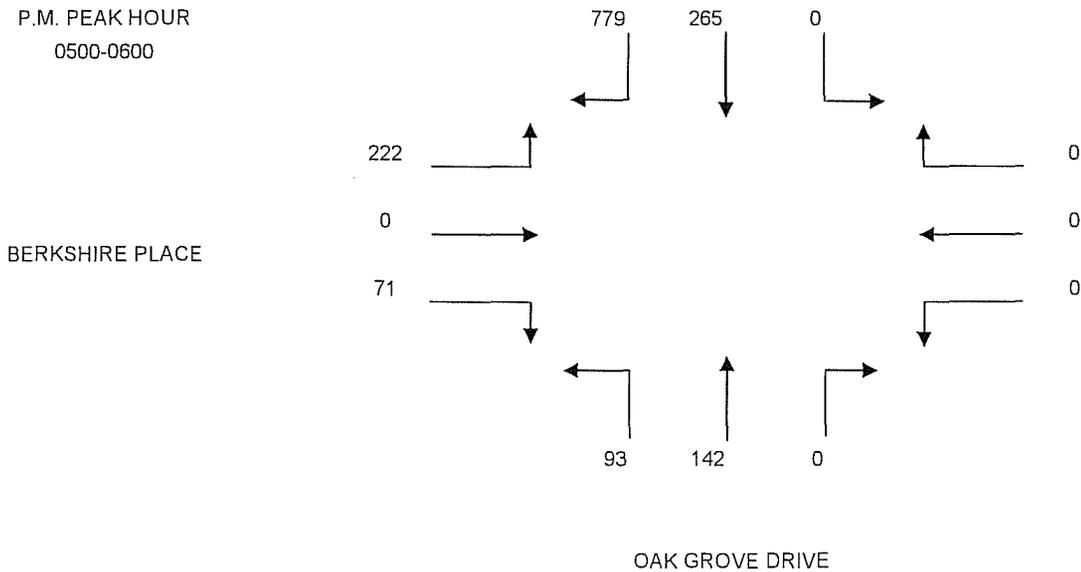
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - ENGINEERS
 PROJECT: HAHAMONGUA ANNEX - CITY OF LOS ANGELES
 DATE: WEDNESDAY, MAY 28, 2008
 PERIOD: 04:00 PM TO 06:00 PM
 INTERSECTION: N/S OAK GROVE DRIVE
 E/W BERKSHIRE PLACE
 FILE NUMBER: 6-PM

15 MINUTE TOTALS	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
400-415	164	47	0	0	0	0	0	34	15	11	0	39
415-430	181	49	0	0	0	0	0	27	20	15	0	47
430-445	173	47	0	0	0	0	0	27	17	15	0	44
445-500	194	54	0	0	0	0	0	28	22	18	0	50
500-515	206	64	0	0	0	0	0	36	17	18	0	53
515-530	200	68	0	0	0	0	0	37	26	18	0	63
530-545	183	68	0	0	0	0	0	41	26	15	0	57
545-600	190	65	0	0	0	0	0	28	24	20	0	49

1 HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
400-500	712	197	0	0	0	0	0	116	74	59	0	180	1338
415-515	754	214	0	0	0	0	0	118	76	66	0	194	1422
430-530	773	233	0	0	0	0	0	128	82	69	0	210	1495
445-545	783	254	0	0	0	0	0	142	91	69	0	223	1562
500-600	779	265	0	0	0	0	0	142	93	71	0	222	1572

P.M. PEAK HOUR
0500-0600



INTERSECTION TURNING MOVEMENT COUNT SUMMARY

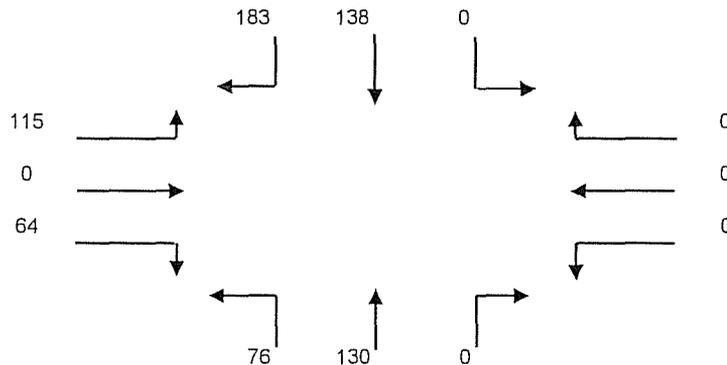
CLIENT: LLG - PASADENA
 PROJECT: HAHAMONGNA ANNEX - PASADENA
 DATE: SATURDAY, OCTOBER 11, 2008
 PERIOD: 11:00 AM TO 02:00 PM
 INTERSECTION: N/S OAK GROVE DRIVE
 E/W BERKSHIRE PLACE
 FILE NUMBER: 6-MD

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
1100-1115	40	28	0	0	0	0	0	27	18	15	0	27
1115-1130	54	29	0	0	0	0	0	34	19	15	0	24
1130-1145	41	39	0	0	0	0	0	33	22	17	0	37
1145-1200	48	42	0	0	0	0	0	36	17	17	0	27
1200-1215	39	31	0	0	0	0	0	31	12	13	0	21
1215-1230	35	32	0	0	0	0	0	33	16	13	0	23
1230-1245	44	31	0	0	0	0	0	24	13	12	0	18
1245-0100	38	30	0	0	0	0	0	27	14	13	0	22
0100-0115	35	31	0	0	0	0	0	28	16	16	0	29
0115-0130	27	31	0	0	0	0	0	27	18	14	0	23
0130-0145	27	31	0	0	0	0	0	28	23	10	0	25
0145-0200	21	32	0	0	0	0	0	27	18	18	0	27

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
1100-1200	183	138	0	0	0	0	0	130	76	64	0	115	706
1115-1215	182	141	0	0	0	0	0	134	70	62	0	109	698
1130-1230	163	144	0	0	0	0	0	133	67	60	0	108	675
1145-1245	166	136	0	0	0	0	0	124	58	55	0	89	628
1200-0100	156	124	0	0	0	0	0	115	55	51	0	84	585
1215-0115	152	124	0	0	0	0	0	112	59	54	0	92	593
1230-0130	144	123	0	0	0	0	0	106	61	55	0	92	581
1245-0145	127	123	0	0	0	0	0	110	71	53	0	99	583
0100-0200	110	125	0	0	0	0	0	110	75	58	0	104	582

M.D. PEAK HOUR
1100-1200

BERKSHIRE PLACE



OAK GROVE DRIVE

THE TRAFFIC SOLUTION
 329 DIAMOND STREET
 ARCADIA, CALIFORNIA 91006
 626.446.7978

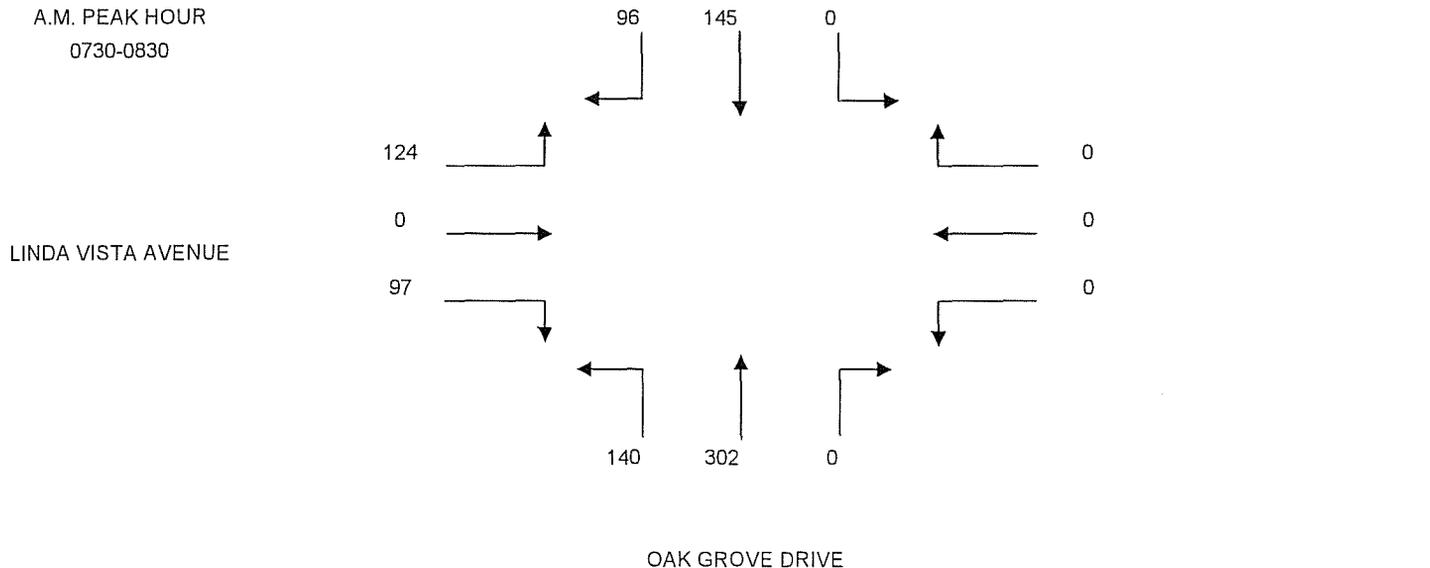
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - ENGINEERS
 PROJECT: HAHAMONGUA ANNEX - CITY OF LOS ANGELES
 DATE: WEDNESDAY, MAY 28, 2008
 PERIOD: 07:00 AM TO 09:00 AM
 INTERSECTION: N/S OAK GROVE DRIVE
 E/W LINDA VISTA AVENUE
 FILE NUMBER: 7-AM

15 MINUTE TOTALS	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
700-715	6	17	0	0	0	0	0	43	19	8	0	7
715-730	8	27	0	0	0	0	0	59	33	14	0	26
730-745	19	39	0	0	0	0	0	75	62	30	0	49
745-800	32	36	0	0	0	0	0	101	32	33	0	33
800-815	21	40	0	0	0	0	0	65	22	19	0	24
815-830	24	30	0	0	0	0	0	61	24	15	0	18
830-845	20	25	0	0	0	0	0	44	23	12	0	7
845-900	15	21	0	0	0	0	0	59	39	11	0	11

1 HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
700-800	65	119	0	0	0	0	0	278	146	85	0	115	808
715-815	80	142	0	0	0	0	0	300	149	96	0	132	899
730-830	96	145	0	0	0	0	0	302	140	97	0	124	904
745-845	97	131	0	0	0	0	0	271	101	79	0	82	761
800-900	80	116	0	0	0	0	0	229	108	57	0	60	650

A.M. PEAK HOUR
0730-0830



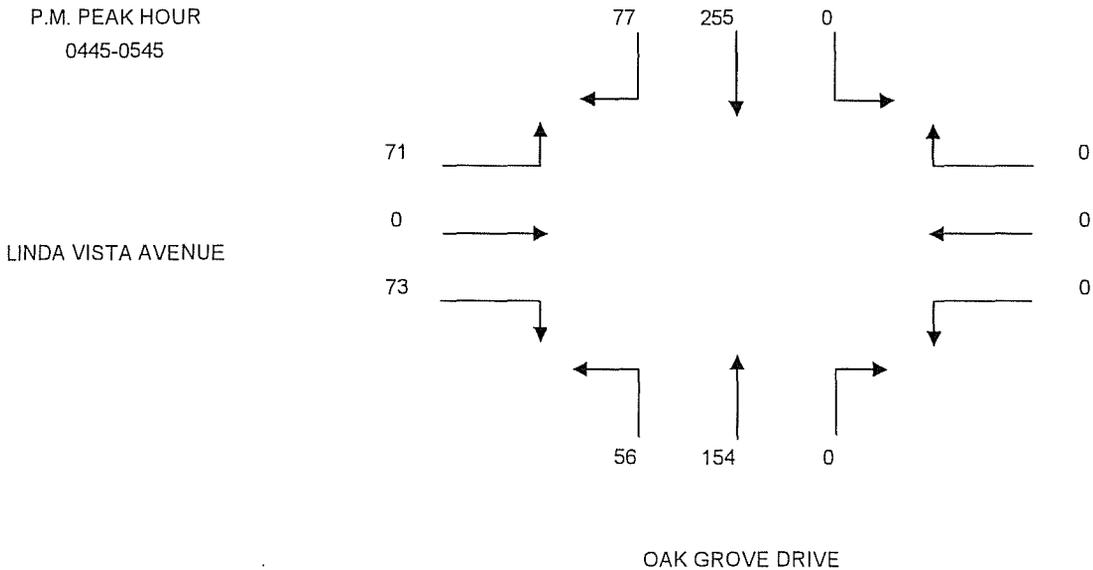
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - ENGINEERS
 PROJECT: HAHAMONGUA ANNEX - CITY OF LOS ANGELES
 DATE: WEDNESDAY, MAY 28, 2008
 PERIOD: 04:00 PM TO 06:00 PM
 INTERSECTION N/S OAK GROVE DRIVE
 E/W LINDA VISTA AVENUE
 FILE NUMBER: 7-PM

15 MINUTE TOTALS	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
400-415	10	42	0	0	0	0	0	40	11	18	0	17
415-430	18	60	0	0	0	0	0	41	12	10	0	13
430-445	20	52	0	0	0	0	0	34	11	18	0	15
445-500	22	57	0	0	0	0	0	35	16	19	0	13
500-515	21	61	0	0	0	0	0	46	15	19	0	15
515-530	19	72	0	0	0	0	0	37	11	15	0	25
530-545	15	65	0	0	0	0	0	36	14	20	0	18
545-600	21	50	0	0	0	0	0	29	12	15	0	11

1 HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
400-500	70	211	0	0	0	0	0	150	50	65	0	58	604
415-515	81	230	0	0	0	0	0	156	54	66	0	56	643
430-530	82	242	0	0	0	0	0	152	53	71	0	68	668
445-545	77	255	0	0	0	0	0	154	56	73	0	71	686
500-600	76	248	0	0	0	0	0	148	52	69	0	69	662

