IV. ENVIRONMENTAL IMPACT ANALYSIS
M. TRANSPORTATION/TRAFFIC

INTRODUCTION

This section of the Draft Environmental Impact Report (DEIR) addresses the subject of traffic and transportation with respect to the proposed Big Wave Wellness Center and Office Park project ("proposed project") and includes an assessment of potential impacts associated with the development of the proposed project on the existing circulation system within the County of San Mateo (County). The information in this section is based primarily on the following report. Technical data supporting the report is included in Appendix J of this DEIR.

- *Big Wave Office Park and Wellness Center Traffic Report*, prepared by Hexagon Transportation Consultants, Inc. (Hexagon), June 24, 2009.

- *Additional Intersection Analysis for the Proposed Big Wave Office Park and Wellness Center*, prepared by Hexagon Transportation Consultants, Inc. (Hexagon), October 8, 2009.

METHODOLOGY

The traffic analysis was performed through the use of established traffic engineering techniques and in accordance with the standards and methodologies set forth by the County for traffic studies. The data required for the analysis were obtained from new traffic counts, the City/County Association of Governments of San Mateo County (C/CAG), and field observations and reconnaissance. Existing traffic volumes, intersection lane configurations, signal timing and phasing, previous traffic studies, and approved trip generation rates were collected from these sources.

Analysis Scenarios

Traffic conditions were evaluated for the following scenarios:

Scenario 1: Existing Conditions	Existing conditions are represented by existing traffic volumes on the existing roadway network. Existing traffic volumes were obtained from recent traffic counts.
Scenario 2: Background Conditions	Background traffic conditions are represented by background traffic volumes on the existing roadway network. Background traffic volumes were estimated by adding to existing traffic counts the additional traffic generated by approved developments in the area.

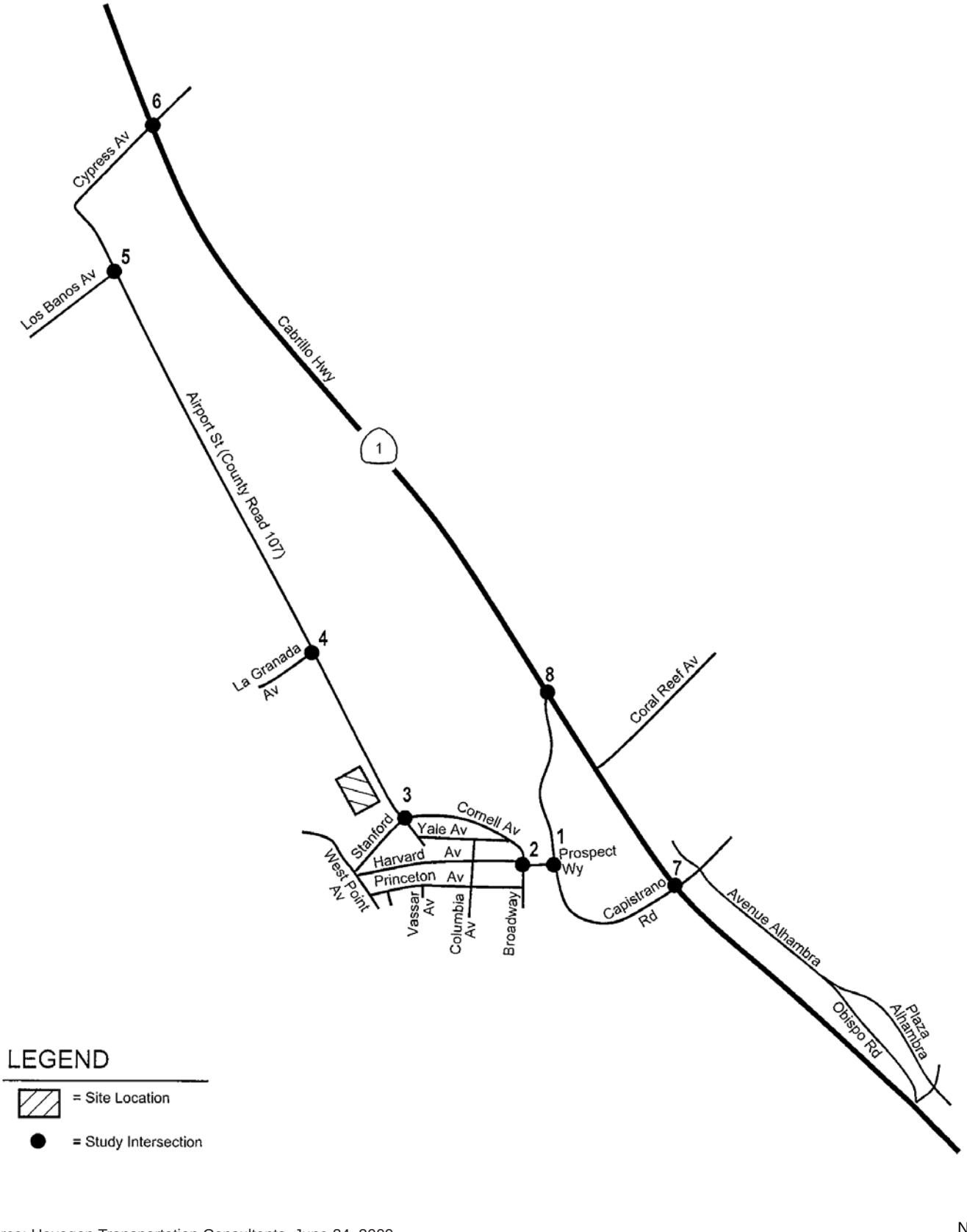
Scenario 3: Project Conditions	Project traffic conditions are represented by Background plus Project traffic volumes on the existing roadway network. Background plus Project traffic volumes (hereafter called *project traffic volumes*) were estimated by adding to background traffic volumes the additional traffic generated by the project. Project conditions were evaluated relative to background conditions in order to determine potential project impacts.
Scenario 4: Cumulative (Future) Conditions	Cumulative (20-year horizon) conditions were evaluated *with* and *without* the Project. Traffic volumes under cumulative conditions were estimated by applying a growth factor to existing volumes and adding trips from approved developments. Project trips were then added in the cumulative with project scenario.

Project Study Intersections

An analysis of intersection operations was based on peak-hour levels of service for one signalized and seven unsignalized intersections, as identified below:

1. Prospect Way and Capistrano Road - *Unsignalized*
2. Broadway Avenue and Prospect Way - *Unsignalized*
3. Airport Street and Stanford/Cornell Avenue - *Unsignalized*
4. Airport Street and La Granada Avenue - *Unsignalized*
5. Airport Street and Los Banos Avenue - *Unsignalized*
6. State Route 1 (Cabrillo Highway) and Cypress Avenue - *Unsignalized*
7. State Route 1 and Capistrano Road (South) - *Signalized*
8. State Route 1 and Capistrano Road (North) - *Unsignalized*

The study intersections were determined based on the expected travel routes to and from the project site and the estimated amount of traffic volume that could have the potential to create significant traffic impacts at nearby intersections. Intersections with low volumes of project traffic were not included in this analysis. Figure IV.M-1 illustrates the location of the study intersections within proximity of the project site.



Source: Hexagon Transportation Consultants, June 24, 2009.

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Figure IV.M-1
Project Location and Study Intersections

Traffic Generation Analysis

Traffic generation rates have long been an established tool used by traffic engineers and transportation planners to estimate the likely traffic activity of a future project. They are used to evaluate the potential impacts of a project to plan transportation facility improvements. The Institute of Transportation Engineers' (ITE) *Trip Generation Manual (7th and 8th Editions)* is the industry standard for estimating traffic generation rates of various land uses and is based on actual trip generation studies performed at numerous locations in areas of various populations. All land uses previously surveyed by ITE are included in the manual, including the land uses associated with the proposed project. The ITE manual was used to determine the traffic that would result with development of the proposed project. The magnitude of traffic added to the roadway system by a particular development is estimated by multiplying the applicable trip generation rates to the size of the development.

The magnitude of traffic produced by a new development and the locations where that traffic would appear are estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. In determining project trip generation, the magnitude of traffic entering and exiting the site is estimated for the peak-hours. As part of the project trip distribution, an estimate is made of the directions to and from which the project trips would travel. In the project trip assignment, the project trips are assigned to specific streets and intersections.

Traffic conditions at the abovementioned intersections were analyzed for the weekday AM and PM peak-hours of traffic. Locally, the AM peak-hour of traffic is usually between 7:00 and 9:00 AM. The PM peak-hour is typically between 4:00 and 6:00 PM. It is during these periods that the most congested traffic conditions occur on an average day.

Level of Service (LOS)

The analysis of traffic conditions focuses primarily on intersection level of service, which dictates the transportation system's capacity and operating conditions. The term "level of service" (LOS) is used to describe the operations of intersections, roadway segments, and freeway segments. LOS is a qualitative description of traffic flow based on factors such as speed, travel time, delay, safety, and freedom to maneuver. Six levels of service are defined, ranging from LOS A (indicating free flow traffic conditions with little or no delay) to LOS F (representing jammed traffic conditions with excessive delays). LOS E corresponds to operations at capacity. When volumes exceed capacity, stop-and-go conditions result and operations are designated as LOS F.

The County's Local Coastal Program considers an intersection to be satisfactory when it operates at LOS A–C, acceptable when it operates at LOS D during commuter peak periods, and acceptable when it operates at LOS E during recreation peak periods.[1]

The traffic analysis utilized TRAFFIX software to determine LOS. TRAFFIX methodology is based on the *2000 Highway Capacity Manual* (HCM) method for intersections, and evaluates intersection operations on the basis of average delay for all vehicles at the intersection. This average delay can then be correlated to a LOS as shown in Table IV.M-1 for signalized intersections. The LOS correlation for unsignalized intersections is shown in Table IV.M-2. For two-way stop controlled intersections, the LOS reported is the average delay of all the intersection movements.

Table IV.M-1
Signalized Intersection LOS Criteria

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	10.0 or less
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, and/or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with long delays indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.1 to 80.0
F	Operations with delays unacceptable to most drivers occurring due to oversaturation, poor progression, or very long cycle lengths.	greater than 80.0

Source: Transportation Research Board, Highway Capacity Manual 2000.
Hexagon Transportation Consultants, 2009.

[1] *County of San Mateo, General Plan Overview Background & Issues, November 1986.*

Table IV.M-2
Unsignalized Intersection LOS Criteria

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Operations with very low delay occurring with favorable progression.	10.0 or less
B	Operations with low delay occurring with good progression.	10.1 to 15.0
C	Operations with average delays resulting from fair progression.	15.1 to 25.0
D	Operations with longer delays due to a combination of unfavorable progression or high V/C ratios.	25.1 to 35.0
E	Operations with high delay values indicating poor progression and high V/C ratios. This is considered to be the limit of acceptable delay.	35.1 to 50.0
F	Operation with delays unacceptable to most drivers occurring due to oversaturation and poor progression.	greater than 50.0

Source: Transportation Research Board, Highway Capacity Manual 2000.
Hexagon Transportation Consultants, 2009.

In addition to the LOS evaluation, an assessment is made of the need for signalization of unsignalized intersections. This assessment is made on the basis of the Peak-hour Volume Signal Warrant as described in the Manual on Uniform Traffic Control Devices (MUTCD), 2003. This method makes no evaluation of intersection LOS, but simply provides an indication of whether peak-hour traffic volumes are, or would be, sufficient to justify installation of a traffic signal.

For any potential traffic-related impacts deemed significant, feasible mitigation measures intended to reduce or avoid said impacts were recommended.

ENVIRONMENTAL SETTING

The project site is situated in northwestern unincorporated San Mateo County along the coast of the Pacific Ocean just north of Princeton by the Sea, approximately 25 miles south of San Francisco, 10 miles west of San Mateo, and 45 miles north of Santa Cruz. The communities of Moss Beach, Montara, El Granada, and Miramar are in the region of the project site. As shown in Figure III-1 (Regional and Vicinity Map), the approximately 19.4-acre project site is located on Airport Street northwest of the Princeton/Pillar Point Harbor area. The project site is accessible via SR 1 (Cabrillo Highway) and can be directly accessed from surrounding Cypress Avenue, Capistrano Road, Prospect Way, and Cornell and California Avenues, located to the north, east, and south of the project site, respectively (refer to Figure IV.M-1 above), Project Location and Study Intersections).

Surrounding land uses include the Half Moon Bay Airport across Airport Street to the east, the El Granada Mobile Home Park adjacent and north of the project site, the Pillar Point Marsh to the west, and the Princeton/Pillar Point Harbor industrial/commercia1 area adjacent and south of the project site. The Fitzgerald Marine Reserve, which is bracketed by Maverick's Surf break to the south and Montara Beach to the north, is located approximately 0.25 miles to the west.

Roadway Networks

Access to the project site is provided via State Route 1, Capistrano Road and Airport Street. These facilities are described below.

Regional

Regional access to the project site is provided via State Route 1 (SR 1).

State Route 1 is a two- to four-lane highway that runs in a north-south direction. SR 1 extends from San Francisco to southern California along the Pacific Ocean coast.