P.M. PEAK HOUR
0445-0545



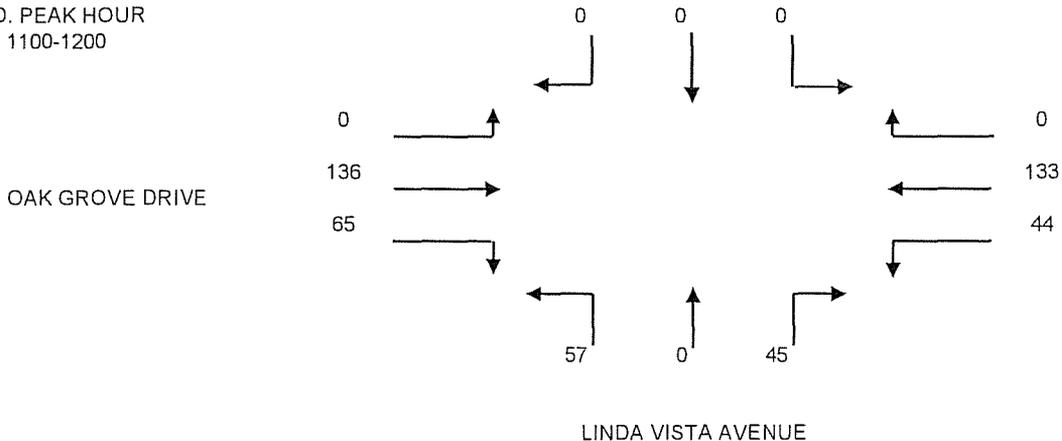
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
 PROJECT: HAHAMONGNA ANNEX - PASADENA
 DATE: SATURDAY, OCTOBER 11, 2008
 PERIOD: 11:00 AM TO 02:00 PM
 INTERSECTION: N/S LINDA VISTA AVENUE
 E/W OAK GROVE DRIVE
 FILE NUMBER: 7-MD

15 MINUTE TOTALS	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
1100-1115	0	0	0	0	37	9	14	0	9	14	24	0
1115-1130	0	0	0	0	33	10	11	0	12	15	30	0
1130-1145	0	0	0	0	31	12	9	0	19	17	40	0
1145-1200	0	0	0	0	32	13	11	0	17	19	42	0
1200-1215	0	0	0	0	27	10	10	0	18	14	28	0
1215-1230	0	0	0	0	22	10	6	0	20	19	30	0
1230-1245	0	0	0	0	16	14	6	0	19	12	29	0
1245-0100	0	0	0	0	22	12	10	0	19	10	37	0
0100-0115	0	0	0	0	22	11	10	0	16	18	22	0
0115-0130	0	0	0	0	28	9	7	0	13	17	35	0
0130-0145	0	0	0	0	35	15	6	0	18	14	27	0
0145-0200	0	0	0	0	29	12	5	0	12	18	36	0

1 HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
1100-1200	0	0	0	0	133	44	45	0	57	65	136	0	480
1115-1215	0	0	0	0	123	45	41	0	66	65	140	0	480
1130-1230	0	0	0	0	112	45	36	0	74	69	140	0	476
1145-1245	0	0	0	0	97	47	33	0	74	64	129	0	444
1200-0100	0	0	0	0	87	46	32	0	76	55	124	0	420
1215-0115	0	0	0	0	82	47	32	0	74	59	118	0	412
1230-0130	0	0	0	0	88	46	33	0	67	57	123	0	414
1245-0145	0	0	0	0	107	47	33	0	66	59	121	0	433
0100-0200	0	0	0	0	114	47	28	0	59	67	120	0	435

M.D. PEAK HOUR
1100-1200

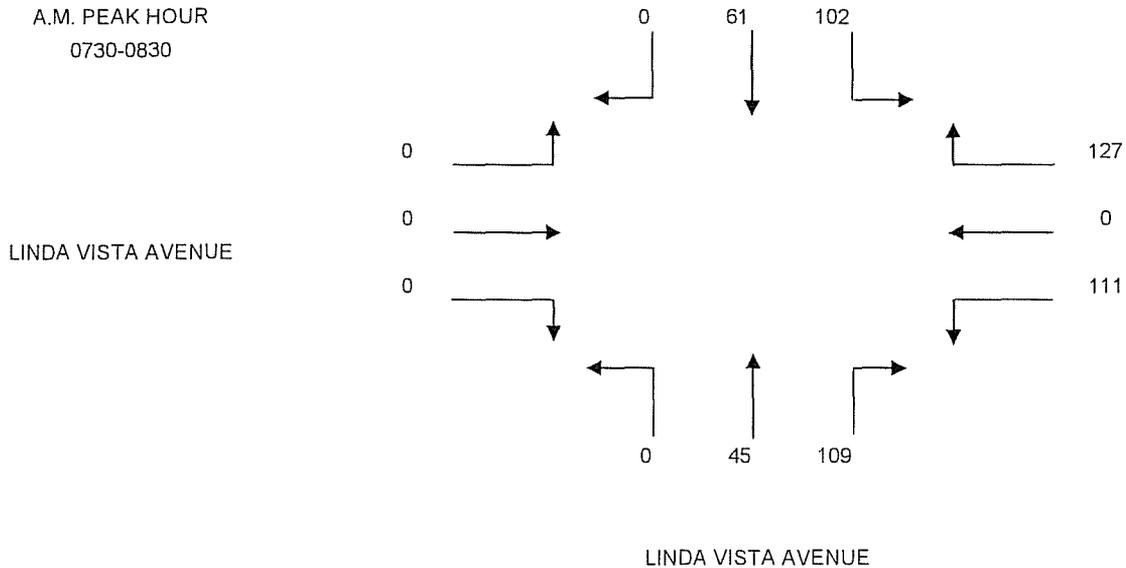


INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - ENGINEERS
 PROJECT: HAHAMONGUA ANNEX - CITY OF LOS ANGELES
 DATE: WEDNESDAY, MAY 28, 2008
 PERIOD: 07:00 AM TO 09:00 AM
 INTERSECTION: N/S HIGHLAND DRIVE
 E/W LINDA VISTA AVENUE
 FILE NUMBER: 8-AM

15 MINUTE TOTALS	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
700-715	0	5	8	19	0	7	7	5	0	0	0	0
715-730	0	9	22	26	0	11	19	10	0	0	0	0
730-745	0	12	44	62	0	18	35	11	0	0	0	0
745-800	0	23	34	35	0	30	26	10	0	0	0	0
800-815	0	16	12	13	0	32	28	10	0	0	0	0
815-830	0	10	12	17	0	31	20	14	0	0	0	0
830-845	0	12	10	14	0	27	12	12	0	0	0	0
845-900	0	14	4	25	0	20	18	12	0	0	0	0

1 HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
700-800	0	49	108	142	0	66	87	36	0	0	0	0	488
715-815	0	60	112	136	0	91	108	41	0	0	0	0	548
730-830	0	61	102	127	0	111	109	45	0	0	0	0	555
745-845	0	61	68	79	0	120	86	46	0	0	0	0	460
800-900	0	52	38	69	0	110	78	48	0	0	0	0	395



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INTERSECTION TURNING MOVEMENT COUNT SUMMARY

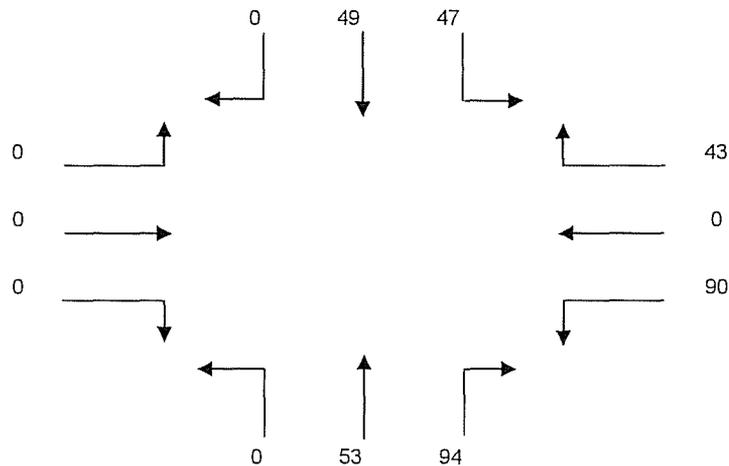
CLIENT: LLG - ENGINEERS
 PROJECT: HAHAMONGUA ANNEX - CITY OF LOS ANGELES
 DATE: WEDNESDAY, MAY 28, 2008
 PERIOD: 04:00 PM TO 06:00 PM
 INTERSECTION: N/S HIGHLAND DRIVE
 E/W LINDA VISTA AVENUE
 FILE NUMBER: 8-PM

15 MINUTE TOTALS	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
400-415	0	10	9	8	0	14	21	13	0	0	0	0
415-430	0	12	7	8	0	23	17	11	0	0	0	0
430-445	0	9	14	8	0	24	21	9	0	0	0	0
445-500	0	8	10	11	0	28	18	13	0	0	0	0
500-515	0	13	15	11	0	23	20	12	0	0	0	0
515-530	0	15	10	10	0	19	31	15	0	0	0	0
530-545	0	13	12	11	0	20	25	13	0	0	0	0
545-600	0	18	6	9	0	23	19	13	0	0	0	0

1 HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
400-500	0	39	40	35	0	89	77	46	0	0	0	0	326
415-515	0	42	46	38	0	98	76	45	0	0	0	0	345
430-530	0	45	49	40	0	94	90	49	0	0	0	0	367
445-545	0	49	47	43	0	90	94	53	0	0	0	0	376
500-600	0	59	43	41	0	85	95	53	0	0	0	0	376

P.M. PEAK HOUR
0445-0545

LINDA VISTA AVENUE



HIGHLAND DRIVE

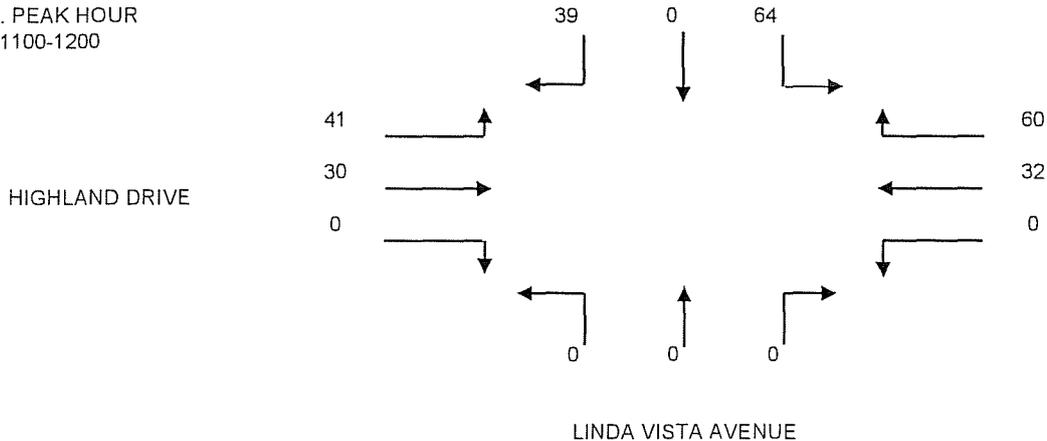
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
 PROJECT: HAHAMONGNA ANNEX - PASADENA
 DATE: SATURDAY, OCTOBER 11, 2008
 PERIOD: 11:00 AM TO 02:00 PM
 INTERSECTION: N/S LINDA VISTA AVENUE
 E/W HIGHLAND DRIVE
 FILE NUMBER: 8-MD

15 MINUTE TOTALS	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
1100-1115	10	0	13	14	9	0	0	0	0	0	9	13
1115-1130	9	0	14	15	10	0	0	0	0	0	8	10
1130-1145	11	0	16	14	7	0	0	0	0	0	7	8
1145-1200	9	0	21	17	6	0	0	0	0	0	6	10
1200-1215	9	0	15	16	7	0	0	0	0	0	9	10
1215-1230	10	0	16	17	7	0	0	0	0	0	6	11
1230-1245	9	0	15	15	7	0	0	0	0	0	5	7
1245-0100	8	0	13	18	10	0	0	0	0	0	7	9
0100-0115	12	0	17	16	9	0	0	0	0	0	8	13
0115-0130	9	0	14	15	5	0	0	0	0	0	6	9
0130-0145	11	0	17	14	10	0	0	0	0	0	4	6
0145-0200	12	0	17	10	8	0	0	0	0	0	7	7

1 HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
1100-1200	39	0	64	60	32	0	0	0	0	0	30	41	266
1115-1215	38	0	66	62	30	0	0	0	0	0	30	38	264
1130-1230	39	0	68	64	27	0	0	0	0	0	28	39	265
1145-1245	37	0	67	65	27	0	0	0	0	0	26	38	260
1200-0100	36	0	59	66	31	0	0	0	0	0	27	37	256
1215-0115	39	0	61	66	33	0	0	0	0	0	26	40	265
1230-0130	38	0	59	64	31	0	0	0	0	0	26	38	256
1245-0145	40	0	61	63	34	0	0	0	0	0	25	37	260
0100-0200	44	0	65	55	32	0	0	0	0	0	25	35	256

M.D. PEAK HOUR
1100-1200



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Groups Printed- Turning Movement

Start Time	WINDSOR AVE. Southbound				WOODBURY ROAD Westbound				WINDSOR AVE. Northbound				WOODBURY ROAD Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
07:00 AM	5	101	3	109	3	21	126	150	82	88	19	189	6	19	2	27	475
07:15 AM	5	164	7	176	5	49	126	180	90	124	27	241	11	20	2	33	630
07:30 AM	5	188	7	200	14	80	117	211	96	144	51	291	14	29	6	49	751
07:45 AM	3	195	17	215	19	122	140	281	148	137	32	317	26	32	5	63	876
Total	18	648	34	700	41	272	509	822	416	493	129	1038	57	100	15	172	2732
08:00 AM	2	145	6	153	9	67	134	210	132	177	18	327	9	24	8	41	731
08:15 AM	10	130	5	145	6	49	133	188	145	170	14	329	6	23	11	40	702
08:30 AM	10	108	7	125	8	49	100	157	110	185	9	304	2	23	12	37	623
08:45 AM	6	104	6	116	8	43	107	158	87	188	4	279	6	36	8	50	603
Total	28	487	24	539	31	208	474	713	474	720	45	1239	23	106	39	168	2659