Local

Local direct access to the site is provided by Capistrano Road and Airport Street. These networks are described below.

Capistrano Road is a two-lane roadway that runs primarily in a north-south direction. This local roadway extends from Alhambra Avenue in the south (just west of SR 1) to its terminus at SR 1 in the north.

Airport Street is a two-lane north-south collector street that provides access to the project site. Airport Street extends from its intersection with Stanford Avenue/Cornell Avenue in the south where it operates as Vassar Street, to its terminus at Cypress Avenue in the north.

Other local roadways in the project vicinity include: Cypress Avenue, Prospect Way, Coral Reef Avenue, Los Banos Avenue, La Granada Avenue, Broadway Avenue, Stanford Avenue and Cornell Avenue, which are two-lane residential roadways.

Alternative Transportation Systems

Airports

The Half Moon Bay Airport is a public airport located directly east of the project site across Airport Street. The San Francisco International Airport is approximately 12 miles northeast from the project site, and the San Carlos Airport is approximately 14 miles due east from the project site.

Public Transit

SamTrans

Existing transit service to the study area is provided by the San Mateo County Transit District (SamTrans). The existing SamTrans service is described below and shown on Figure IV.M-2. The 17 line provides service between the Seton Medical Center Coastside and the Miramontes Point Road area with 1- to 2-hour headways (according to SamTrans staff) and operates along Airport Street in the vicinity

of the project. Route 17 bus stops in the project vicinity are as follows: 1) Capistrano Road at Pillar Point Harbor; 2) Capistrano Road at Prospect Way; 3) Airport Street at La Granada (closest to project site); and 4) Airport Street at Los Banos Avenue.

Pedestrian and Bicycle Facilities

There are generally no sidewalks in the project vicinity. The Princeton by the Sea area of Half Moon Bay is somewhat rural. Airport Street has minimal fronting development, thus no existing need for sidewalks.

According to the Bicycle Transportation Map of the San Francisco Peninsula for San Mateo County, there are the following designated bike routes within the vicinity of the project site (refer to Figure IV.M-3): 1) State Route 1 within the vicinity of the project site; 2) Airport Street within the vicinity of the project site; 3) Cypress Avenue between Airport Street and State Route 1; 4) Capistrano Road between State Route 1 and Prospect Way; 5) Prospect Way; 6) California Avenue; and 7) Cornell Avenue.

Existing Conditions

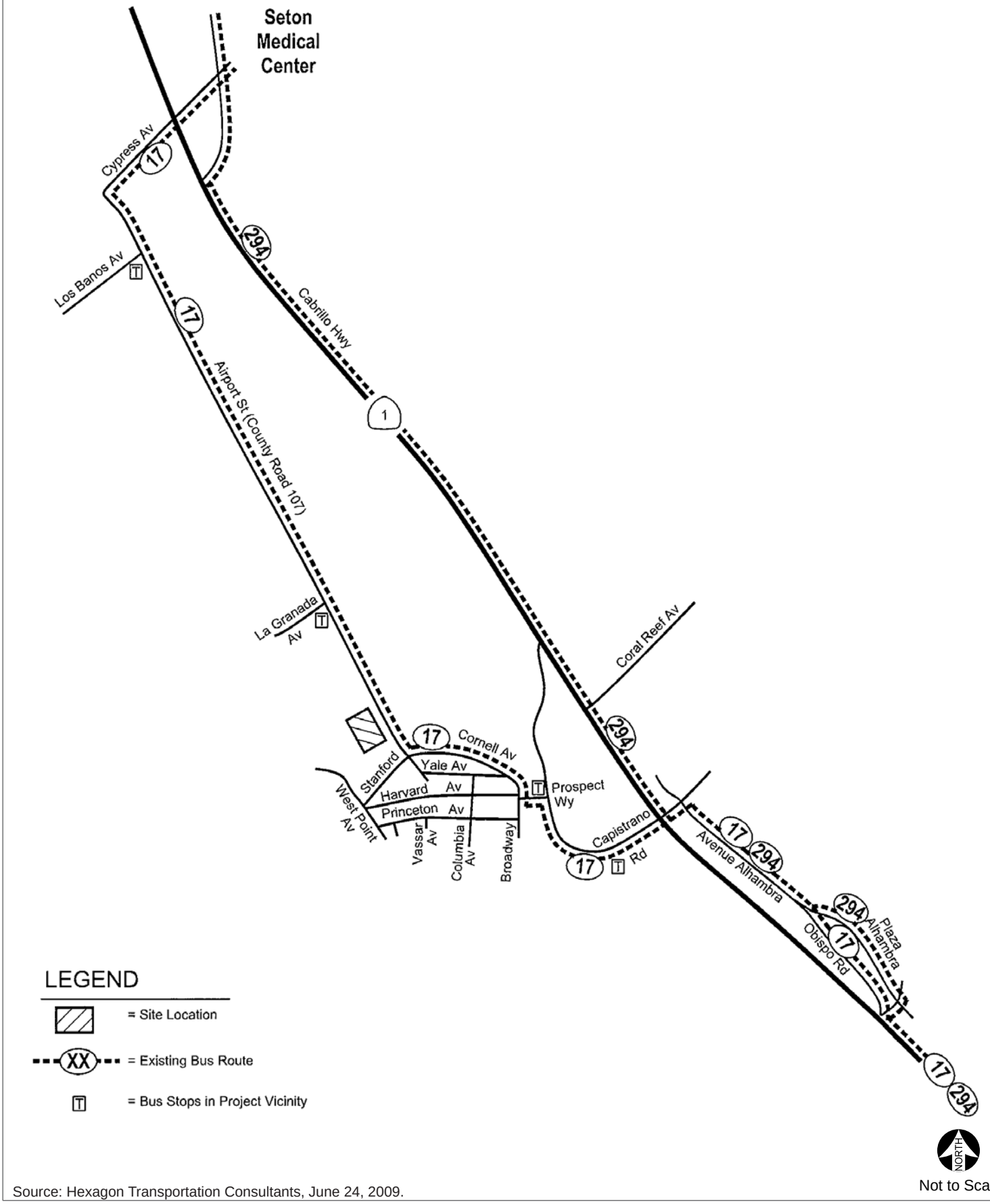
Existing conditions are represented by existing traffic volumes on the existing roadway network.

Existing Intersection Lane Configurations

The existing lane configurations at the study intersections were determined by field reconnaissance. The existing intersection lane configurations are shown on Figure IV.M-4.

Existing Traffic Volumes

Existing peak-hour traffic volumes were obtained from new manual turning-movement counts taken in January of 2006 at the intersection of Prospect Way and Capistrano Road and Broadway Avenue and Prospect Way, and in January of 2007 at all of the study intersections. The existing peak-hour volumes are shown on Figure IV.M-5 and included in Appendix J of this DEIR.



Source: Hexagon Transportation Consultants, June 24, 2009.

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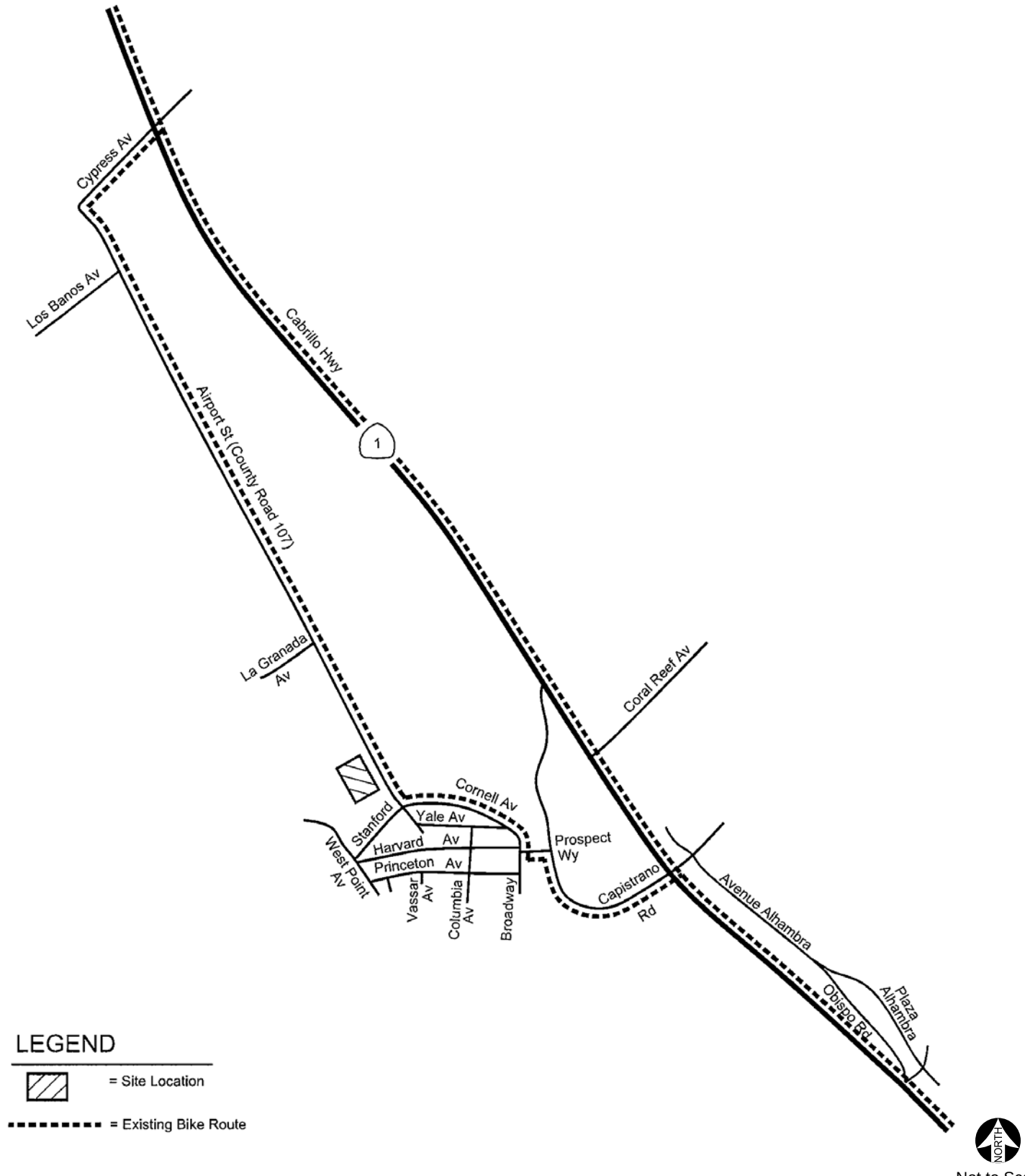
Figure IV.M-2
Existing Transit Facilities



Source: Hexagon Transportation Consultants, June 24, 2009.

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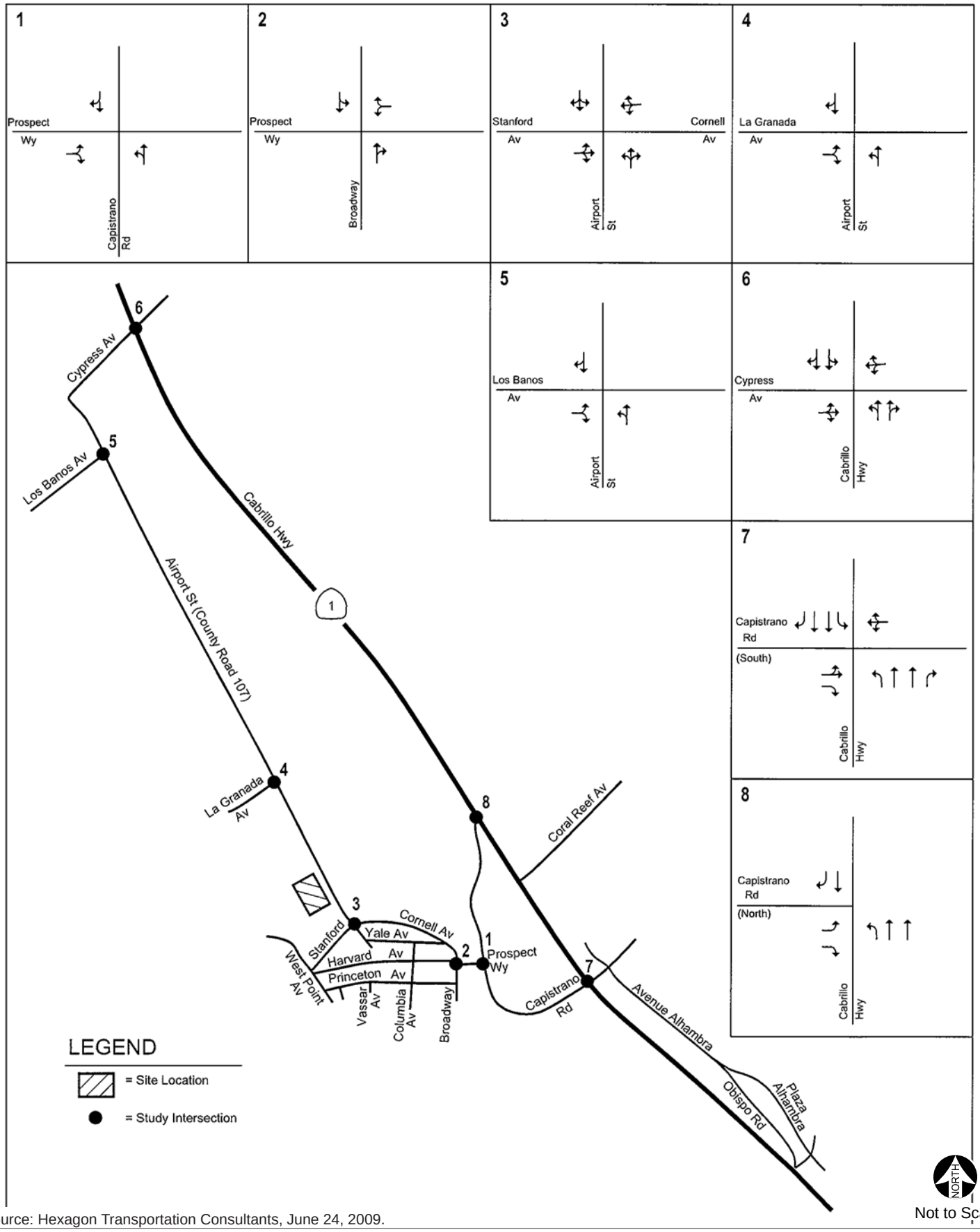
Figure IV.M-3
Existing Bicycle Facilities



Source: Hexagon Transportation Consultants, June 24, 2009.

Not to Scale

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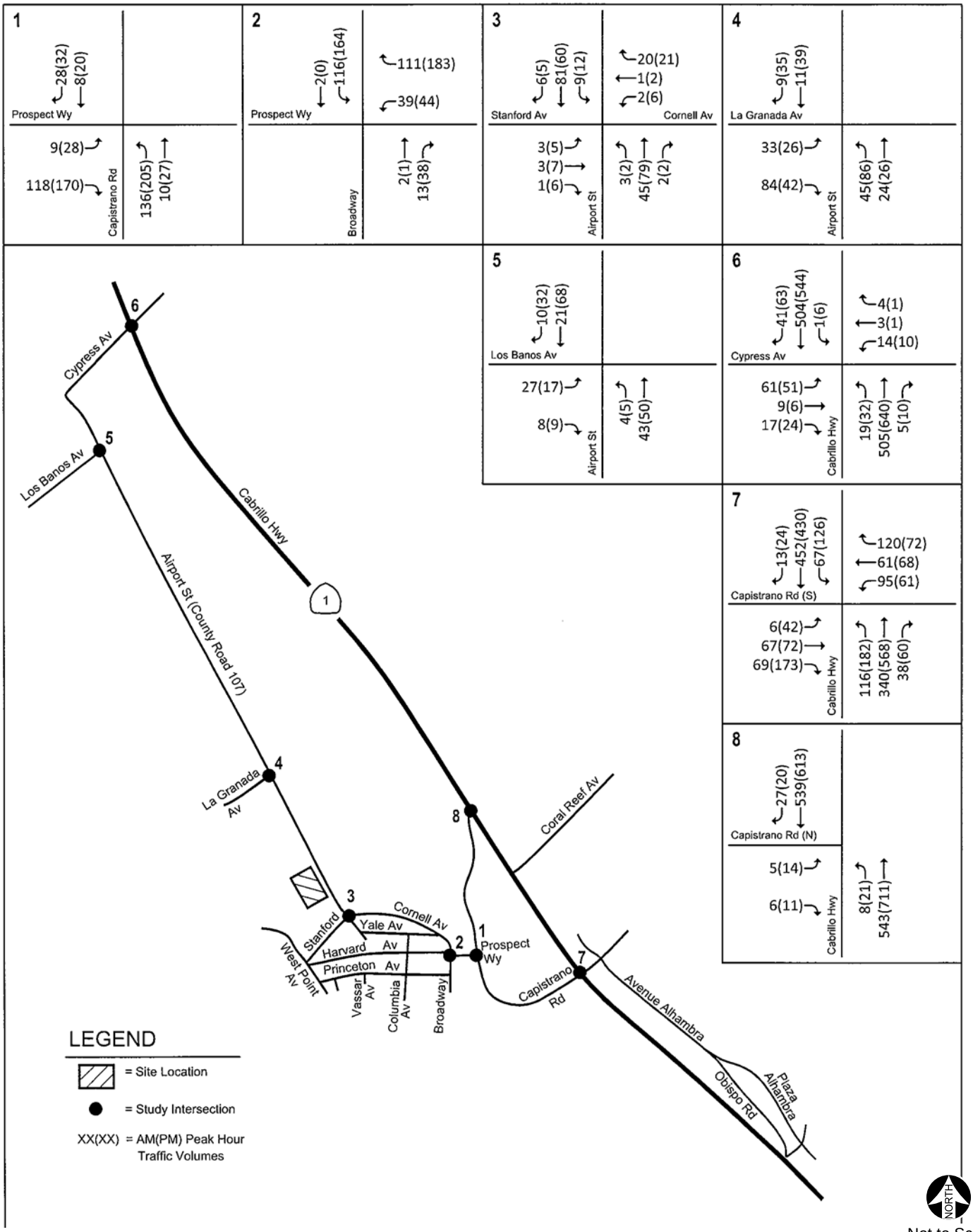
Figure IV.M-4
Existing Lane Configurations



Source: Hexagon Transportation Consultants, June 24, 2009.

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Figure IV.M-5
Existing Traffic Volumes

Existing Intersection Levels of Service (LOS)

The results of the LOS analysis under existing conditions show that all of the study intersections currently operate at an acceptable LOS D or better during peak periods (see Table IV.M-3). For the unsignalized intersections, the table reports the average delay (in seconds) and LOS for the intersection overall, as well as the worst-case turning movement delay and LOS. The LOS calculation sheets are included in Appendix J of this DEIR.

Existing Signal Warrants

The peak-hour signal warrant (*MUTCD 2003*, Urban Warrant) was checked for the seven unsignalized intersections to determine whether signalization would be justified on the basis of existing peak-hour volumes. The analysis showed that none of the study intersections would meet the signal warrant under existing conditions. The signal warrant analysis sheets are included in Appendix J of this DEIR.

Observed Existing Traffic Conditions

Traffic conditions in the field were observed in order to identify existing operational deficiencies and to confirm the accuracy of calculated levels of service. The purpose of this effort was (l) to identify any existing traffic problems that may not be directly related to intersection LOS and (2) to identify any locations where the LOS calculation does not accurately reflect LOS in the field. Overall the study intersections operated adequately during both the AM and PM peak-hours of traffic, and the LOS analysis appears to accurately reflect actual existing traffic conditions.

Table IV.M-3
Existing Intersection Levels of Service

Intersection	Peak-Hour	Count Date	Average		Worst-Case	
			Delay	LOS	Delay	LOS
1. Prospect & Capistrano	AM	01/18/07	7.0	A	9.1	A
	PM	01/18/07	7.4	A	10.1	B
2. Broadway & Prospect	AM	01/18/07	8.1	A	9.5	A
	PM	01/18/07	8.2	A	10.1	B
3. Airport & Stanford/Cornell	AM	01/17/07	2.0	A	9.6	A
	PM	01/17/07	2.6	A	9.7	A
4. Airport & La Granada	AM	01/17/07	6.8	A	9.1	A
	PM	01/17/07	5.1	A	9.5	A
5. Airport & Los Banos	AM	01/17/07	3.0	A	8.9	A
	PM	01/17/07	1.5	A	9.2	A
6. State Route 1 & Cypress	AM	01/16/07	2.1	A	22.4	C
	PM	01/16/07	2.0	A	26.3	D
7. State Route 1 & Capistrano (South)*	AM	01/18/07	24.0	C	–	–
	PM	01/18/07	23.0	C	–	–
8. State Route 1 & Capistrano (North)	AM	01/16/07	0.2	A	13.5	B
	PM	01/16/07	0.4	A	16.3	C

*Notes: * Signalized Intersection*

Source: Hexagon Transportation Consultants, 2009.

Background Conditions

Background conditions are defined as conditions just prior to completion of the proposed development. Traffic volumes for background conditions comprise volumes from existing traffic counts plus traffic expected to be generated by other approved developments in the vicinity of the project site. Approved projects are those developments that have been approved, but which are not yet constructed or occupied. Approved projects may require developer-conditioned transportation improvements.

Background Roadway Network

It is assumed in this analysis that the transportation network under background conditions would be the same as the existing transportation network.

Approved Developments

Table IV.M-4 lists the approved but not-yet-completed developments in the project vicinity, which would add traffic to the roadway network under background conditions. The traffic associated with these developments is further discussed in the Cumulative analysis presented below. Trips generated by small or distant developments would be negligible on the study roadway segments. The effect of other foreseeable development that has not been approved by the County of San Mateo is also addressed in the Cumulative analysis presented below.

Table IV.M-4
Approved Developments

Land Use	Size	Location
Restaurant Addition	1,600 sf	214 Princeton Avenue
Boat and Machine Storage	3,163 sf	179 Harvard Avenue
Warehouse/Office	3,625 sf	175 Harvard Avenue
Warehouse	4,346 sf	141 California Avenue
Warehouse/Office	4,346 sf	121 California Avenue
Hotel/Extended-Stay/Meeting	84 short-stay rooms 11 extended-stay rooms meeting rooms	240 Capistrano Road
Restaurant and Retail	8,697 sf restaurant 40,000 sf retail	240 Capistrano Road
Marine Sales	3,450 sf	West Point Avenue
Storage/Office/Vacation Rental	3,425 sf	Princeton Avenue at Columbia Avenue
Indoor Storage/Marine Usage	3,155 sf	151 Vassar Street
Mixed-Use	2,374 sf	358 Princeton Avenue
Warehouse/Office	1,982 sf	102 California Avenue

Notes: sf = square feet

Source: Hexagon Transportation Consultants, 2009.

Background Traffic Volumes

Background peak-hour traffic volumes were calculated by adding to existing volumes the estimated traffic from approved but not yet constructed developments. The latter are called approved trips, and were obtained or derived from information provided by C/CAG. The traffic added to the study intersections from approved, but not yet constructed developments, was estimated by distributing and assigning trips generated by these developments to the roadway network. Background traffic volumes are shown on Figure IV.M-6. The approved trip assignments are included in Appendix J of this DEIR.

Background Intersection Levels of Service

The results of the LOS analysis under average background conditions show that all of the study intersections would operate at an acceptable LOS C or better, and would operate at an acceptable LOS D or better during peak-hour periods at the worst turning movement (see Table IV.M-5). The LOS calculation sheets are included in Appendix J of this DEIR.

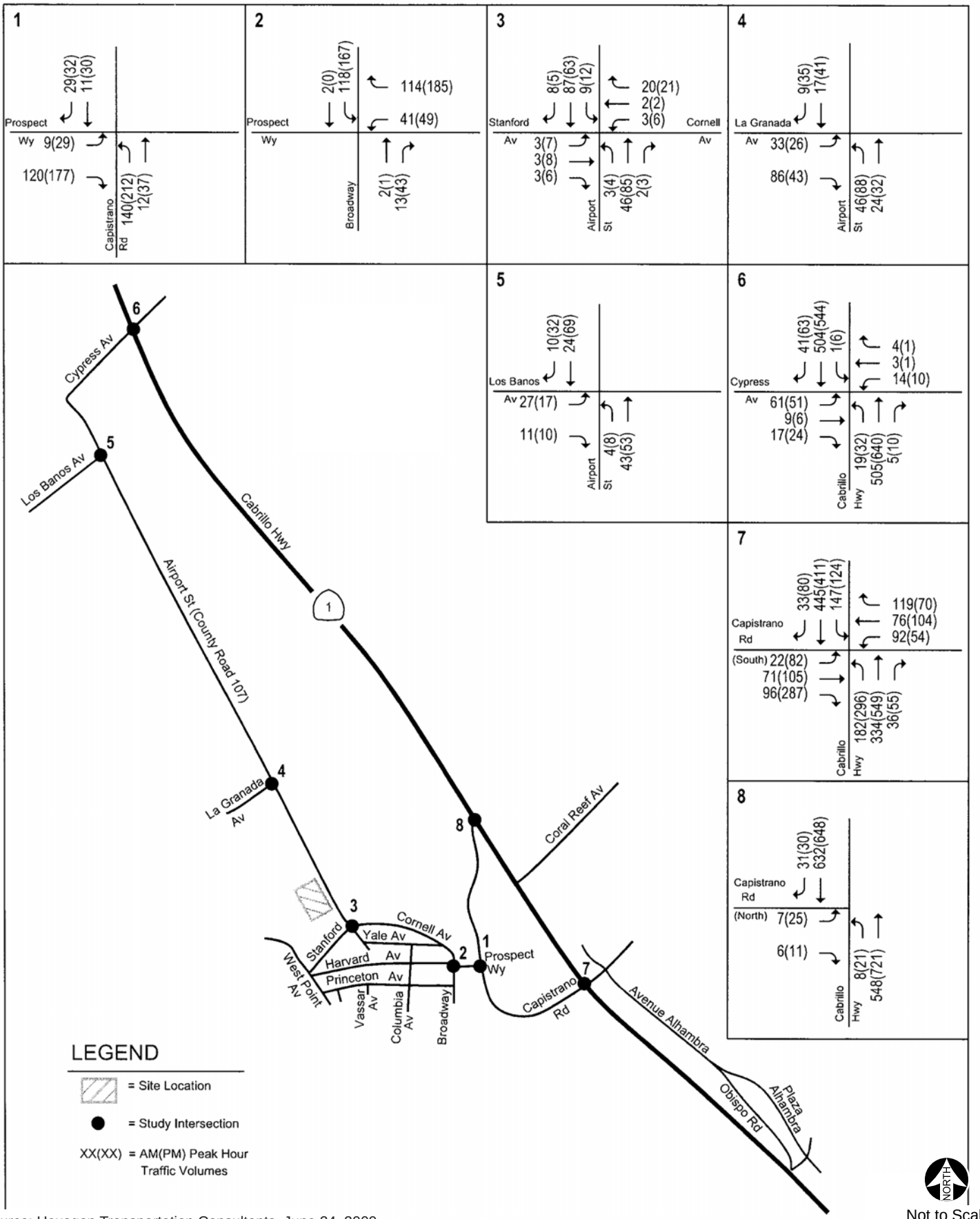
Background Signal Warrants

The peak-hour signal warrant (*MUTCD 2003*, Urban Warrant) was checked for the seven unsignalized intersections to determine whether signalization would be justified on the basis of background peak-hour volumes. The analysis showed that none of the study intersections would meet the signal warrant under background conditions. The signal warrant analysis sheets are included in Appendix J of this DEIR.