*** BREAK ***

04:00 PM	8	116	12	136	12	25	96	133	98	89	11	198	5	45	8	58	525
04:15 PM	12	137	16	165	6	19	84	109	106	88	5	199	10	65	10	85	558
04:30 PM	9	146	16	171	17	18	87	122	98	107	9	214	7	52	8	67	574
04:45 PM	11	137	19	167	12	37	70	119	111	97	12	220	7	54	13	74	580
Total	40	536	63	639	47	99	337	483	413	381	37	831	29	216	39	284	2237
05:00 PM	6	169	13	188	11	26	120	157	130	137	6	273	13	77	10	100	718
05:15 PM	5	161	25	191	9	37	82	128	138	125	15	278	10	62	20	92	689
05:30 PM	9	110	12	131	10	28	92	130	110	114	15	239	13	63	8	84	584
05:45 PM	6	143	15	164	7	30	84	121	131	131	11	273	7	44	18	69	627
Total	26	583	65	674	37	121	378	536	509	507	47	1063	43	246	56	345	2618
Grand Total	112	2254	186	2552	156	700	1698	2554	1812	2101	258	4171	152	668	149	969	10246
Apprch %	4.4	88.3	7.3		6.1	27.4	66.5		43.4	50.4	6.2		15.7	68.9	15.4		
Total %	1.1	22.0	1.8	24.9	1.5	6.8	16.6	24.9	17.7	20.5	2.5	40.7	1.5	6.5	1.5	9.5	

Start Time	WINDSOR AVE. Southbound				WOODBURY ROAD Westbound				WINDSOR AVE. Northbound				WOODBURY ROAD Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	

Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1

Intersection	07:30 AM																
Volume	20	658	35	713	48	318	524	890	521	628	115	1264	55	108	30	193	3060
Percent	2.8	92.3	4.9		5.4	35.7	58.9		41.2	49.7	9.1		28.5	56.0	15.5		
07:45	07:45 AM																
Volume	3	195	17	215	19	122	140	281	148	137	32	317	26	32	5	63	876
Peak Factor	0.873																
High Int.	07:45 AM																
Volume	3	195	17	215	19	122	140	281	145	170	14	329	26	32	5	63	
Peak Factor	0.829				0.792				0.960				0.766				

Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1

Intersection	05:00 PM																
Volume	26	583	65	674	37	121	378	536	509	507	47	1063	43	246	56	345	2618
Percent	3.9	86.5	9.6		6.9	22.6	70.5		47.9	47.7	4.4		12.5	71.3	16.2		
05:00	05:00 PM																
Volume	6	169	13	188	11	26	120	157	130	137	6	273	13	77	10	100	718
Peak Factor	0.912																
High Int.	05:15 PM																
Volume	5	161	25	191	11	26	120	157	138	125	15	278	13	77	10	100	
Peak Factor	0.882				0.854				0.956				0.863				

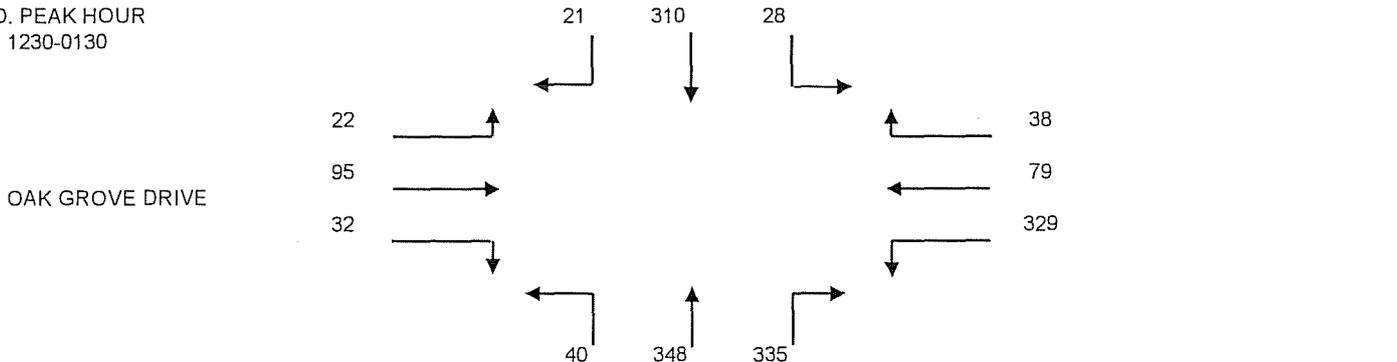
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
 PROJECT: HAHAMONGNA ANNEX - PASADENA
 DATE: SATURDAY, OCTOBER 11, 2008
 PERIOD: 11:00 AM TO 02:00 PM
 INTERSECTION: N/S ARROYO BOULEVARD / WINDSOR AVENUE
 E/W OAK GROVE DRIVE
 FILE NUMBER: 9-MD

15 MINUTE TOTALS	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
1100-1115	4	81	6	12	35	99	69	66	4	5	22	7
1115-1130	6	60	6	10	25	83	61	51	8	7	27	6
1130-1145	7	81	5	10	29	99	82	74	6	9	29	9
1145-1200	8	85	8	7	25	72	70	72	10	5	29	13
1200-1215	6	66	7	5	23	78	55	62	10	5	24	8
1215-1230	6	93	9	10	20	86	69	74	12	9	23	5
1230-1245	4	99	7	10	16	86	85	89	10	7	21	6
1245-0100	7	63	8	11	15	80	78	96	9	10	26	5
0100-0115	5	64	7	7	21	72	91	81	10	8	21	6
0115-0130	5	84	6	10	27	91	81	82	11	7	27	5
0130-0145	7	75	7	11	30	108	74	62	11	4	20	9
0145-0200	6	76	4	12	25	88	77	70	11	4	16	10

1 HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
1100-1200	25	307	25	39	114	353	282	263	28	26	107	35	1604
1115-1215	27	292	26	32	102	332	268	259	34	26	109	36	1543
1130-1230	27	325	29	32	97	335	276	282	38	28	105	35	1609
1145-1245	24	343	31	32	84	322	279	297	42	26	97	32	1609
1200-0100	23	321	31	36	74	330	287	321	41	31	94	24	1613
1215-0115	22	319	31	38	72	324	323	340	41	34	91	22	1657
1230-0130	21	310	28	38	79	329	335	348	40	32	95	22	1677
1245-0145	24	286	28	39	93	351	324	321	41	29	94	25	1655
0100-0200	23	299	24	40	103	359	323	295	43	23	84	30	1646

M.D. PEAK HOUR
1230-0130



ARROYO BOULEVARD / WINDSOR AVENUE

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 626.446.7978

APPENDIX C

PROPOSED PROJECT ANALYSIS DATA: ICU AND LEVELS OF SERVICE EXPLANATION ICU DATA WORKSHEETS-WEEKDAY AM AND PM PEAK HOURS AND WEEKEND MID-DAY PEAK HOUR

INTERSECTION CAPACITY UTILIZATION (ICU) DESCRIPTION

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

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

The Intersection Capacity Utilization (ICU) method of intersection capacity analysis has been used in our studies. It directly relates traffic demand and available capacity for key intersection movements, regardless of present signal timing. The capacity per hour of green time for each approach is calculated based on the methods of the *Highway Capacity Manual*. The proportion of total signal time needed by each key movement is determined and compared to the total time available (100 percent of the hour). The result of summing the requirements of the conflicting key movements plus an allowance for clearance times is expressed as a decimal fraction. Conflicting key traffic movements are those opposing movements whose combined green time requirements are greatest.

The resulting ICU represents the proportion of the total hour required to accommodate intersection demand volumes if the key conflicting traffic movements are operating at capacity. Other movements may be operating near capacity, or may be operating at significantly better levels. The ICU may be translated to a Level of Service as tabulated below.

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

Intersection Capacity Utilization Characteristics		
Level of Service	Load Factor	Equivalent ICU
A	0.0	0.00 - 0.60
B	0.0 - 0.1	0.61 - 0.70
C	0.1 - 0.3	0.71 - 0.80
D	0.3 - 0.7	0.81 - 0.90
E	0.7 - 1.0	0.91 - 1.00
F	Not Applicable	Not Applicable

SERVICE LEVEL A

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

SERVICE LEVEL B

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

SERVICE LEVEL C

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

SERVICE LEVEL D

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

SERVICE LEVEL E

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

SERVICE LEVEL F

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

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INTERSECTION CAPACITY UTILIZATION

N-S St: Gould Avenue
 E-W St: Foothill Boulevard
 Project: HWP Annex Project/1-083745-1
 File: ICU1

Gould Avenue @ Foothill Boulevard
 Peak hr: AM
 Annual Growth: 1.50%

Date: 03/11/2009
 Date of Count: 2009
 Projection Year: 2014

Movement	2009 EXIST. TRAFFIC			2014 W/AMBIENT GROWTH			2014 W/RELATED PROJECTS				2014 W/PROJECT SITE TRAFFIC				2014 W/PROJECT MITIGATION					
	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio		
Nb Left	8	0	0.005	1	9	0.005	0	9	0	0.005	0	9	0	0.005	0	9	0	0.005		
Nb Thru [3]	46	1700	0.037 *	3	49	0.040 *	0	49	1700	0.040 *	0	49	1700	0.040 *	0	49	1700	0.040 *		
Nb Right	9	0	-	1	10	-	0	10	0	-	0	10	0	-	0	10	0	-		
Sb Left	442	0	0.130	33	475	0.140	0	475	0	0.140	21	496	0	0.146	0	496	0	0.146		
Sb Thru [3]	79	3400	0.153 *	6	85	0.165 *	0	85	3400	0.165 *	0	85	3400	0.171 *	0	85	3400	0.171 *		
Sb Right	139	1700	0.082	10	149	0.088	0	149	1700	0.088	0	149	1700	0.088	0	149	1700	0.088		
Eb Left	149	1700	0.088 *	11	160	0.094 *	0	160	1700	0.094 *	0	160	1700	0.094 *	0	160	1700	0.094 *		
Eb Thru	523	3400	0.162	39	562	0.174	4	566	3400	0.175	8	574	3400	0.177	0	574	3400	0.177		
Eb Right	27	0	-	2	29	-	0	29	0	-	0	29	0	-	0	29	0	-		
Wb Left	76	1700	0.045	6	82	0.048	0	82	1700	0.048	0	82	1700	0.048	0	82	1700	0.048		
Wb Thru	529	3400	0.156	40	568	0.167	5	573	3400	0.169	0	573	3400	0.169	0	573	3400	0.169		
Wb Right	432	1700	0.254 *	32	465	0.273 *	0	465	1700	0.273 *	0	465	1700	0.273 *	0	465	1700	0.273 *		
Yellow Allowance:			0.100 *				0.100 *					0.100 *					0.100 *			
ICU			0.632				0.672					0.678					0.678			
LOS			B				B					B					B			

03:59 PM

*Key conflicting movement as a part of ICU

1 Counts conducted by: The Traffic Solution

2 Capacity expressed in veh/hour of green

3 Northbound and southbound approaches operate with split signal phasing.

Note: Year 2008 manual traffic counts were adjusted by a 1.5 percent (1.5%) ambient growth factor to reflect year 2009 existing conditions.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Gould Avenue
 E-W St: Foothill Boulevard
 Project: HWP Annex Project/1-083745-1
 File: ICU1

Gould Avenue @ Foothill Boulevard
 Peak hr: PM
 Annual Growth: 1.50%

Date: 03/11/2009
 Date of Count: 2009
 Projection Year: 2014

2009 EXIST. TRAFFIC				2014 W/AMBIENT GROWTH			2014 W/RELATED PROJECTS				2014 W/PROJECT SITE TRAFFIC				2014 W/PROJECT MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
Nb Left	16	0	0.010	1	17	0.010	0	17	0	0.010	0	17	0	0.010	0	17	0	0.010
Nb Thru [3]	51	1700	0.048 *	4	55	0.052 *	0	55	1700	0.052 *	0	55	1700	0.052 *	0	55	1700	0.052 *
Nb Right	15	0	-	1	16	-	0	16	0	-	0	16	0	-	0	16	0	-
Sb Left	324	0	0.095	24	348	0.102	2	350	0	0.103	0	350	0	0.103	0	350	0	0.103
Sb Thru [3]	68	3400	0.115 *	5	73	0.124 *	0	73	3400	0.124 *	0	73	3400	0.124 *	0	73	3400	0.124 *
Sb Right	88	1700	0.052	7	95	0.056	0	95	1700	0.056	0	95	1700	0.056	0	95	1700	0.056
Eb Left	375	1700	0.220 *	28	403	0.237 *	0	403	1700	0.237 *	0	403	1700	0.237 *	0	403	1700	0.237 *
Eb Thru	514	3400	0.171	39	552	0.184	19	571	3400	0.189	0	571	3400	0.189	0	571	3400	0.189
Eb Right	68	0	-	5	73	-	0	73	0	-	0	73	0	-	0	73	0	-
Wb Left	91	1700	0.054	7	98	0.058	0	98	1700	0.058	0	98	1700	0.058	0	98	1700	0.058
Wb Thru	556	3400	0.164	42	598	0.176	22	620	3400	0.182	8	628	3400	0.185	0	628	3400	0.185
Wb Right	324	1700	0.190 *	24	348	0.205 *	3	351	1700	0.207 *	20	371	1700	0.218 *	0	371	1700	0.218 *
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.674			0.717				0.720				0.732				0.732
LOS		B				C			C				C					C

03:59 PM

*Key conflicting movement as a part of ICU

1 Counts conducted by: The Traffic Solution

2 Capacity expressed in veh/hour of green

3 Northbound and southbound approaches operate with split signal phasing.

Note: Year 2008 manual traffic counts were adjusted by a 1.5 percent (1.5%) ambient growth factor to reflect year 2009 existing conditions.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Gould Avenue
 E-W St: Foothill Boulevard
 Project: HWP Annex Project/1-083745-1
 File: ICU1

Gould Avenue @ Foothill Boulevard
 Peak hr: Weekend Mid-day
 Annual Growth: 1.50%

Date: 03/11/2009
 Date of Count: 2009
 Projection Year: 2014

Movement	2009 EXIST. TRAFFIC			2014 W/AMBIENT GROWTH			2014 W/RELATED PROJECTS				2014 W/PROJECT SITE TRAFFIC				2014 W/PROJECT MITIGATION					
	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio		
Nb Left	12	0	0.007	1	13	0.008	0	13	0	0.008	0	13	0	0.008	0	13	0	0.008		
Nb Thru [3]	27	1700	0.033 *	2	29	0.036 *	0	29	1700	0.036 *	0	29	1700	0.036 *	0	29	1700	0.036 *		
Nb Right	17	0	-	1	19	-	0	19	0	-	0	19	0	-	0	19	0	-		
Sb Left	261	0	0.077	20	280	0.082	3	283	0	0.083	23	306	0	0.090	0	306	0	0.090		
Sb Thru [3]	68	3400	0.097 *	5	73	0.104 *	0	73	3400	0.105 *	0	73	3400	0.112 *	0	73	3400	0.112 *		
Sb Right	120	1700	0.070	9	129	0.076	0	129	1700	0.076	0	129	1700	0.076	0	129	1700	0.076		
Eb Left	259	1700	0.152 *	19	278	0.164 *	0	278	1700	0.164 *	0	278	1700	0.164 *	0	278	1700	0.164 *		
Eb Thru	574	3400	0.188	43	618	0.202	23	641	3400	0.209	9	650	3400	0.211	0	650	3400	0.211		
Eb Right	64	0	-	5	69	-	0	69	0	-	0	69	0	-	0	69	0	-		
Wb Left	98	1700	0.058	7	106	0.062	0	106	1700	0.062	0	106	1700	0.062	0	106	1700	0.062		
Wb Thru	703	3400	0.207 *	53	756	0.222 *	28	784	3400	0.231 *	7	791	3400	0.233 *	0	791	3400	0.233 *		
Wb Right	207	1700	0.122	16	223	0.131	3	226	1700	0.133	18	244	1700	0.143	0	244	1700	0.143		
Yellow Allowance:			0.100 *				0.100 *					0.100 *					0.100 *			
ICU	A			B			B				B				B					
LOS	0.589			0.626			0.635				0.644				0.644					

03:59 PM

* Key conflicting movement as a part of ICU
 1 Counts conducted by: The Traffic Solution
 2 Capacity expressed in veh/hour of green
 3 Northbound and southbound approaches operate with split signal phasing.
 Note: Year 2004 manual traffic counts were adjusted by a 1.5 percent (1.5%) ambient growth factor to reflect year 2009 existing conditions.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Crown Avenue-I-210 Freeway NB Off Ramp
 E-W St: Foothill Boulevard
 Project: HWP Annex Project/1-083745-1
 File: ICU2

Crown Avenue-I-210 Freeway NB Off Ramp @ Foothill Boulevard
 Peak hr: AM
 Annual Growth: 1.50%

Date: 03/11/2009
 Date of Count: 2009
 Projection Year: 2014

Movement	2009 EXIST. TRAFFIC			2014 W/AMBIENT GROWTH			2014 W/RELATED PROJECTS				2014 W/PROJECT SITE TRAFFIC				2014 W/PROJECT MITIGATION			
	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
Nb Left	373	0	0.110	28	400	0.118	0	400	0	0.118	0	400	0	0.118	0	400	0	0.118
Nb Thru [3]	251	3400	0.183 *	19	270	0.197 *	0	270	3400	0.197 *	0	270	3400	0.197 *	0	270	3400	0.197 *
Nb Right	225	1700	0.133	17	242	0.142	1	243	1700	0.143	0	243	1700	0.143	0	243	1700	0.143
Sb Left	93	0	0.055	7	100	0.059	0	100	0	0.059	4	104	0	0.061	0	104	0	0.061
Sb Thru [3]	0	1700	0.149 *	0	0	0.160 *	0	0	1700	0.163 *	0	0	1700	0.166 *	0	0	1700	0.166 *
Sb Right	160	0	-	12	172	-	5	177	0	-	0	177	0	-	0	177	0	-
Eb Left	47	1700	0.027	4	50	0.030	3	53	1700	0.031	0	53	1700	0.031	0	53	1700	0.031
Eb Thru	631	3400	0.186 *	47	679	0.200 *	1	680	3400	0.200 *	29	709	3400	0.208 *	0	709	3400	0.208 *
Eb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Wb Left	0	0	0.000 *	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
Wb Thru	353	3400	0.116	26	380	0.125	1	381	3400	0.125	0	381	3400	0.125	0	381	3400	0.125
Wb Right	43	0	-	3	46	-	0	46	0	-	0	46	0	-	0	46	0	-
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.618			0.657				0.660				0.671				0.671
LOS		B			B			B				B			B			B

*Key conflicting movement as a part of ICU
 1 Counts conducted by: The Traffic Solution
 2 Capacity expressed in veh/hour of green
 3 Northbound and southbound approaches operate with split signal phasing.
 Note: Year 2008 manual traffic counts were adjusted by a 1.5 percent (1.5%) ambient growth factor to reflect year 2009 existing conditions.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Crown Avenue-I-210 Freeway NB Off Ramp
 E-W St: Foothill Boulevard
 Project: HWP Annex Project/1-083745-1
 File: ICU2

Crown Avenue-I-210 Freeway NB Off Ramp @ Foothill Boulevard
 Peak hr: PM
 Annual Growth: 1.50%

Date: 03/11/2009
 Date of Count: 2009
 Projection Year: 2014

Movement	2009 EXIST. TRAFFIC			2014 W/AMBIENT GROWTH			2014 W/RELATED PROJECTS				2014 W/PROJECT SITE TRAFFIC				2014 W/PROJECT MITIGATION			
	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	514	0	0.151	39	552	0.162	0	552	0	0.162	0	552	0	0.162	0	552	0	0.162
Nb Thru [3]	123	3400	0.187 *	9	132	0.201 *	0	132	3400	0.201 *	0	132	3400	0.201 *	0	132	3400	0.201 *
Nb Right	56	1700	0.033	4	60	0.035	4	64	1700	0.038	0	64	1700	0.038	0	64	1700	0.038
Sb Left	41	0	0.024	3	44	0.026	2	46	0	0.027	0	46	0	0.027	0	46	0	0.027
Sb Thru [3]	0	1700	0.128 *	0	0	0.138 *	0	0	1700	0.144 *	0	0	1700	0.144 *	0	0	1700	0.144 *
Sb Right	178	0	-	13	191	-	9	200	0	-	0	200	0	-	0	200	0	-
Eb Left	85	1700	0.050 *	6	92	0.054 *	9	101	1700	0.059 *	0	101	1700	0.059 *	0	101	1700	0.059 *
Eb Thru	350	3400	0.103	26	376	0.111	11	387	3400	0.114	0	387	3400	0.114	0	387	3400	0.114
Eb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Wb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Wb Thru	487	3400	0.150 *	37	524	0.162 *	21	545	3400	0.169 *	28	573	3400	0.178 *	0	573	3400	0.178 *
Wb Right	24	0	-	2	26	-	3	29	0	-	4	33	0	-	0	33	0	-
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *				0.100 *
ICU LOS			B 0.616			B 0.655				B 0.674				B 0.683				B 0.683

*Key conflicting movement as a part of ICU

1 Counts conducted by: The Traffic Solution

2 Capacity expressed in veh/hour of green

3 Northbound and southbound approaches operate with split signal phasing.

Note: Year 2008 manual traffic counts were adjusted by a 1.5 percent (1.5%) ambient growth factor to reflect year 2009 existing conditions.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Crown Avenue-I-210 Freeway NB Off Ramp
 E-W St: Foothill Boulevard
 Project: HWP Annex Project/1-083745-1
 File: ICU2

Crown Avenue-I-210 Freeway NB Off Ramp @ Foothill Boulevard
 Peak hr: Weekend Mid-day
 Annual Growth: 1.50%

Date: 03/11/2009
 Date of Count: 2009
 Projection Year: 2014

Movement	2009 EXIST. TRAFFIC			2014 W/AMBIENT GROWTH			2014 W/RELATED PROJECTS				2014 W/PROJECT SITE TRAFFIC				2014 W/PROJECT MITIGATION			
	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
Nb Left	396	0	0.116	30	426	0.125	0	426	0	0.125	0	426	0	0.125	0	426	0	0.125
Nb Thru [3]	79	3400	0.140 *	6	85	0.150 *	0	85	3400	0.150 *	0	85	3400	0.150 *	0	85	3400	0.150 *
Nb Right	56	1700	0.033	4	60	0.035	6	66	1700	0.039	0	66	1700	0.039	0	66	1700	0.039
Sb Left	16	0	0.010	1	17	0.010	3	20	0	0.012	5	25	0	0.015	0	25	0	0.015
Sb Thru [3]	0	1700	0.085 *	0	0	0.091 *	0	0	1700	0.101 *	0	0	1700	0.104 *	0	0	1700	0.104 *
Sb Right	128	0	-	10	137	-	14	151	0	-	0	151	0	-	0	151	0	-
Eb Left	78	1700	0.046 *	6	84	0.049 *	11	95	1700	0.056 *	0	95	1700	0.056 *	0	95	1700	0.056 *
Eb Thru	222	3400	0.065	17	239	0.070	15	254	3400	0.075	32	286	3400	0.084	0	286	3400	0.084
Eb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Wb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Wb Thru	287	3400	0.087 *	22	309	0.093 *	24	333	3400	0.101 *	25	358	3400	0.110 *	0	358	3400	0.110 *
Wb Right	8	0	-	1	9	-	3	12	0	-	4	16	0	-	0	16	0	-
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.457			0.484				0.509				0.520				0.520
LOS		A			A			A			A		A		A		A	

*Key conflicting movement as a part of ICU

1 Counts conducted by: The Traffic Solution

2 Capacity expressed in veh/hour of green

3 Northbound and southbound approaches operate with split signal phasing.

Note: Year 2008 manual traffic counts were adjusted by a 1.5 percent (1.5%) ambient growth factor to reflect year 2009 existing conditions.

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INTERSECTION CAPACITY UTILIZATION

N-S St: I-210 Freeway SB On/Off Ramps
 E-W St: Berkshire Place
 Project: HWP Annex Project/1-083745-1
 File: ICU3

I-210 Freeway SB On/Off Ramps @ Berkshire Place
 Peak hr: AM
 Annual Growth: 1.50%

Date: 03/11/2009
 Date of Count: 2009
 Projection Year: 2014

Movement	2009 EXIST. TRAFFIC			2014 W/AMBIENT GROWTH			2014 W/RELATED PROJECTS				2014 W/PROJECT SITE TRAFFIC				2014 W/PROJECT MITIGATION			
	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	0	0	0.000 *	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
Nb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Nb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Sb Left	705	0	0.207	53	758	0.223	0	758	0	0.223	0	758	0	0.223	0	758	0	0.223
Sb Thru	0	3400	0.227 *	0	0	0.245 *	0	0	3400	0.245 *	0	0	3400	0.245 *	0	0	3400	0.245 *
Sb Right	68	0	-	5	73	-	0	73	0	-	0	73	0	-	0	73	0	-
Eb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Eb Thru	344	3400	0.139 *	26	370	0.150 *	0	370	3400	0.150 *	4	374	3400	0.151 *	0	374	3400	0.151 *
Eb Right	129	0	-	10	139	-	0	139	0	-	0	139	0	-	0	139	0	-
Wb Left	160	1700	0.094 *	12	172	0.101 *	0	172	1700	0.101 *	0	172	1700	0.101 *	0	172	1700	0.101 *
Wb Thru	149	3400	0.044	11	160	0.047	0	160	3400	0.047	0	160	3400	0.047	0	160	3400	0.047
Wb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Yellow Allowance:	0.100 *			0.100 *			0.100 *				0.100 *				0.100 *			
ICU	0.561			0.595			0.595				0.597				0.597			
LOS	A			A			A				A				A			

03:59 PM

*Key conflicting movement as a part of ICU

1 Counts conducted by: The Traffic Solution

2 Capacity expressed in veh/hour of green

Note: Year 2008 manual traffic counts were adjusted by a 1.5 percent (1.5%) ambient growth factor to reflect year 2009 existing conditions.

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INTERSECTION CAPACITY UTILIZATION

N-S St: I-210 Freeway SB On/Off Ramps
 E-W St: Berkshire Place
 Project: HWP Annex Project/1-083745-1
 File: ICU3

I-210 Freeway SB On/Off Ramps @ Berkshire Place
 Peak hr: PM
 Annual Growth: 1.50%

Date: 03/11/2009
 Date of Count: 2009
 Projection Year: 2014

Movement	2009 EXIST. TRAFFIC			2014 W/AMBIENT GROWTH			2014 W/RELATED PROJECTS				2014 W/PROJECT SITE TRAFFIC				2014 W/PROJECT MITIGATION			
	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	0	0	0.000 *	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
Nb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Nb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Sb Left	160	0	0.047	12	172	0.051	0	172	0	0.051	0	172	0	0.051	0	172	0	0.051
Sb Thru	1	3400	0.059 *	0	1	0.064 *	0	1	3400	0.064 *	0	1	3400	0.064 *	0	1	3400	0.064 *
Sb Right	41	0	-	3	44	-	0	44	0	-	0	44	0	-	0	44	0	-
Eb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Eb Thru	100	3400	0.047 *	8	108	0.051 *	1	109	3400	0.051 *	0	109	3400	0.051 *	0	109	3400	0.051 *
Eb Right	61	0	-	5	65	-	0	65	0	-	0	65	0	-	0	65	0	-
Wb Left	382	1700	0.224 *	29	410	0.241 *	5	415	1700	0.244 *	16	431	1700	0.254 *	0	431	1700	0.254 *
Wb Thru	142	3400	0.042	11	153	0.045	2	155	3400	0.046	4	159	3400	0.047	0	159	3400	0.047
Wb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.431			0.456				0.459				0.469				0.469
LOS			A			A				A				A				A

03:59 PM

*Key conflicting movement as a part of ICU

1 Counts conducted by: The Traffic Solution

2 Capacity expressed in veh/hour of green

Note: Year 2008 manual traffic counts were adjusted by a 1.5 percent (1.5%) ambient growth factor to reflect year 2009 existing conditions.