Table IV.M-5
Background Intersection Levels of Service

Intersection	Peak-Hour	Existing				Background			
		Average		Worst-Case		Average		Worst-Case	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Prospect & Capistrano	AM	7.0	A	9.1	A	6.9	A	9.1	A
	PM	7.4	A	10.1	B	7.3	A	10.3	B
2. Broadway & Prospect	AM	8.1	A	9.5	A	8.1	A	9.6	A
	PM	8.2	A	10.1	B	8.3	A	10.3	B
3. Airport & Stanford/Cornell	AM	2.0	A	9.6	A	2.1	A	9.5	A
	PM	2.6	A	9.7	A	2.6	A	11.5	B
4. Airport & La Granada	AM	6.8	A	9.1	A	6.6	A	9.1	A
	PM	5.1	A	9.5	A	5.0	A	9.5	A
5. Airport & Los Banos	AM	3.0	A	8.9	A	3.1	A	8.9	A
	PM	1.5	A	9.2	A	1.6	A	9.2	A
6. State Route 1 & Cypress	AM	2.1	A	22.4	C	2.1	A	22.4	C
	PM	2.0	A	26.3	D	2.0	A	26.3	D
7. State Route 1 & Capistrano (South)*	AM	24.0	C	–	–	25.4	C	–	–
	PM	23.0	C	–	–	24.9	C	–	–
8.State Route 1 & Capistrano (North)	AM	0.2	A	13.5	B	0.2	A	15.1	C
	PM	0.4	A	16.3	C	0.6	A	18.5	C

Notes:
** Signalized Intersection Source: Hexagon Transportation Consultants, 2009.*



Source: Hexagon Transportation Consultants, June 24, 2009.

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Figure IV.M-6
Background Traffic Volumes

REGULATORY SETTING

Federal and State

Currently no Federal and State plan, policies and/or regulations related to transportation exist. Therefore, in addition to the thresholds of significance outlined in Appendix G of the CEQA Guidelines, the local policies and guidelines associated with circulation and transportation as defined by San Mateo County will be utilized for this analysis.

Regional and Local

City/County Association of Governments of San Mateo County (C/CAG), Countywide Transportation Plan

The San Mateo C/CAG Countywide Transportation Plan (CTP) 2030 was adopted on January 18, 2001 in association with the cities of San Mateo County, the San Mateo County Transit District (SamTrans), and San Mateo County Transportation Authority (TA). The CTP 2010 is a planning document that envisions, directs, and prioritizes the transportation needs of San Mateo County by analyzing various transportation-related elements: roadways, transit services, land use, transportation systems management, and pricing. C/CAG is currently working on a 2009 CMP update.

City/County Association of Governments of San Mateo County (C/CAG), Congestion Management Program

The funding package associated with Propositions 111 and 108 included a requirement that every urban county within California designate a Congestion Management Agency (CMA) that would prepare, implement, and biennially update a Congestion Management Program (CMP). In San Mateo County, the C/CAG was designated as the CMA. Subsequent legislation (Assembly Bill (AB) 2419) allowed existing CMAs to discontinue participation in the Program. San Mateo County C/CAG voted to continue to participate in and adopt a CMP. The first CMP for San Mateo County was adopted by C/CAG in 1991. It was updated and amended in 1993, 1995, 1997, 1999, 2001, 2003, and 2005. The current 2007 CMP is the eighth CMP for San Mateo County. It describes the decisions adopted by C/CAG in 2000, 2001, 2003, and 2005 to comply with the applicable sections of AB 471, AB 1791, AB 1963, Senate Bill (SB) 1636 and to include new provisions required by SB 45 and Transportation Equity Act (TEA) 21. The purpose of CMP's is to develop a procedure to alleviate or control anticipated increases in roadway congestion and to ensure that federal, state, and local agencies join with transit districts, business, private, and environmental interests to develop and implement comprehensive strategies needed to develop appropriate responses to transportation needs.

City/County Association of Governments of San Mateo County (C/CAG), San Mateo County Comprehensive Bicycle Route Plan

The San Mateo County Comprehensive Bicycle Route Plan (CBRP) was developed by San Mateo C/CAG, the Bicycle and Pedestrian Advisory Committee, the individual cities and agencies, and citizens interested in improving the San Mateo County bicycling environment. The primary study area of the CBRP includes the entire County and all connections into adjacent communities. The focus of the CBRP is on a primary (rather than local) network of bikeway corridors for inter-city and regional travel. As an Element of the CTP, the CBRP is intended to coordinate and guide the provisions of all bicycle-related plans, programs, and projects within the County. As a Countywide Bicycle Plan, it focuses on providing bikeway connections between the incorporated cities, adjacent counties, and major regional destinations within the County. The CBRP also prioritizes recommended bikeway projects through the study area, and serves as a guide to the incorporated cities regarding bikeway policies and design standards.

San Mateo County General Plan

The General Plan contains the following policies related to transportation that are applicable to the proposed project:

Automobile Travel

12.8 Additional Capacity

- When providing additional capacity for automobile traffic where needed, give priority to upgrading and expanding existing roads before developing new road alignments.

12.10 Urban Road Improvements

- In urban areas, where improvements are needed due to safety concerns or congestion, support the construction of interchange and intersection improvements, additional traffic lanes, turning lanes, redesign of parking, channelization, traffic control signals, or other improvements.

12.14 Financing Local Road Improvements

- Utilize all available techniques for funding local road improvements in unincorporated areas, including assessment districts, developer contributions, and County road funds. Ensure road improvements are consistent with adopted land use plans and area plans.

12.15 Local Circulation Policies

- In unincorporated communities, plan for providing:
    - Maximum freedom of movement and adequate access to various land uses;

- Improved streets, sidewalks, and bikeways in developed areas;
- Minimal through traffic in residential areas;
- Routes for truck traffic which avoid residential areas and are structurally designed to accommodate trucks;
- Access for emergency vehicles;
- Bicycle and pedestrian travel;
- Access by physically handicapped persons to public buildings, shopping areas, hospitals, offices, and schools;
- Routes and turnouts for public transit;
- Parking areas for ridesharing;
- Coordination of transportation improvement with adjacent jurisdictions.

12.16 Local Road Standards

- Allow for modification of road standards for sub-areas of the County, which respond to local needs and conditions as identified in area plans.

12.19 Parking Standards

- Review and update the County's off-street and on-street parking standards in order to reflect current conditions and requirements. Consider the needs of each individual land use, the potential for joint use of parking areas, fees in lieu of parking, spaces for smaller cars, and parking management strategies.

Public Transit and Ridesharing

12.23 SamTrans Service

- Encourage SamTrans to continue to work toward improving service levels on both local and mainline routes through reevaluation and expansion of routes, increased service to the Coastside, provision of more satellite parking facilities, and evaluation of smaller buses for local routes.

12.30 Population Groups with Special Needs

- Encourage and support SamTrans and the Paratransit Coordinating Council to work toward meeting the transportation needs of the mobility-impaired, the young, and the elderly.

Bicycle and Pedestrian Travel

12.39 Pedestrian Paths

- Encourage the provision of safe and adequate pedestrian paths in new development connecting to activity centers, schools, transit stops, and shopping centers.

San Mateo County Local Coastal Program

The Local Coastal Program contains the following policies related to transportation that are applicable to the proposed project:

Roads

2.48 Capacity Limits

- Limit expansion of roadways to capacity which does not exceed that needed to accommodate commuter peak period traffic when buildout of the Land Use Plan occurs.

- Use the requirements of commuter peak period traffic as the basis for determining appropriate increases in capacity.

2.49 Desired Level of Service

- In assessing the need for road expansion, consider Service Level D acceptable during commuter peak periods and Service Level E acceptable during recreation peak periods.

2.52 Phase I Monitoring

- Monitor the number and rate of new residential construction, particularly in the rural Mid-Coast.

Transit

2.60 Increased Service for Coastside Residents

- Encourage SamTrans to expand bus service to and along the Coastside to improve transit service to Coastside residents.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

Based on Appendix G of the CEQA Guidelines, the proposed project would have a significant transportation/traffic impact if it would:

a) cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity (V/C) ratio on roads, or congestions at intersections).

b) exceed, either individually or cumulatively, a level of service (LOS) standard established by the county congestion management agency for designated roads or highways.

c) result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

d) substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

e) result in inadequate emergency access.

f) result in inadequate parking capacity.

g) conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

For this analysis, the relevant criteria for impacts at intersections are based on the County of San Mateo intersection LOS standards. According to the County of San Mateo LOS guidelines, a development is said to create a significant adverse impact on traffic conditions at a signalized intersection if for either peak-hour:

1. the level of service at the intersection degrades from an acceptable LOS D or better (for CMP intersections the minimum acceptable level of service is LOS E) under baseline conditions to an unacceptable LOS E or F under project conditions, or

2. the level of service at the intersection is an unacceptable LOS E or LOS F under baseline conditions and the addition of project trips causes the critical-movement volume-to-capacity ratio (V/C) to increase by 0.02 or more.

A significant impact at a signalized intersection is said to be satisfactorily mitigated when measures are implemented that would restore intersection operations back to background (without the project) conditions or better.

Further, any feature of the site layout that might result in unsafe pedestrian or vehicular circulation would be considered a significant impact. Revisions to the project site plans (refer to Figures III-9 and III-16) may be recommended to make the site circulation function more efficiently. Any on-site circulation recommendations that are not related to safety are not considered significant impacts under the CEQA, but may be required as a condition of approval.

As discussed in Section V.C (Impacts Found to be Less Than Significant) of this DEIR, potential impacts associated with Threshold (b) above were determined to have no impact because the roadway segments and intersections in the immediate vicinity of the project site are not designated roadways with established LOS standards in the County's 2007 Congestion Management Program (CMP); therefore, no monitoring or analysis under the CMP is required. However, the proposed project's approximately 2,123 peak-hour trips added to roadways in the vicinity of the project site are evaluated under Impact TRANS-1 (Intersection Level of Service and Capacity) as well as under Impact TRANS-9 (Intersection Levels of Service Under Cumulative Conditions). Potential impacts associated with Threshold (c) were determined to have no impact because the proposed project does not include any aviation-related uses and would not have the potential to result in a change to air traffic patterns at nearby Half Moon Bay Airport. Therefore, only Thresholds (a), (d), (e), (f), and (g) listed above are addressed in the following discussion.

Proposed Project

The project proposes development of residential, limited commercial, office, and limited recreational uses. The project proposes development that provides housing and employment opportunities for low-income developmentally disabled (DD) adults. The project site consists of two parcels: (1) the northern parcel (Office Park); and (2) the southern parcel (Wellness Center).

The primary development of the Office Park would consist of four three-story office buildings and associated common areas (i.e., parking lot, walkways, wetland area, and a Communications Building). Three ingress/egress access points would be developed along the northern boundary of the proposed parking lot, which would connect to the adjacent Airport Street. Sidewalks and islands would be developed within the site to accommodate pedestrian traffic. Additionally, onsite walkways and a trail system would provide circulation within the proposed Office Park property. The project proposes to provide 640 parking spaces on the northern parcel, 12 of which would be ADA (Americans with Disabilities Act) handicap accessible. The project proposes low-density office use and the applicant is requesting a parking space exception from the County in order to provide one parking space for every 250 square feet of office space. The County parking ordinance requires one space for every 200 square feet of office space and does not specify parking requirements for lower density uses. Furthermore, the applicant proposes to implement parking options to reduce any potential impacts from the proposed parking exception, which are described further below under Impact TRANS-5 (Parking).