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INTERSECTION CAPACITY UTILIZATION

N-S St: I-210 Freeway SB On/Off Ramps
 E-W St: Berkshire Place
 Project: HWP Annex Project/1-083745-1
 File: ICU3

I-210 Freeway SB On/Off Ramps @ Berkshire Place
 Peak hr: Weekend Mid-day
 Annual Growth: 1.50%

Date: 03/11/2009
 Date of Count: 2009
 Projection Year: 2014

Movement	2009 EXIST. TRAFFIC			2014 W/AMBIENT GROWTH			2014 W/RELATED PROJECTS				2014 W/PROJECT SITE TRAFFIC				2014 W/PROJECT MITIGATION			
	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
Nb Left	0	0	0.000 *	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
Nb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Nb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Sb Left	85	0	0.025	6	92	0.027	0	92	0	0.027	0	92	0	0.027	0	92	0	0.027
Sb Thru	4	3400	0.039 *	0	4	0.042 *	0	4	3400	0.042 *	0	4	3400	0.042 *	0	4	3400	0.042 *
Sb Right	43	0	-	3	46	-	0	46	0	-	0	46	0	-	0	46	0	-
Eb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Eb Thru	64	3400	0.042 *	5	69	0.046 *	2	71	3400	0.046 *	5	76	3400	0.048 *	0	76	3400	0.048 *
Eb Right	80	0	-	6	86	-	0	86	0	-	0	86	0	-	0	86	0	-
Wb Left	103	1700	0.060 *	8	110	0.065 *	6	116	1700	0.068 *	14	130	1700	0.077 *	0	130	1700	0.077 *
Wb Thru	73	3400	0.021	5	79	0.023	2	81	3400	0.024	4	85	3400	0.025	0	85	3400	0.025
Wb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Yellow Allowance:			0.100 *				0.100 *					0.100 *					0.100 *	
ICU	0.242			0.252			0.256				0.266				0.266			
LOS	A			A			A				A				A			

*Key conflicting movement as a part of ICU
 1 Counts conducted by: The Traffic Solution
 2 Capacity expressed in veh/hour of green

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INTERSECTION CAPACITY UTILIZATION

N-S St: I-210 Freeway NB On/Off Ramps
 E-W St: Berkshire Place
 Project: HWP Annex Project/1-083745-1
 File: ICU4

I-210 Freeway NB On/Off Ramps @ Berkshire Place
 Peak hr: AM
 Annual Growth: 1.50%

Date: 03/11/2009
 Date of Count: 2009
 Projection Year: 2014

Movement	2009 EXIST. TRAFFIC			2014 W/AMBIENT GROWTH			2014 W/RELATED PROJECTS				2014 W/PROJECT SITE TRAFFIC				2014 W/PROJECT MITIGATION			
	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
Nb Left	72	0	0.042	5	77	0.046	0	77	0	0.046	0	77	0	0.046	0	77	0	0.046
Nb Thru	0	1700	0.042	0	0	0.046	0	0	1700	0.046	0	0	1700	0.046	0	0	1700	0.046
Nb Right	368	1700	0.217 *	28	396	0.233 *	1	397	1700	0.234 *	17	414	1700	0.244 *	0	414	1700	0.244 *
Sb Left	0	0	0.000 *	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
Sb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Sb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Eb Left	116	1700	0.068 *	9	124	0.073 *	0	124	1700	0.073 *	0	124	1700	0.073 *	0	124	1700	0.073 *
Eb Thru	955	3400	0.281	72	1027	0.302	0	1027	3400	0.302	4	1031	3400	0.303	0	1031	3400	0.303
Eb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Wb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Wb Thru	225	1700	0.133	17	242	0.142	0	242	1700	0.142	0	242	1700	0.142	0	242	1700	0.142
Wb Right [3]	614	1700	0.361 *	46	660	0.388 *	0	660	1700	0.388 *	0	660	1700	0.388 *	0	660	1700	0.388 *
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.746			0.794				0.795				0.805				0.805
LOS		C			C			C				D			D			D

03:59 PM

* Key conflicting movement as a part of ICU

1 Counts conducted by: The Traffic Solution

2 Capacity expressed in veh/hour of green

3 Due to the high westbound right-turn volumes onto the northbound I-210 freeway on-ramp, the westbound curb lane functions as a right-turn only lane.

Note: Year 2008 manual traffic counts were adjusted by a 1.5 percent (1.5%) ambient growth factor to reflect year 2009 existing conditions.

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INTERSECTION CAPACITY UTILIZATION

N-S St: I-210 Freeway NB On/Off Ramps
 E-W St: Berkshire Place
 Project: HWP Annex Project/1-083745-1
 File: ICU4

I-210 Freeway NB On/Off Ramps @ Berkshire Place
 Peak hr: PM
 Annual Growth: 1.50%

Date: 03/11/2009
 Date of Count: 2009
 Projection Year: 2014

Movement	2009 EXIST. TRAFFIC			2014 W/AMBIENT GROWTH			2014 W/RELATED PROJECTS				2014 W/PROJECT SITE TRAFFIC				2014 W/PROJECT MITIGATION			
	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	114	0	0.067	9	122	0.072	0	122	0	0.072	0	122	0	0.072	0	122	0	0.072
Nb Thru	3	1700	0.069 *	0	3	0.074 *	0	3	1700	0.074	0	3	1700	0.074	0	3	1700	0.074
Nb Right	116	1700	0.068	9	124	0.073	4	128	1700	0.076 *	0	128	1700	0.076 *	0	128	1700	0.076 *
Sb Left	0	0	0.000 *	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
Sb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Sb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Eb Left	82	1700	0.048 *	6	88	0.052 *	0	88	1700	0.052 *	0	88	1700	0.052 *	0	88	1700	0.052 *
Eb Thru	161	3400	0.047	12	173	0.051	1	174	3400	0.051	0	174	3400	0.051	0	174	3400	0.051
Eb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Wb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Wb Thru	350	1700	0.206	26	376	0.221	7	383	1700	0.226	20	403	1700	0.237	0	403	1700	0.237
Wb Right [3	517	1700	0.304 *	39	555	0.327 *	0	555	1700	0.327 *	0	555	1700	0.327 *	0	555	1700	0.327 *
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *				0.100 *
ICU LOS			A 0.521			A 0.552				A 0.554				A 0.554				A 0.554

* Key conflicting movement as a part of ICU
 1 Counts conducted by: The Traffic Solution
 2 Capacity expressed in veh/hour of green
 3 Due to the high westbound right-turn volumes onto the northbound I-210 freeway on-ramp, the westbound curb lane functions as a right-turn only lane.
 Note: Year 2008 manual traffic counts were adjusted by a 1.5 percent (1.5%) ambient growth factor to reflect year 2009 existing conditions.

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INTERSECTION CAPACITY UTILIZATION

N-S St: I-210 Freeway NB On/Off Ramps
 E-W St: Berkshire Place
 Project: HWP Annex Project/1-083745-1
 File: ICU4

I-210 Freeway NB On/Off Ramps @ Berkshire Place
 Peak hr: Weekend Mid-day
 Annual Growth: 1.50%

Date: 03/11/2009
 Date of Count: 2009
 Projection Year: 2014

Movement	2009 EXIST. TRAFFIC			2014 W/AMBIENT GROWTH			2014 W/RELATED PROJECTS				2014 W/PROJECT SITE TRAFFIC				2014 W/PROJECT MITIGATION			
	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	59	0	0.035	4	63	0.037	0	63	0	0.037	0	63	0	0.037	0	63	0	0.037
Nb Thru	2	1700	0.036	0	2	0.039	0	2	1700	0.039	0	2	1700	0.039	0	2	1700	0.039
Nb Right	78	1700	0.046 *	6	84	0.049 *	6	90	1700	0.053 *	18	108	1700	0.064 *	0	108	1700	0.064 *
Sb Left	0	0	0.000 *	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
Sb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Sb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Eb Left	56	1700	0.033 *	4	60	0.035 *	0	60	1700	0.035 *	0	60	1700	0.035 *	0	60	1700	0.035 *
Eb Thru	94	3400	0.028	7	101	0.030	2	103	3400	0.030	5	108	3400	0.032	0	108	3400	0.032
Eb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Wb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Wb Thru	123	1700	0.072	9	132	0.078	8	140	1700	0.082 *	18	158	1700	0.093 *	0	158	1700	0.093 *
Wb Right [3]	127	1700	0.075 *	10	136	0.080 *	0	136	1700	0.080	0	136	1700	0.080	0	136	1700	0.080
Yellow Allowance:			0.100 *				0.100 *					0.100 *					0.100 *	
ICU LOS			A 0.253				A 0.265					A 0.271					A 0.292	

*Key conflicting movement as a part of ICU

1 Counts conducted by: The Traffic Solution

2 Capacity expressed in veh/hour of green

3 Due to the high westbound right-turn volumes onto the northbound I-210 freeway on-ramp, the westbound curb lane functions as a right-turn only lane.

Note: Year 2008 manual traffic counts were adjusted by a 1.5 percent (1.5%) ambient growth factor to reflect year 2009 existing conditions.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Oak Grove Drive
 E-W St: Foothill Boulevard
 Project: HWP Annex Project/1-083745-1
 File: ICU5

Oak Grove Drive @ Foothill Boulevard
 Peak hr: AM
 Annual Growth: 1.50%

Date: 03/11/2009
 Date of Count: 2009
 Projection Year: 2014

Movement	2009 EXIST. TRAFFIC			2014 W/AMBIENT GROWTH			2014 W/RELATED PROJECTS				2014 W/PROJECT SITE TRAFFIC				2014 W/PROJECT MITIGATION			
	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	203	1700	0.119	15	218	0.128	0	218	1700	0.128	0	218	1700	0.128	0	218	1700	0.128
Nb Thru	714	3400	0.219 *	54	767	0.236 *	0	767	3400	0.237 *	0	767	3400	0.251 *	0	767	3400	0.251 *
Nb Right	32	0	-	2	35	-	5	40	0	-	46	86	0	-	0	86	0	-
Sb Left	4	1700	0.002 *	0	4	0.003 *	0	4	1700	0.003 *	4	8	1700	0.005 *	0	8	1700	0.005 *
Sb Thru	65	3400	0.026	5	70	0.028	0	70	3400	0.028	0	70	3400	0.028	0	70	3400	0.028
Sb Right	23	0	-	2	25	-	0	25	0	-	0	25	0	-	0	25	0	-
Eb Left	194	0	0.114	15	208	0.123	0	208	0	0.123	0	208	0	0.123	0	208	0	0.123
Eb Thru	27	1700	0.130	2	29	0.140	2	31	1700	0.141	34	65	1700	0.161	0	65	1700	0.161
Eb Right	531	1700	0.312 *	40	571	0.336 *	0	571	1700	0.336 *	0	571	1700	0.336 *	0	571	1700	0.336 *
Wb Left	65	0	0.038 *	5	70	0.041 *	1	71	0	0.042 *	0	71	0	0.042 *	0	71	0	0.042 *
Wb Thru	61	1700	0.084	5	65	0.090	1	66	1700	0.092	0	66	1700	0.092	0	66	1700	0.092
Wb Right	17	0	-	1	19	-	0	19	0	-	0	19	0	-	0	19	0	-
Yellow Allowance:			0.100 *	0.100 *			0.100 *				0.100 *				0.100 *			
ICU	0.672			0.715			0.717				0.733				0.733			
LOS	B			C			C				C				C			

03:59 PM

*Key conflicting movement as a part of ICU

1 Counts conducted by: The Traffic Solution

2 Capacity expressed in veh/hour of green

Note: Year 2008 manual traffic counts were adjusted by a 1.5 percent (1.5%) ambient growth factor to reflect year 2009 existing conditions.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Oak Grove Drive
 E-W St: Foothill Boulevard
 Project: HWP Annex Project/1-083745-1
 File: ICU5

Oak Grove Drive @ Foothill Boulevard
 Peak hr: PM
 Annual Growth: 1.50%

Date: 03/11/2009
 Date of Count: 2009
 Projection Year: 2014

Movement	2009 EXIST. TRAFFIC			2014 W/AMBIENT GROWTH			2014 W/RELATED PROJECTS				2014 W/PROJECT SITE TRAFFIC				2014 W/PROJECT MITIGATION			
	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	273	1700	0.161 *	20	294	0.173 *	5	299	1700	0.176 *	0	299	1700	0.176 *	0	299	1700	0.176 *
Nb Thru	71	3400	0.038	5	76	0.041	0	76	3400	0.048	0	76	3400	0.048	0	76	3400	0.048
Nb Right	58	0	-	4	62	-	24	86	0	-	0	86	0	-	0	86	0	-
Sb Left	23	1700	0.014	2	25	0.015	0	25	1700	0.015	0	25	1700	0.015	0	25	1700	0.015
Sb Thru	758	3400	0.286 *	57	815	0.307 *	0	815	3400	0.307 *	0	815	3400	0.307 *	0	815	3400	0.307 *
Sb Right	214	0	-	16	230	-	0	230	0	-	0	230	0	-	0	230	0	-
Eb Left	30	0	0.018	2	33	0.019	0	33	0	0.019	0	33	0	0.019	0	33	0	0.019
Eb Thru	22	1700	0.031	2	24	0.033	13	37	1700	0.041	0	37	1700	0.041	0	37	1700	0.041
Eb Right	231	1700	0.136 *	17	249	0.146 *	4	253	1700	0.149 *	0	253	1700	0.149 *	0	253	1700	0.149 *
Wb Left	17	0	0.010 *	1	19	0.011 *	34	53	0	0.031 *	43	96	0	0.056 *	0	96	0	0.056 *
Wb Thru	14	1700	0.021	1	15	0.022	18	33	1700	0.053	32	65	1700	0.100	0	65	1700	0.100
Wb Right	4	0	-	0	4	-	0	4	0	-	4	8	0	-	0	8	0	-
Yellow Allowance:			0.100 *				0.100 *					0.100 *					0.100 *	
ICU			0.693				0.737					0.763					0.788	
LOS			B				C					C					C	

03:59 PM

*Key conflicting movement as a part of ICU

1 Counts conducted by: The Traffic Solution

2 Capacity expressed in veh/hour of green

Note: Year 2008 manual traffic counts were adjusted by a 1.5 percent (1.5%) ambient growth factor to reflect year 2009 existing conditions.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Oak Grove Drive
 E-W St: Foothill Boulevard
 Project: HWP Annex Project/1-083745-1
 File: ICU5

Oak Grove Drive @ Foothill Boulevard
 Peak hr: Weekend Mid-day
 Annual Growth: 1.50%

Date: 03/11/2009
 Date of Count: 2009
 Projection Year: 2014

Movement	2009 EXIST. TRAFFIC			2014 W/AMBIENT GROWTH			2014 W/RELATED PROJECTS				2014 W/PROJECT SITE TRAFFIC				2014 W/PROJECT MITIGATION			
	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
Nb Left	145	1700	0.085 *	11	156	0.092 *	5	161	1700	0.095 *	0	161	1700	0.095 *	0	161	1700	0.095 *
Nb Thru	45	3400	0.024	3	48	0.026	0	48	3400	0.036	0	48	3400	0.051	0	48	3400	0.051
Nb Right	37	0	-	3	39	-	36	75	0	-	50	125	0	-	0	125	0	-
Sb Left	2	1700	0.001	0	2	0.001	0	2	1700	0.001	5	7	1700	0.004	0	7	1700	0.004
Sb Thru	53	3400	0.024 *	4	57	0.025 *	0	57	3400	0.025 *	0	57	3400	0.025 *	0	57	3400	0.025 *
Sb Right	27	0	-	2	29	-	0	29	0	-	0	29	0	-	0	29	0	-
Eb Left	23	0	0.014	2	25	0.015	0	25	0	0.015	0	25	0	0.015	0	25	0	0.015
Eb Thru	13	1700	0.021	1	14	0.023	20	34	1700	0.035	36	70	1700	0.056	0	70	1700	0.056
Eb Right	202	1700	0.119 *	15	217	0.128 *	4	221	1700	0.130 *	0	221	1700	0.130 *	0	221	1700	0.130 *
Wb Left	48	0	0.028 *	4	51	0.030 *	40	91	0	0.054 *	39	130	0	0.077 *	0	130	0	0.077 *
Wb Thru	21	1700	0.041	2	23	0.044	22	45	1700	0.080	28	73	1700	0.122	0	73	1700	0.122
Wb Right	0	0	-	0	0	-	0	0	0	-	4	4	0	-	0	4	0	-
Yellow Allowance:			0.100 *				0.100 *					0.100 *					0.100 *	
ICU	0.356			0.375			0.404				0.427				0.427			
LOS	A			A			A				A				A			

03:59 PM

*Key conflicting movement as a part of ICU

1 Counts conducted by: The Traffic Solution

2 Capacity expressed in veh/hour of green

Note: Year 2008 manual traffic counts were adjusted by a 1.5 percent (1.5%) ambient growth factor to reflect year 2009 existing conditions.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Oak Grove Drive
 E-W St: Berkshire Place
 Project: HWP Annex Project/1-083745-1
 File: ICU6

Oak Grove Drive @ Berkshire Place
 Peak hr: AM
 Annual Growth: 1.50%

Date: 03/11/2009
 Date of Count: 2009
 Projection Year: 2014

Movement	2009 EXIST. TRAFFIC			2014 W/AMBIENT GROWTH			2014 W/RELATED PROJECTS				2014 W/PROJECT SITE TRAFFIC				2014 W/PROJECT MITIGATION				
	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	
Nb Left	145	1700	0.085 *	11	156	0.092 *	0	156	1700	0.092 *	0	156	1700	0.092 *	0	156	1700	0.092 *	
Nb Thru	303	3400	0.089	23	326	0.096	4	330	3400	0.097	25	355	3400	0.104	0	355	3400	0.104	
Nb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	
Sb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000	
Sb Thru	165	1700	0.097 *	12	178	0.105 *	1	179	1700	0.105 *	0	179	1700	0.105 *	0	179	1700	0.105 *	
Sb Right [3]	711	1700	0.026	53	764	0.028	0	764	1700	0.028	0	764	1700	0.021	0	764	1700	0.021	
Eb Left	1199	0	0.392	90	1289	0.421	1	1290	0	0.421	21	1311	0	0.428	0	1311	0	0.428	
Eb Thru	0	3060	0.424 *	0	0	0.455 *	0	0	3060	0.456 *	0	0	3060	0.463 *	0	0	3060	0.463 *	
Eb Right	97	0	-	7	105	-	0	105	0	-	0	105	0	-	0	105	0	-	
Wb Left	0	0	0.000 *	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	
Wb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000	
Wb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	
Yellow Allowance:			0.100 *				0.100 *					0.100 *					0.100 *		
ICU			0.706			0.752					0.753					0.760			0.760
LOS			C			C					C					C			C

03:59 PM

*Key conflicting movement as a part of ICU

1 Counts conducted by: The Traffic Solution

2 Capacity expressed in veh/hour of green

3 Southbound right-turn overlapping phase with eastbound phase.

Note: Year 2008 manual traffic counts were adjusted by a 1.5 percent (1.5%) ambient growth factor to reflect year 2009 existing conditions.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Oak Grove Drive
 E-W St: Berkshire Place
 Project: HWP Annex Project/1-083745-1
 File: ICU6

Oak Grove Drive @ Berkshire Place
 Peak hr: PM
 Annual Growth: 1.50%

Date: 03/11/2009
 Date of Count: 2009
 Projection Year: 2014

Movement	2009 EXIST. TRAFFIC			2014 W/AMBIENT GROWTH			2014 W/RELATED PROJECTS				2014 W/PROJECT SITE TRAFFIC				2014 W/PROJECT MITIGATION			
	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	94	1700	0.056 *	7	101	0.060 *	0	101	1700	0.060 *	0	101	1700	0.060 *	0	101	1700	0.060 *
Nb Thru	144	3400	0.042	11	155	0.046	24	179	3400	0.053	0	179	3400	0.053	0	179	3400	0.053
Nb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Sb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Sb Thru	269	1700	0.158	20	289	0.170	31	320	1700	0.188	24	344	1700	0.202	0	344	1700	0.202
Sb Right [3]	791	1700	0.391 *	59	850	0.421 *	7	857	1700	0.423 *	20	877	1700	0.435 *	0	877	1700	0.435 *
Eb Left	225	0	0.074	17	242	0.079	5	247	0	0.081	0	247	0	0.081	0	247	0	0.081
Eb Thru	0	3060	0.097 *	0	0	0.104 *	0	0	3060	0.106 *	0	0	3060	0.106 *	0	0	3060	0.106 *
Eb Right	72	0	-	5	77	-	0	77	0	-	0	77	0	-	0	77	0	-
Wb Left	0	0	0.000 *	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
Wb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Wb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Yellow Allowance:	0.100 *			0.100 *			0.100 *				0.100 *				0.100 *			
ICU	0.644			0.685			0.689				0.701				0.701			
LOS	B			B			B				C				C			

03:59 PM

*Key conflicting movement as a part of ICU

1 Counts conducted by: The Traffic Solution

2 Capacity expressed in veh/hour of green

3 Southbound right-turn overlapping phase with eastbound phase.

Note: Year 2008 manual traffic counts were adjusted by a 1.5 percent (1.5%) ambient growth factor to reflect year 2009 existing conditions.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Oak Grove Drive
 E-W St: Berkshire Place
 Project: HWP Annex Project/1-083745-1
 File: ICU6

Oak Grove Drive @ Berkshire Place
 Peak hr: Weekend Mid-day
 Annual Growth: 1.50%

Date: 03/11/2009
 Date of Count: 2009
 Projection Year: 2014

Movement	2009 EXIST. TRAFFIC			2014 W/AMBIENT GROWTH			2014 W/RELATED PROJECTS				2014 W/PROJECT SITE TRAFFIC				2014 W/PROJECT MITIGATION			
	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
Nb Left	77	1700	0.045 *	6	83	0.049 *	0	83	1700	0.049 *	0	83	1700	0.049 *	0	83	1700	0.049 *
Nb Thru	132	3400	0.039	10	142	0.042	34	176	3400	0.052	27	203	3400	0.060	0	203	3400	0.060
Nb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Sb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Sb Thru	140	1700	0.082 *	11	151	0.089 *	36	187	1700	0.110 *	21	208	1700	0.122 *	0	208	1700	0.122 *
Sb Right [3]	186	1700	0.071	14	200	0.076	8	208	1700	0.079	18	226	1700	0.082	0	226	1700	0.082
Eb Left	117	0	0.038	9	125	0.041	7	132	0	0.043	23	155	0	0.051	0	155	0	0.051
Eb Thru	0	3060	0.059 *	0	0	0.064 *	0	0	3060	0.066 *	0	0	3060	0.074 *	0	0	3060	0.074 *
Eb Right	65	0	-	5	70	-	0	70	0	-	0	70	0	-	0	70	0	-
Wb Left	0	0	0.000 *	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
Wb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Wb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.287			0.301				0.325				0.345				0.345
LOS			A			A				A				A				A

*Key conflicting movement as a part of ICU

1 Counts conducted by: The Traffic Solution

2 Capacity expressed in veh/hour of green

3 Southbound right-turn overlapping phase with eastbound phase.

Note: Year 2008 manual traffic counts were adjusted by a 1.5 percent (1.5%) ambient growth factor to reflect year 2009 existing conditions.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Oak Grove Drive
 E-W St: Linda Vista Avenue
 Project: HWP Annex Project/1-083745-1
 File: ICU7

Oak Grove Drive @ Linda Vista Avenue
 Peak hr: AM
 Annual Growth: 1.50%

Date: 03/11/2009
 Date of Count: 2009
 Projection Year: 2014

Movement	2009 EXIST. TRAFFIC			2014 W/AMBIENT GROWTH			2014 W/RELATED PROJECTS				2014 W/PROJECT SITE TRAFFIC				2014 W/PROJECT MITIGATION			
	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	126	0	0.037	9	135	0.040	1	136	0	0.040	8	144	0	0.042	0	144	0	0.042
Nb Thru	0	3400	0.066 *	0	0	0.071 *	0	0	3400	0.072 *	0	0	3400	0.074 *	0	0	3400	0.074 *
Nb Right	98	0	-	7	106	-	1	107	0	-	0	107	0	-	0	107	0	-
Sb Left	0	0	0.000 *	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
Sb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Sb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Eb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Eb Thru	147	3400	0.043	11	158	0.047	1	159	3400	0.047	0	159	3400	0.047	0	159	3400	0.047
Eb Right	97	1700	0.057 *	7	105	0.062 *	0	105	1700	0.062 *	0	105	1700	0.062 *	0	105	1700	0.062 *
Wb Left	142	1700	0.084 *	11	153	0.090 *	0	153	1700	0.090 *	0	153	1700	0.090 *	0	153	1700	0.090 *
Wb Thru	307	3400	0.090	23	330	0.097	3	333	3400	0.098	17	350	3400	0.103	0	350	3400	0.103
Wb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *				0.100 *
ICU LOS			A 0.307			A 0.322				A 0.323				A 0.325				A 0.325

03:58 PM

*Key conflicting movement as a part of ICU

1 Counts conducted by: The Traffic Solution

2 Capacity expressed in veh/hour of green

Note: Year 2008 manual traffic counts were adjusted by a 1.5 percent (1.5%) ambient growth factor to reflect year 2009 existing conditions.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Oak Grove Drive
 E-W St: Linda Vista Avenue
 Project: HWP Annex Project/1-083745-1
 File: ICU7

Oak Grove Drive @ Linda Vista Avenue
 Peak hr: PM
 Annual Growth: 1.50%

Date: 03/11/2009
 Date of Count: 2009
 Projection Year: 2014

Movement	2009 EXIST. TRAFFIC			2014 W/AMBIENT GROWTH			2014 W/RELATED PROJECTS				2014 W/PROJECT SITE TRAFFIC				2014 W/PROJECT MITIGATION			
	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	72	0	0.021	5	77	0.023	4	81	0	0.024	0	81	0	0.024	0	81	0	0.024
Nb Thru	0	3400	0.043 *	0	0	0.046 *	0	0	3400	0.049 *	0	0	3400	0.049 *	0	0	3400	0.049 *
Nb Right	74	0	-	6	80	-	7	87	0	-	0	87	0	-	0	87	0	-
Sb Left	0	0	0.000 *	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
Sb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Sb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Eb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Eb Thru	259	3400	0.076 *	19	278	0.082 *	25	303	3400	0.089 *	16	319	3400	0.094 *	0	319	3400	0.094 *
Eb Right	78	1700	0.046	6	84	0.049	6	90	1700	0.053	8	98	1700	0.058	0	98	1700	0.058
Wb Left	57	1700	0.033 *	4	61	0.036 *	9	70	1700	0.041 *	0	70	1700	0.041 *	0	70	1700	0.041 *
Wb Thru	156	3400	0.046	12	168	0.049	20	188	3400	0.055	0	188	3400	0.055	0	188	3400	0.055
Wb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Yellow Allowance:			0.100 *				0.100 *					0.100 *					0.100 *	
ICU	0.253			0.264			0.280				0.285				0.285			
LOS	A			A			A				A				A			

03:58 PM

*Key conflicting movement as a part of ICU

1 Counts conducted by: The Traffic Solution

2 Capacity expressed in veh/hour of green

Note: Year 2008 manual traffic counts were adjusted by a 1.5 percent (1.5%) ambient growth factor to reflect year 2009 existing conditions.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Oak Grove Drive
 E-W St: Linda Vista Avenue
 Project: HWP Annex Project/1-083745-1
 File: ICU7