The primary development of the Wellness Center would consist of 70 residential units for approximately 50 DD adults and 20 live-in staff members, and associated common and living areas and recreational facilities (i.e., parking lot, walkways, wetland area, fencing, commercial kitchen, dining area, laundry

area, office space, a multipurpose auditorium/theater, indoor pool, basketball courts, fitness center, and a separate Storage Building). Two ingress/egress access points would be developed on the northeast and northwest sides of the proposed Wellness Center parking lot with access from the adjacent Airport Street. The proposed 20-foot wide wetlands trail would also provide fire access to both sides of all buildings on the site. Onsite walkways and a trail system would provide pedestrian circulation within the proposed Wellness Center property. On the southern parcel, 73 parking spaces would be required to accommodate the live-in staff (caregivers and employees), customers receiving services, and guests. It was assumed for the proposed parking requirements that all of the Wellness Center staff would live at the Center, and that the DD residents would not drive. Approximately 10 handicap parking spaces would be available within this parking lot and would be in compliance with ADA requirements. Given the use of the site, an additional 5 handicap spaces may be added.

In addition to the primary components, the proposed project includes development of onsite and offsite farming, an onsite native plant nursery, dog walking and grooming services; and development of bus stops and shuttle services.

Emergency vehicle access to the project site is provided from major roadways near and adjacent to the site. Major roadways near the project site include: State Route (SR) 1 (Cabrillo Highway) and Airport Street. The project site can be directly accessed from the surrounding streets, including: Cypress Avenue, Marine Boulevard; Capistrano Road, Prospect Way; and California and Cornell Avenues, located to the northwest, east and south of the site, respectively.

For a more detailed description of the proposed project, refer to Section III (Project Description) of this DEIR.

Project Impacts and Mitigation Measures

Project Conditions

Project conditions are defined as background traffic conditions with the addition of traffic generated by the proposed project. It is assumed in this analysis that the transportation network under project conditions would be the same as the existing network.

Trip Generation

Through empirical research, data have been collected that correlate to common land uses their propensity for producing traffic. Thus, for the most common land uses there are standard trip generation rates that can be applied to help predict the future traffic increases that would result from a new development.

The magnitude of traffic added to the roadway system by a particular development is estimated by multiplying the applicable trip generation rates to the size of the development. Standard trip generation rates are published in the Institute of Transportation Engineers (ITE) manual entitled *Trip Generation, Eighth Edition,* 2008. The project includes a Wellness Center with the following components:

- 36 one-bedroom units for developmentally disabled adults;
- 7 two-bedroom units for developmentally disabled adults;
- 5 breezeway units with 4 bedrooms each which can house up to 20 residents/staff aides;
- 20,000 square feet of storage space; and
- 5,326 square feet of community center (pool/fitness center).

The proposed project would include a mixed-use Office Park with 90,000 square feet of general office, 56,250 square feet of research and development, 33,750 square feet of storage, and 45,000 square feet of light manufacturing.

The trip generation estimates for each of these components are described below.

Residential Uses

- *One and Two Bedroom Apartment Units* – Since it has not yet been determined where the residents versus staff will reside, it is assumed for purposes of this analysis that these apartment units will house developmentally disabled residents. There would be a common recreation area provided for use by all apartment residents. This common area would include a basketball court, an indoor pool and fitness center. As shown in Table IV.M-6, these units would not generate any trips as the residents would not drive. The residents would have care-givers residing on the project site that would drive them to and from activities, appointments, errands, etc. The care-giver trips would be included in the breezeway unit trip generation numbers.

- *Breezeway Units* – For purposes of this analysis, it is assumed the proposed breezeway apartment units would be for staff members. They are fourplexes (with single bed/bath units sharing a common living area and kitchen). There are five breezeway fourplexes so the total number of breezeway residential units proposed is 20. According to the project applicant, an option for these units is the addition of a common area that could be opened to the outside and would function as a living room, recreation room or dining room.

Community Center

- The community center would provide services for local area residents as well as residents living on the project site. The community center facilities would include an indoor pool, a fitness center and locker rooms. The community center might provide such services as classes, exercise facilities, a location for special events, public meetings, and private social functions. Community Center is not a land use for which the ITE manual can be used for trip generation estimates. The estimated trip generation for this portion of the project was based on a survey conducted by Hexagon Transportation Consultants at the Almaden Community Center located in San Jose, California.

Storage

- Storage is proposed as a small portion of the project. This storage would most likely be utilized by project residents or Princeton area residents and would likely not generate any trips outside the study area. The ITE warehousing land use category was utilized to estimate trips for this portion of the project.

Office Park

- The northernmost and largest section of the proposed project would be the proposed Office Park. The traffic analysis used the ITE general office building category for the 90,000 square feet general office portion of the project. The research and development component of the project is proposed as being 56,250 square feet in size. There is a proposed 33,750 square feet storage component and a 45,000 square feet light manufacturing component to the Office Park. This park could draw potential employees from the surrounding residential areas such as Moss Beach, Montara, El Granada and Miramar and other outlying regions. It should be noted that the 2,000 square feet Communications Building at the Office Park property would be an unstaffed maintenance building and would not contribute to traffic trips.

The estimated peak-hour and daily trip generation totals for the project are shown in Table IV.M-6. The table shows that the proposed project is estimated to generate 2,123 daily trips, including 292 trips (243 inbound and 49 outbound) during the AM peak-hour, and 268 trips (63 inbound and 206 outbound) during the PM peak-hour.

Trip Distribution and Assignment

The trip distribution pattern for the proposed project was estimated based on existing travel patterns on the surrounding roadway system and the locations of complementary land uses. Separate trip distribution patterns were developed for each land use component of the proposed project. In determining the trip distribution patterns for vehicles traveling from the project site to northbound SR 1, the traffic study conducted travel time runs from the proposed project site to northbound SR 1 using two different routes as per the applicant's request and the County's approval.

The first route included northbound Airport Street and eastbound Cypress Avenue to northbound SR 1. The second route included southbound Airport Street to eastbound Cornell Avenue to eastbound Prospect Way to northbound Capistrano Road to northbound SR 1. The travel time runs showed that the northbound Airport Street route took half the time of the southbound Airport Street route (two minutes as opposed to four minutes). As a result, the traffic analysis assumed that vehicular traffic traveling from the project site to northbound SR 1 would proceed north on Airport Street to Cypress Avenue and turn left onto SR 1.

Table IV.M-6
Project Trip Generation Estimates

Use	Size	Daily		AM Peak-Hour				PM Peak-Hour			
		Rate[1]	Trips	Rate[1]	In	Out	Total	Rate[1]	In	Out	Total
Office Park											
General Office[2]	90,000 sf	11.01	991	1.55	123	17	140	1.49	23	111	134
Research & Development[3]	56,250 sf	8.11	456	1.22	57	12	69	1.07	9	51	6
Storage[4]	33,750 sf	3.56	120	0.30	8	2	10	0.32	3	8	11
Light Manufacturing[5]	45,000 sf	3.82	172	0.73	23	7	33	0.73	12	21	33
Wellness Center											
Residential:											
0ne-bedroom[6]	36 units	n/a	0	n/a	0	0	0	n/a	0	0	0
Two-bedroom[6]	7 units	n/a	0	n/a	0	0	0	n/a	0	0	0
Breezeway[7]	20 units	6.65	133	0.51	2	8	10	0.62	8	4	12
Storage[4]	20,000 sf	3.56	71	0.30	5	1	6	0.32	2	5	6
Community Center[8]	5,326 sf	33.80	180	4.57	22	2	24	2.19	7	5	12
		Total	**2,123**	**-**	**243**	**49**	**292**	**-**	**63**	**206**	**268**

Notes: n/a = not applicable; sf = square feet
[1] Rates based on ITE Trip Generation Manual, 8th Edition average rates – numbers may not add due to rounding.
[2] ITE Code 710, General Office Building.
[3] ITE Code 760, Research and Development Center.
[4] ITE Code 150, Warehousing.
[5] ITE Code 140, Manufacturing.
[6] These units are for the developmentally disabled and will not generate any vehicular trips.
[7] A breezeway unit is a one-story unit that can house up to 4 residents/staff aides. The project is proposing 5 breezeway units (5x4=20). ITE Code 220, Apartment.
[8] Community Center rates are based on a trip generation survey conducted at the Almaden Community Center located in San Jose, CA.

Source: Hexagon Transportation Consultants, 2009.

The peak-hour trips generated by the project were assigned to the roadway system using the TRAFFIX software and in accordance with the trip distribution pattern shown. The trip distribution patterns for particular land uses are shown graphically on Figures IV.M-7, -8, -9 and -10. The traffic study conducted travel time runs on Wednesday, April 2, 2008. Figure IV.M-11 shows the assignment of project trips at each study intersection.

Cumulative Conditions

This section presents a summary of the traffic conditions that would occur under cumulative conditions with and without the project. Cumulative conditions represent conditions 20 years into the future.

Roadway Network Under Cumulative Conditions

The intersection lane configurations under cumulative conditions were assumed to be the same as described under project conditions.

Cumulative Traffic Volumes

Traffic volumes under cumulative conditions were estimated by applying to the existing volumes an annual growth rate of one percent for twenty years, then adding the trips from approved developments and the project. In addition to the approved projects factored into the background condition scenario, there are two additional approved developments on the list received from the County (see Table IV.M-7). As these projects had not yet been approved at the time of this report, they are included in the cumulative scenario but not the background scenario. The one percent growth rate factor was based upon C/CAG model forecasts. The growth was based on a 20-year projection. Cumulative traffic volumes without the project trips are shown on Figure IV.M-12. Cumulative traffic volumes with project trips are shown on Figure IV.M-13.

Table IV.M-7
Approved Developments – Cumulative Scenario

Land Use	Size	Location
Commercial	17,147 sf	264, 268, 272, 276 & 280 Princeton Avenue
Mixed-Use	1,622 sf	Princeton Avenue at Broadway

Notes: sf = square feet

Source: Hexagon Transportation Consultants, 2009.

Impact TRANS-1 Intersection Level of Service and Capacity

The proposed project would bring additional traffic to the project site and the surrounding roadways. As discussed above, the proposed project would add approximately 2,123 daily trips to roads in the vicinity of the project site. Project traffic volumes were estimated by adding the project trips to background traffic volumes. Background plus project traffic volumes are typically referred to simply as project traffic volumes; this is contrasted with the term project trips, which is used to signify the traffic that is produced specifically by the project. The project traffic volumes are shown graphically on Figure IV.M-14. Traffic volumes for all components of traffic are tabulated and included in Appendix J of this DEIR.

As shown in Table IV.M-8, the results of the LOS analysis under average project conditions show that all of the study intersections would operate at an acceptable LOS C or better. However, the eastbound left-turn movement at the intersection of SR 1 and Cypress Avenue is shown to operate at LOS F with a delay of 59.8 seconds under worst-case project conditions (the LOS calculation sheets are included in Appendix J of this DEIR). The traffic analysis found that there are no improvements possible at this intersection to improve this LOS F other than signalization; therefore, with the project, the peak-hour signal warrant would be met at the intersection of SR 1 at Cypress Avenue and impacts to intersection LOS and capacity would be ***significant*** (the signal warrant analysis sheets are included in Appendix J of this DEIR). With signalization, this intersection would operate at LOS A under the AM and PM peak-hours for both (average and worst-case) project scenarios. Under signalized conditions, the existing roadway geometry would be adequate to handle the anticipated traffic demand.

The following mitigation measure would reduce the impact related to project peak-hour traffic volumes and intersection LOS to a ***less-than-significant*** level:

Mitigation Measure TRANS-1 Intersection Level of Service and Capacity

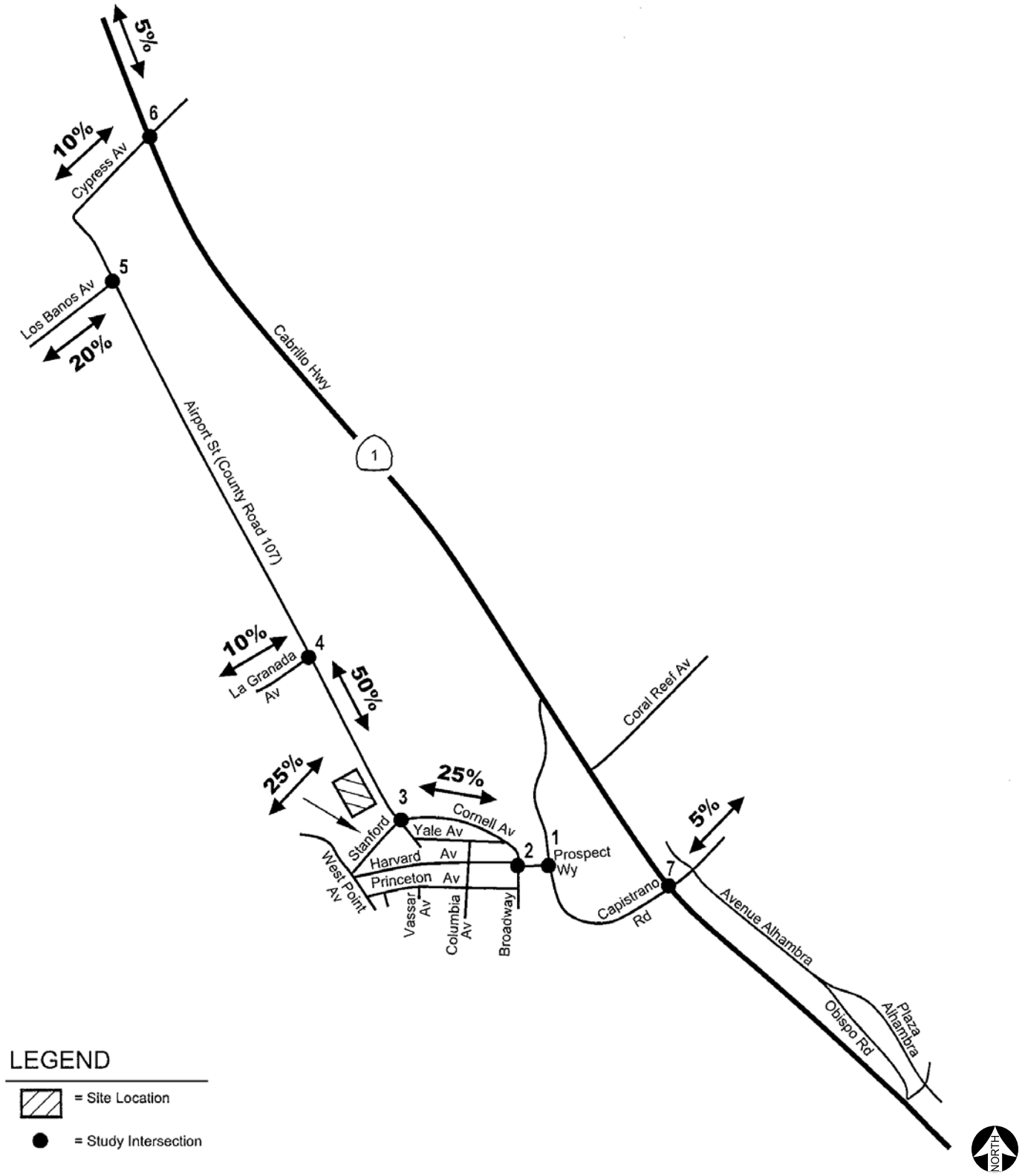
Following project occupancy, the applicant shall submit a bi-annual report, signed and stamped by a Professional Transportation Engineer in the State of California, to the Director of Planning and Building on the level of service at the intersection of Cypress Avenue and SR 1 stating whether or not this location warrants a signal. If it meets warrants, then the applicant shall coordinate with Caltrans to pay a fair share for the installation of a signal within 5 years of the date of that report.

Table IV.M-8
Project Intersection Levels of Service

Intersection	Peak-Hour	Background				Project			
		Average		Worst-Case		Average		Worst-Case	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Prospect & Capistrano	AM	6.9	A	9.1	A	7.4	A	9.4	A
	PM	7.3	A	10.3	B	8.1	A	11.0	B
2. Broadway & Prospect	AM	8.1	A	9.6	A	10.1	A	11.8	B
	PM	8.3	A	10.3	B	10.9	A	13.8	B
3. Airport & Stanford/Cornell	AM	2.1	A	9.5	A	5.1	A	10.7	B
	PM	2.6	A	11.5	A	4.7	A	11.9	B
4. Airport & La Granada	AM	6.6	A	9.1	A	4.6	A	9.9	A
	PM	5.0	A	9.5	A	3.7	A	10.0	B
5. Airport & Los Banos	AM	3.1	A	8.9	A	2.2	A	8.9	A
	PM	1.6	A	9.2	A	1.4	A	9.7	A
6. State Route 1 & Cypress	AM	2.1	A	22.4	C	3.1	A	28.7	D
	PM	2.0	A	26.3	D	6.9	A	59.8	F
7. State Route 1 & Capistrano (South)*	AM	25.4	C	–	–	26.1	C	–	–
	PM	24.9	C	–	–	25.4	C	–	–
8.State Route 1 & Capistrano (North)	AM	0.2	A	15.1	C	0.2	A	15.1	C
	PM	0.6	A	18.5	C	0.6	A	18.5	C

Notes:
** Signalized Intersection*

Source: Hexagon Transportation Consultants, 2009.



Source: Hexagon Transportation Consultants, June 24, 2009.

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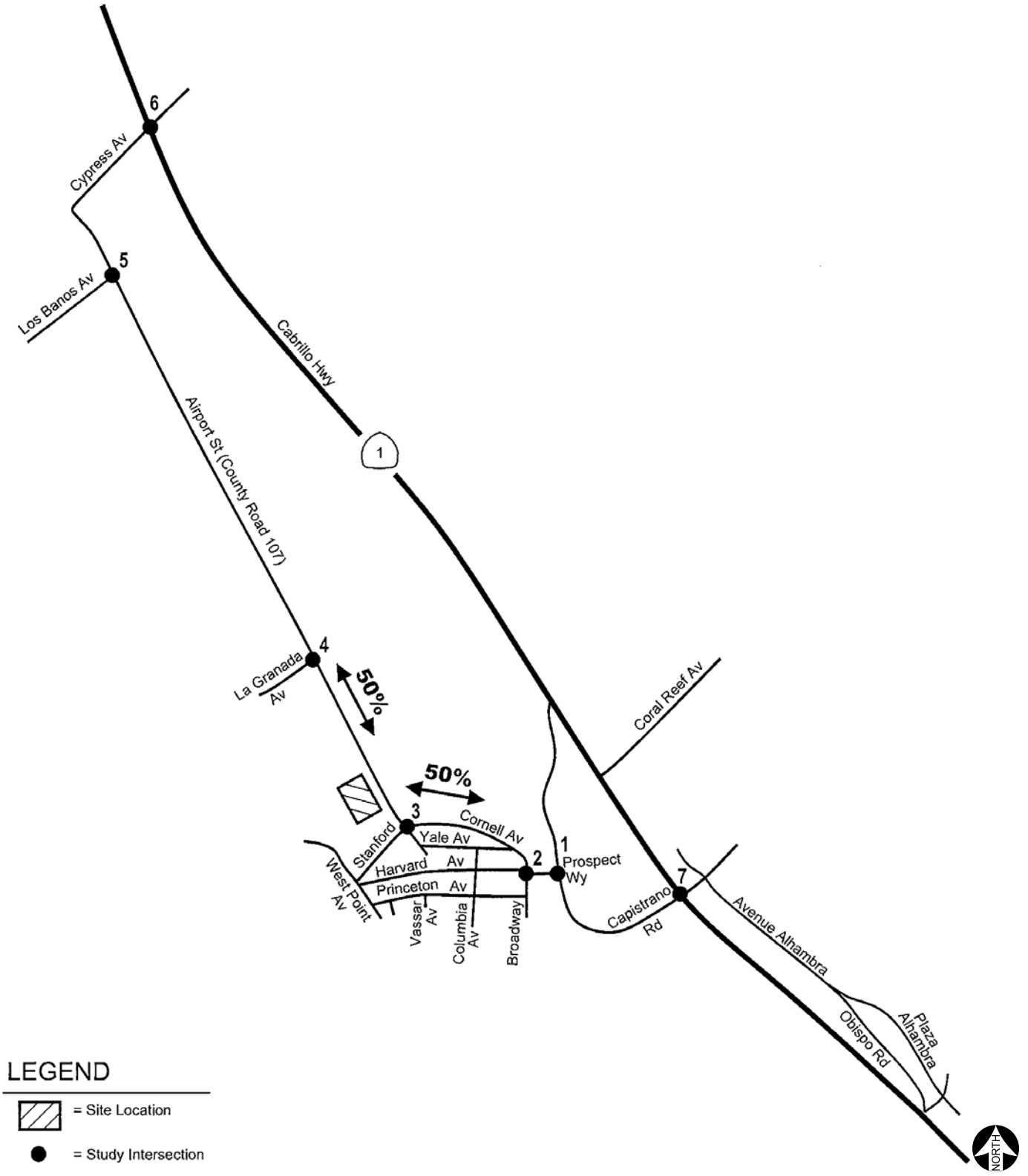
Environmental Planning and Research

Figure IV.M-7
Project Trip Distribution-Community Center



Source: Hexagon Transportation Consultants, June 24, 2009.

Not to Scale

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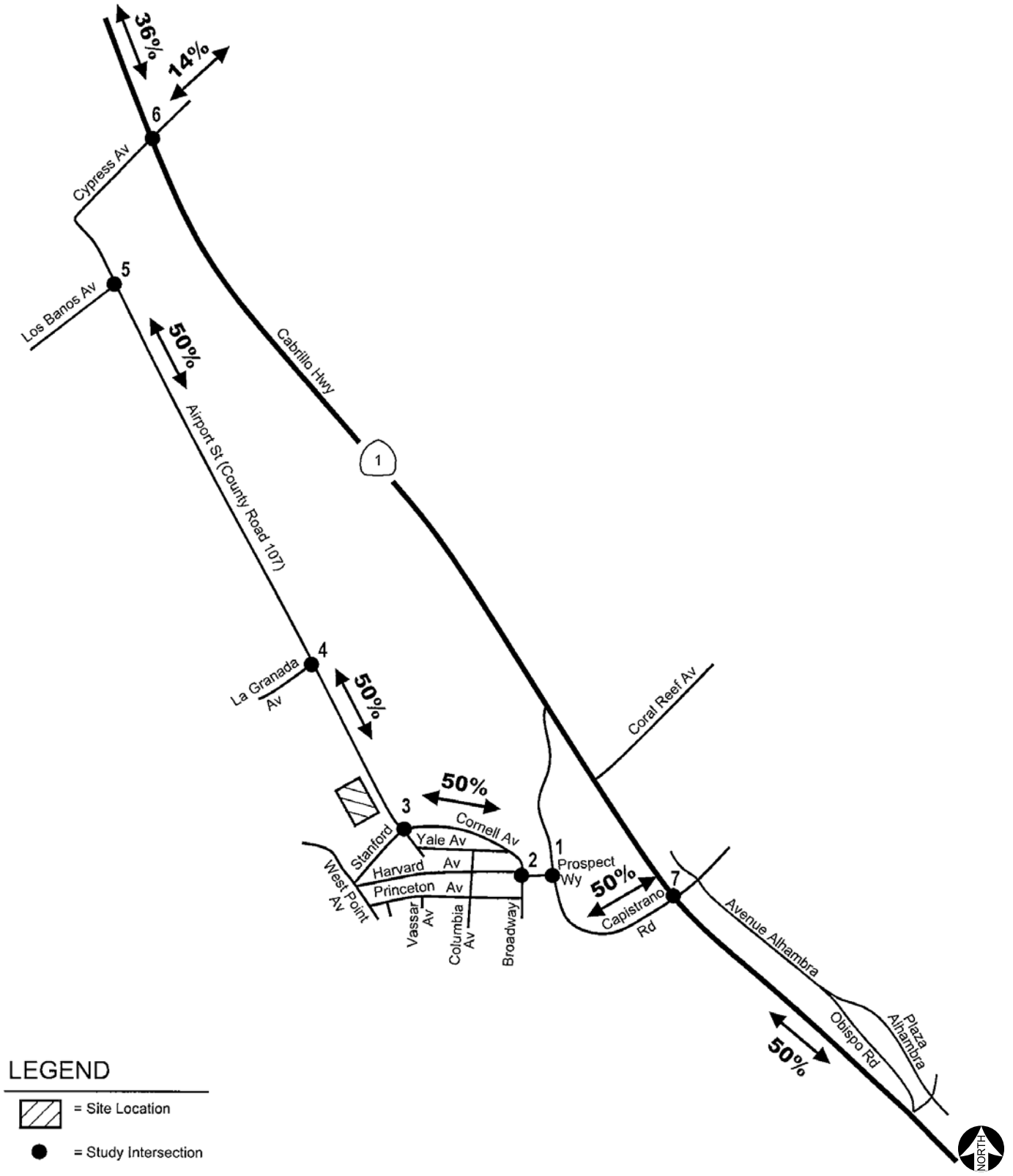
Figure IV.M-8
Project Trip Distribution-Storage



Source: Hexagon Transportation Consultants, June 24, 2009.