Oak Grove Drive @ Linda Vista Avenue
 Peak hr: Weekend Mid-day
 Annual Growth: 1.50%

Date: 03/11/2009
 Date of Count: 2009
 Projection Year: 2014

2009 EXIST. TRAFFIC				2014 W/AMBIENT GROWTH			2014 W/RELATED PROJECTS				2014 W/PROJECT SITE TRAFFIC				2014 W/PROJECT MITIGATION				
1		2		V/C	Added	Total	V/C	Added	Total	2	V/C	Added	Total	2	V/C	Added	Total	2	V/C
Movement	Volume	Capacity	Ratio																
Nb Left	58	0	0.017	4	62	0.018	7	69	0	0.020	9	78	0	0.023	0	78	0	0.023	
Nb Thru	0	3400	0.030 *	0	0	0.033 *	0	0	3400	0.037 *	0	0	3400	0.040 *	0	0	3400	0.040 *	
Nb Right	46	0	-	3	49	-	9	58	0	-	0	58	0	-	0	58	0	-	
Sb Left	0	0	0.000 *	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	
Sb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000	
Sb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	
Eb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000	
Eb Thru	138	3400	0.041 *	10	148	0.044 *	29	177	3400	0.052 *	14	191	3400	0.056 *	0	191	3400	0.056 *	
Eb Right	66	1700	0.039	5	71	0.042	7	78	1700	0.046	7	85	1700	0.050	0	85	1700	0.050	
Wb Left	45	1700	0.026 *	3	48	0.028 *	11	59	1700	0.035 *	0	59	1700	0.035 *	0	59	1700	0.035 *	
Wb Thru	138	3400	0.041	10	148	0.044	27	175	3400	0.052	18	193	3400	0.057	0	193	3400	0.057	
Wb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	
Yellow Allowance:			0.100 *				0.100 *					0.100 *					0.100 *		
ICU LOS			0.197 A				0.205 A					0.224 A					0.231 A		

03:58 PM

*Key conflicting movement as a part of ICU

1 Counts conducted by: The Traffic Solution

2 Capacity expressed in veh/hour of green

Note: Year 2008 manual traffic counts were adjusted by a 1.5 percent (1.5%) ambient growth factor to reflect year 2009 existing conditions.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Highland Drive-Linda Vista Avenue
 E-W St: Woodbury Road
 Project: HWP Annex Project/1-083745-1
 File: ICU8

Highland Drive-Linda Vista Avenue @ Woodbury Road
 Peak hr: AM
 Annual Growth: 1.50%

Date: 03/11/2009
 Date of Count: 2009
 Projection Year: 2014

Movement	2009 EXIST. TRAFFIC			2014 W/AMBIENT GROWTH			2014 W/RELATED PROJECTS				2014 W/PROJECT SITE TRAFFIC				2014 W/PROJECT MITIGATION			
	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
Nb Left	0	0	0.000 *	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
Nb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Nb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Sb Left	113	1700	0.066	8	121	0.071	0	121	1700	0.071	0	121	1700	0.071	0	121	1700	0.071
Sb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Sb Right	129	1700	0.076 *	10	139	0.082 *	0	139	1700	0.082 *	0	139	1700	0.082 *	0	139	1700	0.082 *
Eb Left	104	1700	0.061 *	8	111	0.065 *	0	111	1700	0.065 *	4	115	1700	0.068 *	0	115	1700	0.068 *
Eb Thru	62	1700	0.036	5	67	0.039	0	67	1700	0.039	0	67	1700	0.039	0	67	1700	0.039
Eb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Wb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Wb Thru	46	3400	0.046 *	3	49	0.049 *	0	49	3400	0.050 *	0	49	3400	0.051 *	0	49	3400	0.051 *
Wb Right	111	0	-	8	119	-	1	120	0	-	4	124	0	-	0	124	0	-
Yellow Allowance:	0.100 *			0.100 *			0.100 *				0.100 *				0.100 *			
ICU LOS	A 0.283			A 0.296			A 0.297				A 0.300				A 0.300			

03:58 PM

*Key conflicting movement as a part of ICU
 1 Counts conducted by: The Traffic Solution
 2 Capacity expressed in veh/hour of green
 Note: Year 2008 manual traffic counts were adjusted by a 1.5 percent (1.5%) ambient growth factor to reflect year 2009 existing conditions.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Highland Drive-Linda Vista Avenue
 E-W St: Woodbury Road
 Project: HWP Annex Project/1-083745-1
 File: ICU8

Highland Drive-Linda Vista Avenue @ Woodbury Road
 Peak hr: PM
 Annual Growth: 1.50%

Date: 03/11/2009
 Date of Count: 2009
 Projection Year: 2014

Movement	2009 EXIST. TRAFFIC			2014 W/AMBIENT GROWTH			2014 W/RELATED PROJECTS				2014 W/PROJECT SITE TRAFFIC				2014 W/PROJECT MITIGATION			
	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Nb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Nb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Sb Left	91	1700	0.054	7	98	0.058	10	108	1700	0.064	4	112	1700	0.066	0	112	1700	0.066
Sb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Sb Right	44	1700	0.026	3	47	0.028	6	53	1700	0.031	4	57	1700	0.033	0	57	1700	0.033
Eb Left	48	1700	0.028 *	4	51	0.030 *	5	56	1700	0.033 *	0	56	1700	0.033 *	0	56	1700	0.033 *
Eb Thru	50	1700	0.029	4	53	0.031	0	53	1700	0.031	0	53	1700	0.031	0	53	1700	0.031
Eb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Wb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Wb Thru	54	3400	0.044 *	4	58	0.047 *	0	58	3400	0.050 *	0	58	3400	0.050 *	0	58	3400	0.050 *
Wb Right	95	0	-	7	103	-	8	111	0	-	0	111	0	-	0	111	0	-
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *				0.100 *
ICU LOS			A 0.226			A 0.235				A 0.246				A 0.249				A 0.249

*Key conflicting movement as a part of ICU

1 Counts conducted by: The Traffic Solution

2 Capacity expressed in veh/hour of green

Note: Year 2008 manual traffic counts were adjusted by a 1.5 percent (1.5%) ambient growth factor to reflect year 2009 existing conditions.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Highland Drive-Linda Vista Avenue
 E-W St: Woodbury Road
 Project: HWP Annex Project/1-083745-1
 File: ICU8

Highland Drive-Linda Vista Avenue @ Woodbury Road
 Peak hr: Weekend Mid-day
 Annual Growth: 1.50%

Date: 03/11/2009
 Date of Count: 2009
 Projection Year: 2014

Movement	2009 EXIST. TRAFFIC			2014 W/AMBIENT GROWTH			2014 W/RELATED PROJECTS				2014 W/PROJECT SITE TRAFFIC				2014 W/PROJECT MITIGATION			
	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
Nb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Nb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Nb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Sb Left	65	1700	0.038	5	70	0.041	11	81	1700	0.048	4	85	1700	0.050	0	85	1700	0.050
Sb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Sb Right	40	1700	0.023	3	43	0.025	6	49	1700	0.029	4	53	1700	0.031	0	53	1700	0.031
Eb Left	42	1700	0.024 *	3	45	0.026 *	5	50	1700	0.029 *	5	55	1700	0.032 *	0	55	1700	0.032 *
Eb Thru	30	1700	0.018	2	33	0.019	0	33	1700	0.019	0	33	1700	0.019	0	33	1700	0.019
Eb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Wb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Wb Thru	32	3400	0.027 *	2	35	0.030 *	0	35	3400	0.032 *	0	35	3400	0.034 *	0	35	3400	0.034 *
Wb Right	61	0	-	5	65	-	10	75	0	-	5	80	0	-	0	80	0	-
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.190			0.197				0.209				0.216				0.216
LOS			A			A				A				A				A

*Key conflicting movement as a part of ICU

1 Counts conducted by: The Traffic Solution

2 Capacity expressed in veh/hour of green

Note: Year 2008 manual traffic counts were adjusted by a 1.5 percent (1.5%) ambient growth factor to reflect year 2009 existing conditions.

03:58 PM

LINSCOTT, LAW & GREENSPAN, ENGINEERS
 236 N. Chester Avenue, Suite 200, Pasadena CA 91106
 (626) 796.2322 Fax (626) 792.0941

INTERSECTION CAPACITY UTILIZATION

N-S St: Windsor Avenue
 E-W St: Oak Grove Drive-Woodbury Road
 Project: HWP Annex Project/1-083745-1
 File: ICU9

Windsor Avenue @ Oak Grove Drive-Woodbury Road
 Peak hr: AM
 Annual Growth: 1.50%

Date: 03/11/2009
 Date of Count: 2009
 Projection Year: 2014

Movement	2009 EXIST. TRAFFIC			2014 W/AMBIENT GROWTH			2014 W/RELATED PROJECTS				2014 W/PROJECT SITE TRAFFIC				2014 W/PROJECT MITIGATION			
	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
Nb Left	124	1700	0.073 *	9	133	0.078 *	0	133	1700	0.078 *	4	137	1700	0.081 *	0	137	1700	0.081 *
Nb Thru	675	3400	0.199	51	726	0.213	3	729	3400	0.214	0	729	3400	0.214	0	729	3400	0.214
Nb Right [3]	560	1700	0.000	42	602	0.000	0	602	1700	0.000	0	602	1700	0.000	0	602	1700	0.000
Sb Left	38	1700	0.022	3	40	0.024	0	40	1700	0.024	0	40	1700	0.024	0	40	1700	0.024
Sb Thru	707	3400	0.214 *	53	760	0.230 *	1	761	3400	0.231 *	0	761	3400	0.232 *	0	761	3400	0.232 *
Sb Right	22	0	-	2	23	-	0	23	0	-	4	27	0	-	0	27	0	-
Eb Left	32	1700	0.019	2	35	0.020	1	36	1700	0.021	0	36	1700	0.021	0	36	1700	0.021
Eb Thru	116	3400	0.034	9	125	0.037	1	126	3400	0.037	0	126	3400	0.037	0	126	3400	0.037
Eb Right	59	1700	0.035 *	4	64	0.037 *	0	64	1700	0.037 *	0	64	1700	0.037 *	0	64	1700	0.037 *
Wb Left	563	1700	0.331 *	42	606	0.356 *	0	606	1700	0.356 *	0	606	1700	0.356 *	0	606	1700	0.356 *
Wb Thru	342	3400	0.116	26	367	0.124	2	369	3400	0.125	8	377	3400	0.127	0	377	3400	0.127
Wb Right	52	0	-	4	55	-	0	55	0	-	0	55	0	-	0	55	0	-
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.753			0.802				0.803				0.806				0.806
LOS		C			D			D			D		D		D		D	

*Key conflicting movement as a part of ICU

1 Counts conducted by: Accutec

2 Capacity expressed in veh/hour of green

3 Northbound right-turn overlap with westbound left-turn phase.

Note: Year 2004 manual traffic counts were adjusted by a 1.5 percent (1.5%) ambient growth factor to reflect year 2009 existing conditions.

LINSCOTT, LAW & GREENSPAN, ENGINEERS
 236 N. Chester Avenue, Suite 200, Pasadena CA 91106
 (626) 796.2322 Fax (626) 792.0941

INTERSECTION CAPACITY UTILIZATION

N-S St: Windsor Avenue
 E-W St: Oak Grove Drive-Woodbury Road
 Project: HWP Annex Project/1-083745-1
 File: ICU9

Windsor Avenue @ Oak Grove Drive-Woodbury Road
 Peak hr: PM
 Annual Growth: 1.50%

Date: 03/11/2009
 Date of Count: 2009
 Projection Year: 2014

Movement	2009 EXIST. TRAFFIC			2014 W/AMBIENT GROWTH			2014 W/RELATED PROJECTS				2014 W/PROJECT SITE TRAFFIC				2014 W/PROJECT MITIGATION			
	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio
Nb Left	51	1700	0.030 *	4	54	0.032 *	2	56	1700	0.033 *	0	56	1700	0.033 *	0	56	1700	0.033 *
Nb Thru	545	3400	0.160	41	586	0.172	39	625	3400	0.184	0	625	3400	0.184	0	625	3400	0.184
Nb Right [3]	547	1700	0.083	41	588	0.089	0	588	1700	0.089	0	588	1700	0.089	0	588	1700	0.089
Sb Left	70	1700	0.041	5	75	0.044	5	80	1700	0.047	0	80	1700	0.047	0	80	1700	0.047
Sb Thru	627	3400	0.193 *	47	674	0.207 *	52	726	3400	0.227 *	0	726	3400	0.227 *	0	726	3400	0.227 *
Sb Right	28	0	-	2	30	-	16	46	0	-	0	46	0	-	0	46	0	-
Eb Left	60	1700	0.035	5	65	0.038	14	79	1700	0.046	4	83	1700	0.049	0	83	1700	0.049
Eb Thru	264	3400	0.078 *	20	284	0.084 *	16	300	3400	0.088 *	8	308	3400	0.091 *	0	308	3400	0.091 *
Eb Right	46	1700	0.027	3	50	0.029	3	53	1700	0.031	4	57	1700	0.033	0	57	1700	0.033
Wb Left	406	1700	0.239 *	30	437	0.257 *	0	437	1700	0.257 *	0	437	1700	0.257 *	0	437	1700	0.257 *
Wb Thru	130	3400	0.050	10	140	0.054	11	151	3400	0.058	0	151	3400	0.058	0	151	3400	0.058
Wb Right	40	0	-	3	43	-	4	47	0	-	0	47	0	-	0	47	0	-
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.639			0.680				0.705				0.708				0.708
LOS		B			B			C			C			C				C

03:58 PM

*Key conflicting movement as a part of ICU

1 Counts conducted by: Accutek

2 Capacity expressed in veh/hour of green

3 Northbound right-turn overlap with westbound left-turn phase.

Note: Year 2004 manual traffic counts were adjusted by a 1.5 percent (1.5%) ambient growth factor to reflect year 2009 existing conditions.