Not to Scale

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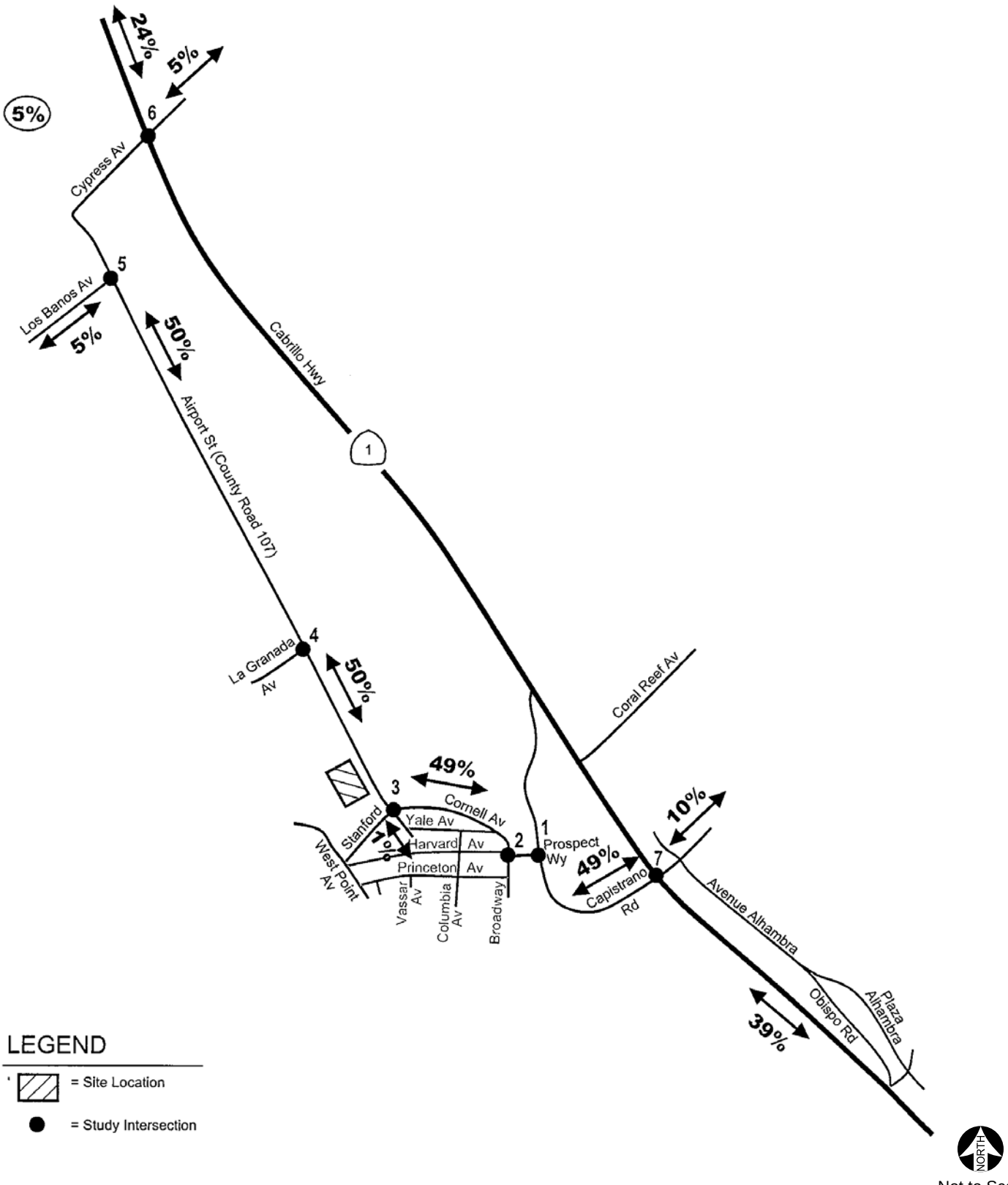
Figure IV.M-9
Project Trip Distribution-Residential



Source: Hexagon Transportation Consultants, June 24, 2009.

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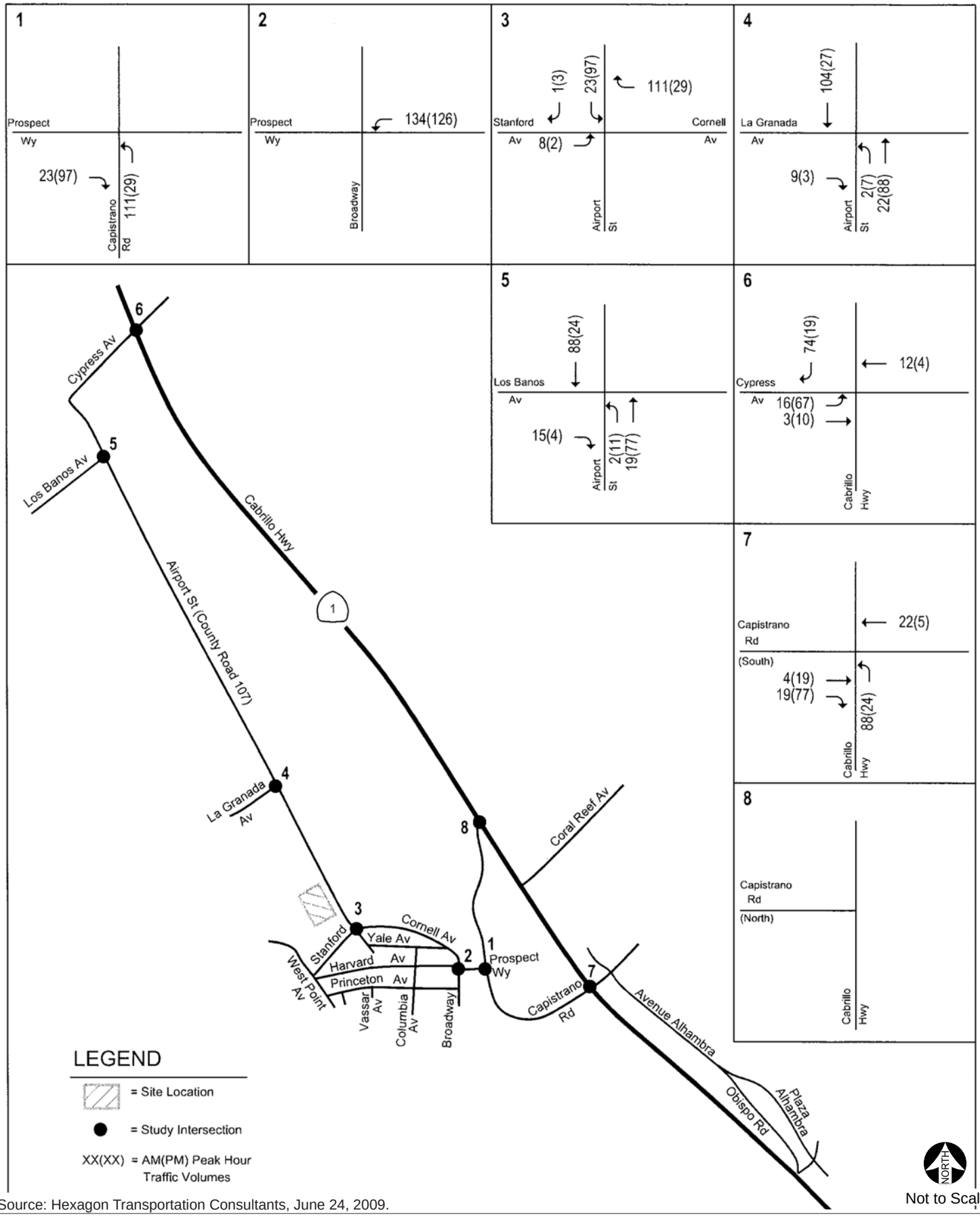
Figure IV.M-10
Project Trip Distribution-Office, Research & Development, Light Manufacturing



Source: Hexagon Transportation Consultants, June 24, 2009.

Not to Scale

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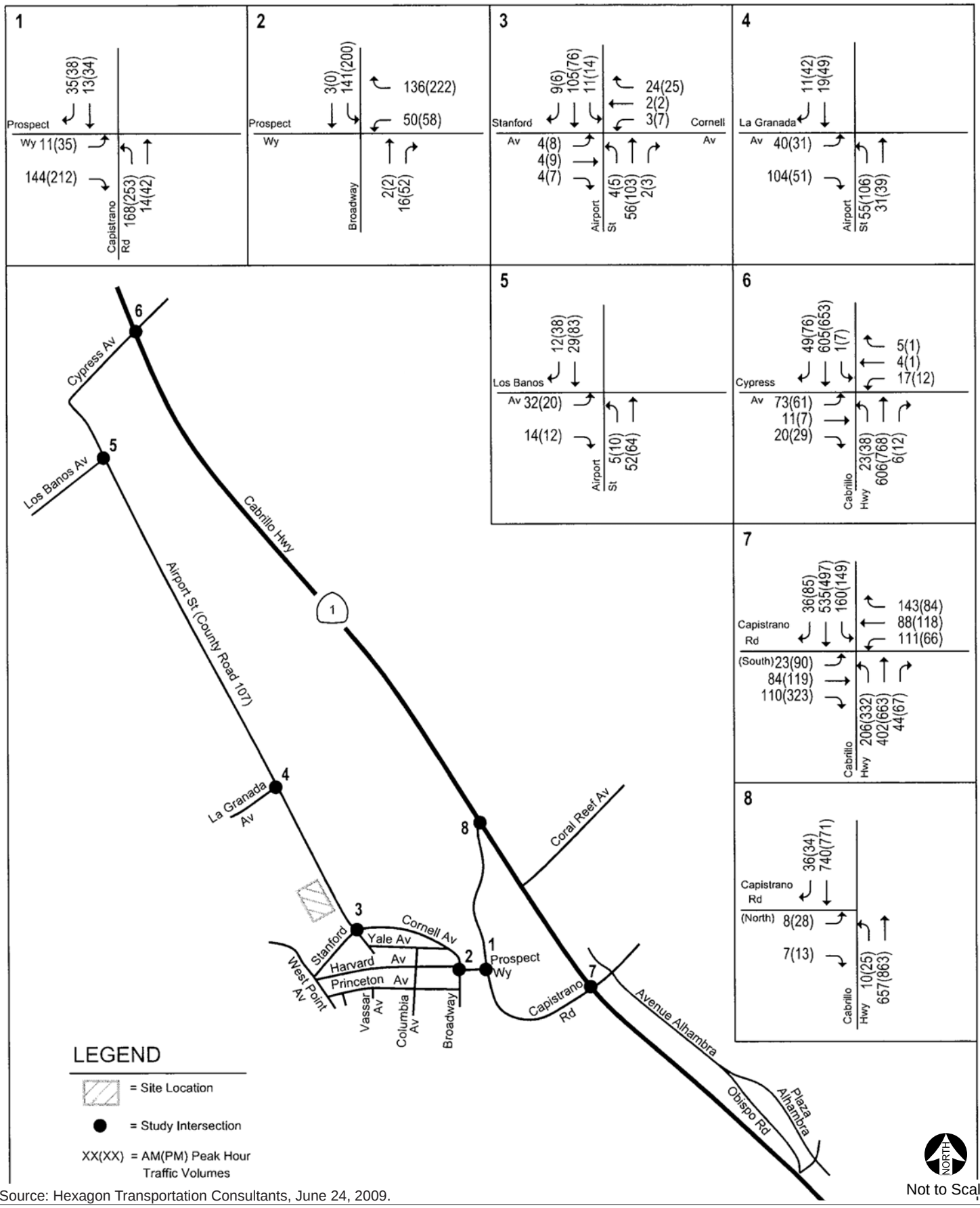
Figure IV.M-11
Project Trip Assignment



Source: Hexagon Transportation Consultants, June 24, 2009.