LINSCOTT, LAW & GREENSPAN, ENGINEERS
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 (626) 796.2322 Fax (626) 792.0941

INTERSECTION CAPACITY UTILIZATION

N-S St: Windsor Avenue
 E-W St: Oak Grove Drive-Woodbury Road
 Project: HWP Annex Project/1-083745-1
 File: ICU9

Windsor Avenue @ Oak Grove Drive-Woodbury Road
 Peak hr: Weekend Mid-day
 Annual Growth: 1.50%

Date: 03/11/2009
 Date of Count: 2009
 Projection Year: 2014

Movement	2009 EXIST. TRAFFIC			2014 W/AMBIENT GROWTH			2014 W/RELATED PROJECTS				2014 W/PROJECT SITE TRAFFIC				2014 W/PROJECT MITIGATION						
	Volume	Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio			
Nb Left	41	1700	0.024 *	3	44	0.026 *	3	47	1700	0.027 *	5	52	1700	0.030 *	0	52	1700	0.030 *			
Nb Thru	353	3400	0.104	26	380	0.112	47	427	3400	0.126	0	427	3400	0.126	0	427	3400	0.126			
Nb Right [3]	340	1700	0.004	26	366	0.004	0	366	1700	0.004	0	366	1700	0.004	0	366	1700	0.004			
Sb Left	28	1700	0.017	2	31	0.018	5	36	1700	0.021	0	36	1700	0.021	0	36	1700	0.021			
Sb Thru	315	3400	0.099 *	24	338	0.106 *	59	397	3400	0.129 *	0	397	3400	0.131 *	0	397	3400	0.131 *			
Sb Right	21	0	-	2	23	-	19	42	0	-	5	47	0	-	0	47	0	-			
Eb Left	22	1700	0.013	2	24	0.014	16	40	1700	0.024	4	44	1700	0.026	0	44	1700	0.026			
Eb Thru	96	3400	0.028 *	7	104	0.030 *	19	123	3400	0.036 *	7	130	3400	0.038 *	0	130	3400	0.038 *			
Eb Right	32	1700	0.019	2	35	0.021	3	38	1700	0.022	4	42	1700	0.025	0	42	1700	0.025			
Wb Left	334	1700	0.196 *	25	359	0.211 *	0	359	1700	0.211 *	0	359	1700	0.211 *	0	359	1700	0.211 *			
Wb Thru	80	3400	0.035	6	86	0.038	17	103	3400	0.044	9	112	3400	0.046	0	112	3400	0.046			
Wb Right	39	0	-	3	41	-	4	45	0	-	0	45	0	-	0	45	0	-			
Yellow Allowance:			0.100 *				0.100 *					0.100 *					0.100 *				
ICU LOS			A	0.447			A	0.474				A	0.504				A	0.510			

*Key conflicting movement as a part of ICU

1 Counts conducted by: Accutek

2 Capacity expressed in veh/hour of green

3 Northbound right-turn overlap with westbound left-turn phase.

Note: Year 2004 manual traffic counts were adjusted by a 1.5 percent (1.5%) ambient growth factor to reflect year 2009 existing conditions.

Appendix D

Automatic 24-Hour Machine Traffic Counts

THE TRAFFIC SOLUTION

329 Diamond Street, Arcadia, CA 91006
Tel (626) 446.7978 Fax (626) 446.2877

ADT SURVEY SUMMARY

PROJECT: HAHAMONGNA ANNEX - CITY OF LOS ANGELES
 LOCATION: HIGHLAND DRIVE N/O LINDA VISTA AVENUE
 DATE: TUESDAY 06/03/08
 SITE CODE: 3-ADT

NORTHBOUND					
TIME	00-15	15-30	30-45	45-60	HOURLY TOTAL
00:00	1	3	6	1	11
01:00	0	0	0	1	1
02:00	0	0	0	1	1
03:00	0	0	0	0	0
04:00	1	0	0	0	1
05:00	0	1	2	6	9
06:00	1	12	10	14	37
07:00	10	19	23	56	108
08:00	64	38	24	28	154
09:00	21	13	14	18	66
10:00	19	33	16	19	87
11:00	15	14	15	20	64
12:00	29	24	23	12	88
13:00	19	22	26	17	84
14:00	13	14	18	27	72
15:00	29	22	20	24	95
16:00	19	12	21	13	65
17:00	21	22	30	17	90
18:00	17	18	18	16	69
19:00	18	14	16	10	58
20:00	15	8	9	6	38
21:00	8	9	6	4	27
22:00	0	3	3	4	10
23:00	4	0	1	1	6
				TOTAL	1241
AM PEAK HOUR					
				7:45 to 8:45	
				VOLUME	
				182	
PM PEAK HOUR					
				14:45 to 15:45	
				VOLUME	
				98	

SOUTHBOUND					
TIME	00-15	15-30	30-45	45-60	HOURLY TOTAL
00:00	5	2	1	1	9
01:00	0	0	0	0	0
02:00	0	1	0	1	2
03:00	0	0	0	0	0
04:00	0	0	0	1	1
05:00	2	3	7	3	15
06:00	6	0	6	10	22
07:00	17	20	32	51	120
08:00	30	34	26	15	105
09:00	16	11	15	17	59
10:00	20	31	23	19	93
11:00	17	12	17	11	57
12:00	18	19	22	13	72
13:00	17	19	27	22	85
14:00	16	26	14	20	76
15:00	22	17	28	34	101
16:00	24	23	13	24	84
17:00	21	25	27	26	99
18:00	21	12	16	16	65
19:00	18	14	15	14	61
20:00	4	12	6	5	27
21:00	3	6	2	3	14
22:00	6	6	2	2	16
23:00	0	2	2	1	5
				TOTAL	1188
AM PEAK HOUR					
				7:30 to 8:30	
				VOLUME	
				147	
PM PEAK HOUR					
				15:30 to 16:30	
				VOLUME	
				109	

TOTAL BI-DIRECTIONAL VOLUME	2429
NORTHBOUND	51%
SOUTHBOUND	49%

THE TRAFFIC SOLUTION

Tel (626) 446.7978 Fax (626) 446.2877

ADT SURVEY SUMMARY

PROJECT: HAHAMONGNA ANNEX - PASADENA
 LOCATION: HIGHLAND DRIVE N/O LINDA VISTA AVENUE
 DATE: SATURDAY 10/11/08
 SITE CODE: 3-ADT

NORTHBOUND					
TIME	00-15	15-30	30-45	45-60	HOURLY TOTAL
00:00	3	3	0	1	7
01:00	0	1	0	0	1
02:00	0	0	0	0	0
03:00	1	0	1	1	3
04:00	0	0	0	0	0
05:00	0	0	3	2	5
06:00	1	1	2	2	6
07:00	7	5	4	9	25
08:00	8	11	16	14	49
09:00	11	15	16	20	62
10:00	11	16	18	22	67
11:00	18	17	17	24	76
12:00	9	8	16	17	50
13:00	21	12	22	21	76
14:00	22	12	15	10	59
15:00	11	18	11	15	55
16:00	15	20	19	14	68
17:00	20	11	18	15	64
18:00	10	14	7	6	37
19:00	11	3	4	5	23
20:00	6	3	1	8	18
21:00	4	8	7	5	24
22:00	3	3	3	2	11
23:00	1	3	2	3	9
TOTAL					795
AM PEAK HOUR		11:00 to 12:00			
VOLUME		76			
PM PEAK HOUR		13:15 to 14:15			
VOLUME		77			

SOUTHBOUND					
TIME	00-15	15-30	30-45	45-60	HOURLY TOTAL
00:00	5	2	2	1	10
01:00	2	0	0	0	2
02:00	0	0	0	0	0
03:00	0	0	1	0	1
04:00	2	0	0	0	2
05:00	0	0	1	0	1
06:00	2	2	3	6	13
07:00	1	5	4	9	19
08:00	12	24	11	7	54
09:00	10	7	15	16	48
10:00	20	24	17	18	79
11:00	23	17	12	13	65
12:00	24	13	10	11	58
13:00	21	16	10	14	61
14:00	12	21	12	10	55
15:00	19	15	16	19	69
16:00	18	9	16	18	61
17:00	18	10	5	16	49
18:00	10	12	15	4	41
19:00	7	6	6	8	27
20:00	4	6	6	3	19
21:00	5	3	5	6	19
22:00	8	2	2	2	14
23:00	5	1	2	3	11
TOTAL					778
AM PEAK HOUR		10:15 to 11:15			
VOLUME		82			
PM PEAK HOUR		15:00 to 16:00			
VOLUME		69			

TOTAL BI-DIRECTIONAL VOLUME	1573
NORTHBOUND	51%
SOUTHBOUND	49%

THE TRAFFIC SOLUTION

7
Tel (626) 446.7978 Fax (626) 446.2877

ADT SURVEY SUMMARY

PROJECT: HAHAMONGNA ANNEX - PASADENA
 LOCATION: LINDA VISTA AVENUE S/O HIGHLAND DRIVE
 DATE: SATURDAY 10/11/08
 SITE CODE: 4-ADT

NORTHBOUND					
TIME	00-15	15-30	30-45	45-60	HOURLY TOTAL
00:00	4	6	6	0	16
01:00	5	4	0	0	9
02:00	2	1	0	0	3
03:00	0	0	0	0	0
04:00	0	0	0	0	0
05:00	2	1	3	3	9
06:00	4	3	5	7	19
07:00	3	7	13	18	41
08:00	16	15	19	20	70
09:00	29	35	25	30	119
10:00	24	23	37	27	111
11:00	25	27	44	34	130
12:00	27	25	31	36	119
13:00	28	30	23	30	111
14:00	28	25	26	20	99
15:00	15	25	27	26	93
16:00	56	31	30	24	141
17:00	24	20	25	18	87
18:00	20	31	21	25	97
19:00	11	11	8	5	35
20:00	11	5	6	10	32
21:00	9	6	4	2	21
22:00	6	3	6	4	19
23:00	2	5	2	4	13
TOTAL					1394
AM PEAK HOUR		11:15 to 12:15			
VOLUME		132			
PM PEAK HOUR		15:45 to 16:45			
VOLUME		143			

SOUTHBOUND					
TIME	00-15	15-30	30-45	45-60	HOURLY TOTAL
00:00	7	5	4	2	18
01:00	0	0	2	0	2
02:00	4	1	0	0	5
03:00	0	0	0	1	1
04:00	2	0	0	0	2
05:00	0	2	0	1	3
06:00	4	5	1	5	15
07:00	3	9	7	19	38
08:00	19	18	23	19	79
09:00	23	20	30	27	100
10:00	34	21	34	20	109
11:00	33	28	33	31	125
12:00	32	37	28	16	113
13:00	36	23	27	29	115
14:00	25	34	28	22	109
15:00	26	21	21	26	94
16:00	30	23	21	26	100
17:00	37	11	12	20	80
18:00	13	26	23	10	72
19:00	10	18	10	15	53
20:00	8	14	10	6	38
21:00	5	9	5	8	27
22:00	9	5	9	7	30
23:00	7	3	3	3	16
TOTAL					1344
AM PEAK HOUR		11:30 to 12:30			
VOLUME		133			
PM PEAK HOUR		12:15 to 13:15			
VOLUME		117			

TOTAL BI-DIRECTIONAL VOLUME	2738
NORTHBOUND	51%
SOUTHBOUND	49%

THE TRAFFIC SOLUTION

329 Diamond Street, Arcadia, CA 91006
Tel (626) 446.7978 Fax (626) 446.2877

ADT SURVEY SUMMARY

PROJECT: HAHAMONGNA ANNEX - CITY OF LOS ANGELES
LOCATION: LINDA VISTA AVENUE S/O HIGHLAND DRIVE
DATE: TUESDAY 06/03/08
SITE CODE: 4-ADT

NORTHBOUND					
TIME	00-15	15-30	30-45	45-60	HOURLY TOTAL
00:00	1	5	2	4	12
01:00	0	0	0	0	0
02:00	0	0	1	0	1
03:00	0	1	0	0	1
04:00	0	1	0	1	2
05:00	0	0	1	8	9
06:00	8	9	10	14	41
07:00	12	21	39	42	114
08:00	35	35	24	31	125
09:00	24	29	28	16	97
10:00	24	26	17	28	95
11:00	22	27	26	28	103
12:00	28	35	21	18	102
13:00	17	31	35	30	113
14:00	20	27	30	34	111
15:00	34	35	34	27	130
16:00	25	28	28	37	118
17:00	34	34	33	26	127
18:00	26	20	31	39	116
19:00	21	26	28	21	96
20:00	19	12	13	7	51
21:00	18	15	12	11	56
22:00	14	14	5	4	37
23:00	5	3	5	6	19
TOTAL					1676
AM PEAK HOUR		7:30 to 8:30			
VOLUME		151			
PM PEAK HOUR		16:45 to 17:45			
VOLUME		138			

SOUTHBOUND					
TIME	00-15	15-30	30-45	45-60	HOURLY TOTAL
00:00	0	2	2	1	5
01:00	1	0	0	0	1
02:00	2	0	2	1	5
03:00	1	0	1	0	2
04:00	0	1	2	0	3
05:00	0	6	2	6	14
06:00	6	8	6	11	31
07:00	16	22	31	58	127
08:00	42	34	38	25	139
09:00	20	24	23	17	84
10:00	25	23	22	22	92
11:00	17	24	32	18	91
12:00	16	20	27	20	83
13:00	29	29	27	27	112
14:00	23	31	33	29	116
15:00	32	39	41	39	151
16:00	30	30	33	44	137
17:00	36	27	41	42	146
18:00	38	26	29	25	118
19:00	30	23	26	19	98
20:00	13	16	9	10	48
21:00	11	10	12	8	41
22:00	8	8	4	5	25
23:00	2	2	3	2	9
TOTAL					1678
AM PEAK HOUR		7:45 to 8:45			
VOLUME		172			
PM PEAK HOUR		15:00 to 16:00			
VOLUME		151			

TOTAL BI-DIRECTIONAL VOLUME	3354
NORTHBOUND	50%
SOUTHBOUND	50%