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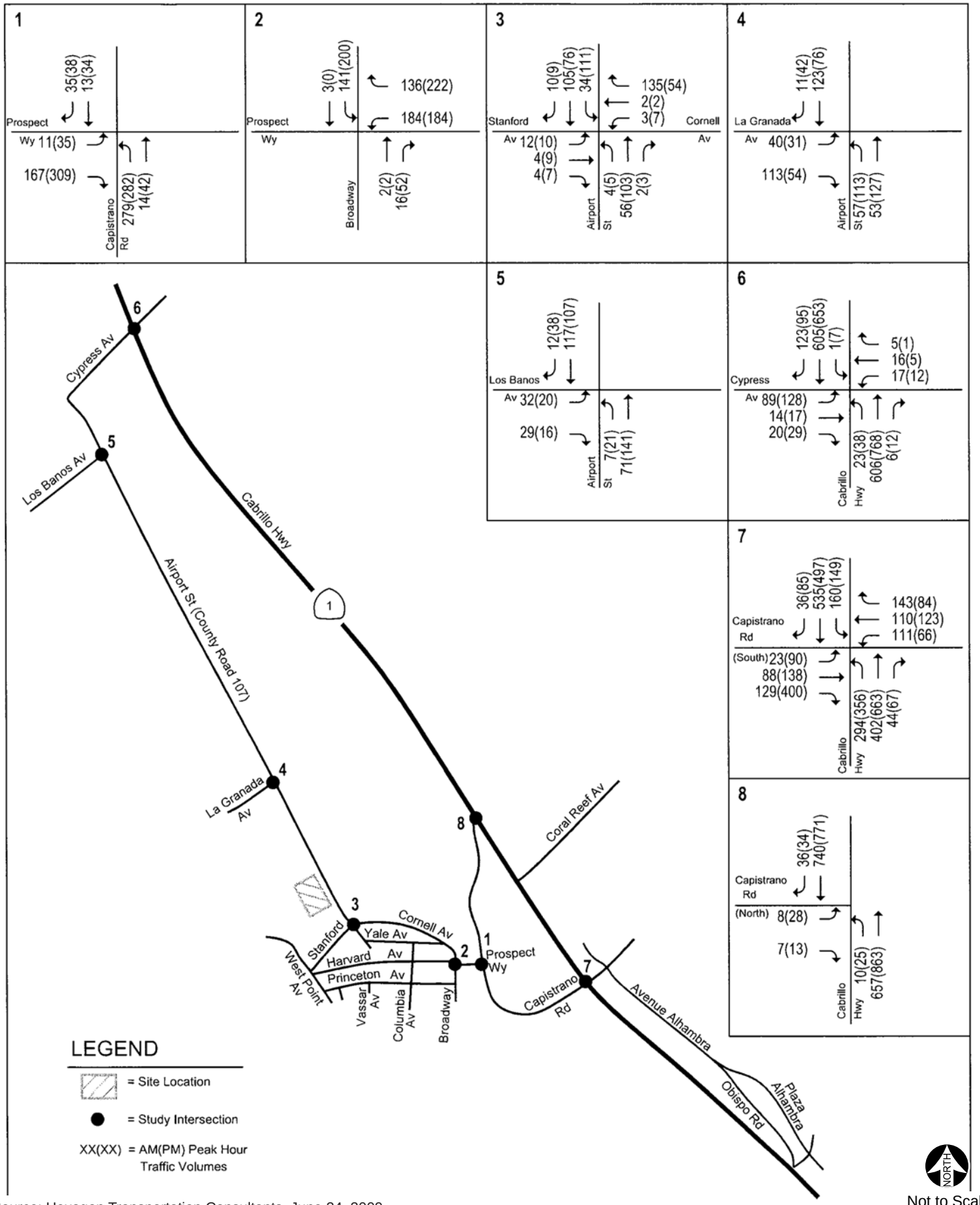
Figure IV.M-12
Cumulative Traffic Volumes Without Project



Source: Hexagon Transportation Consultants, June 24, 2009.

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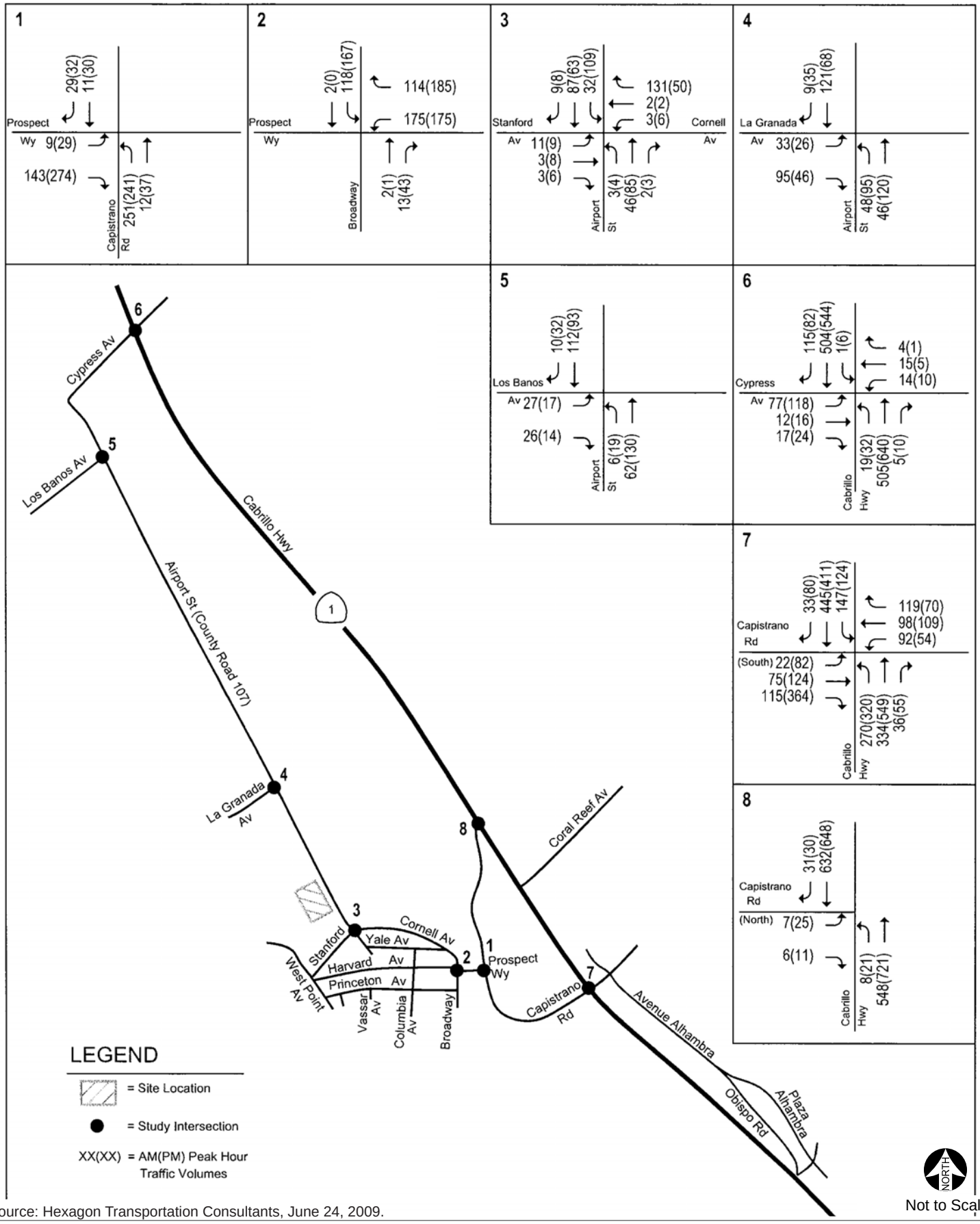
Figure IV.M-13
Cumulative Traffic Volumes With Project



Source: Hexagon Transportation Consultants, June 24, 2009.

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Figure IV.M-14
Project Traffic Volumes

Impact TRANS-2 Hazards

Access to the project would be from an existing roadway system. No bicycle lanes are located adjacent to the project and no bicycle facilities would cross project driveways. Project driveways would be designed and constructed in accordance with County regulations to ensure visibility of pedestrians, bicyclists, and vehicles. Through the provision of easily accessible two-way vehicle flow driveways into and out of the project site and adequate onsite parking, queuing is not expected to take place on Airport Street or within the driveways. There are also no physical conditions of the site, such as curves, slopes, or walls that could result in safety impacts. Fire lanes, turning radii and back up space around buildings would be designed in cooperation with local officials so as to be adequate for emergency and fire equipment vehicles. The farming, nursery, and wastewater treatment operations proposed to be developed onsite are not anticipated to use any incompatible equipment. Therefore, the project would not substantially increase hazards due to a design feature or incompatible uses and impacts would be ***less than significant*** and no mitigation measures are required.

Impact TRANS-3 Site Access and Onsite Circulation

Site access was evaluated in accordance with generally accepted traffic engineering standards. Access to the site would be provided by five two-way driveways on Airport Street – two driveways to access the Wellness Center (the southern portion of the project site) and three to the Office Park site (the larger, northern portion of the project site). Two of the Office Park driveways would have an island separating ingress and egress. Any landscaping and signage would be located in such a way as to ensure an unobstructed view for drivers exiting the site. Typically, the installation of left turn pockets would be considered for this type of new development. However, analysis shows that left turn pockets are not warranted for the proposed project for the following reasons. First, the peak-hour southbound through traffic volumes are low on Airport Street at the proposed driveway locations for the project (103 AM trips and 84 PM trips). Under proposed conditions, only 119 project trips would make a left turn during the AM peak-hour and 31 trips during the PM peak-hour. These volumes do not warrant the installation of a left turn pocket. Second, Airport Street is not wide enough for a new lane. Finally, there are no left turn pockets on Airport Street in the project vicinity. Thus, the installation of left turn pockets is not warranted as part of the proposed project.

In addition, the onsite circulation was reviewed in accordance with generally accepted traffic engineering standards. Generally, the proposed plan would provide adequate connectivity through the parking areas for vehicles. The drive aisles proposed are approximately 24 feet in width. This aisle dimension is satisfactory for two-way vehicle flow with 90-degree parking. There are no proposed dead-end aisles.

Therefore, overall impacts associated with site access and onsite circulation would be ***less than significant*** and no mitigation measures are required.

Impact TRANS-4 Emergency Access

Emergency vehicle access to the project site is provided from major roadways near and adjacent to the site. Existing major roadways near the project site include: State Route (SR) 1 (Cabrillo Highway) and Airport Street. The project site can be directly accessed from the surrounding streets, including: Cypress Avenue, Marine Boulevard; Capistrano Road, Prospect Way; and California and Cornell Avenues, located to the west, east and south of the site, respectively.

Impacts related to emergency access are generally site-specific, and the applicant would consult with County departments and is expected to implement any access recommendations provided. Fire lanes, turning radii and back up space around buildings would be designed in cooperation with local officials and County regulations to ensure adequacy for emergency and fire equipment vehicles. Pavements would be designed to support loads created by emergency vehicle traffic. In addition, fire access and emergency access fencing and gates would be installed for the Wellness Center property and would run along the Airport Overlay setback line between the buildings (refer to Figure III-24). The gates would be designed to be opened for fire access. Further, two lock box access points would be available to allow fire trucks access to the proposed walking trail behind the Wellness Center. To accommodate the special needs of the DD residents and employees, all trails, sidewalks and buildings would be designed to be compliant with ADA requirements. Wheelchair accessibility and fire access would be provided for all buildings at the Wellness Center and Office Park.

Construction activities have the potential to add construction traffic to the street network and could potentially require partial lane closures during street improvements or utility installations. However, construction activities are temporary by nature and project-related construction activities are not expected to cause a substantial disruption to roadway capacity to result in a limitation to emergency access. County and emergency services would be notified of any planned road closures or restrictions on any roadways, alternative emergency routes, and detours due to construction activities of the project.

Therefore the project would not result in inadequate emergency access and impacts would be ***less than significant*** and no mitigation measures are required.

Impact TRANS-5 Parking

As part of the approval process, the proposed project will be required to provide adequate parking in proportion with and sufficient to accommodate the potential demand created by the project. No offsite parking spaces are proposed for this project; all parking spaces would be provided onsite. As discussed previously, the County parking ordinance requires one space for every 200 square feet of office space, and does not specify parking requirements for lower density uses. The project proposes low-density office use and the applicant is requesting a parking space exception from the County to provide one parking space for every 250 square feet of office space. The project proposes to provide 640 parking spaces for the mixed-use Office Park development on the northern parcel, 12 of which would be ADA handicap accessible. Table IV.M-9 illustrates the method for calculating required parking spaces for the

proposed Office Park uses and compares to the parking space exception requested by the applicant. According to the current County requirement, 737 parking spaces would be required. If the County approves a parking space exception for low-density office use, the requirement would be reduced to 635 parking spaces. Furthermore, if needed, the applicant would implement the following parking options to reduce any potential impacts from the proposed parking exception:

- Implement parking procedures that result in office workers utilizing ride sharing, shuttle service to park and ride lots, and public transportation.
- Work with the County and Transit Authority to increase the San Mateo County Transit Authority Bus Service along Airport Street.
- Provide Shuttle Bus Service to the Office Park location from the Park and Ride located in Pacifica, Princeton and Half Moon Bay.
- Extend multi-purpose bike and walking trails connecting the project to parks and services. These trails may include the trail to the Post Ridge property and the multipurpose trail along Airport Street and Princeton.

Table IV.M-9
Office Park Required Parking Spaces*

Proposed Use	Area (sf)	Average Trip Rate[1]	Office Trip Equivalency Ratio[2]	Equivalent Office Space (sf)[3]	Parking Spaces Required[4] (200 sf/space)	Parking Exception[5] (250 sf/space)
General Office	90,000	11.01	1.0	90,000	450	360
Research & Development	56,250	8.11	.74	41,625	208	167
Storage	33,750	3.56	.33	11,138	0	45
Manufacturing	45,000	3.82	.35	15,750	79	63
Total	**225,000**	–	–	**158,513**	**737**	**635**

Notes: sf = square feet.
**Proposed Office Park would provide 640 parking spaces.*
[1] *Rates are based on the ITE Trip Generation Manual, 8th Edition's average rates.*
[2] *The ratio of vehicle trips for different commercial uses as compared to General Office uses (General Office calculates by dividing 11.01 rate by itself, ratio equaling 1.0; Research & Development calculates by dividing 8.11 rate by 11.01, ratio equaling 0.74; Storage calculates by dividing 3.56 rate by 11.01, ratio equaling 0.33; and Manufacturing calculates by dividing 3.82 rate by 11.01, ratio equaling 0.35.*
[3] *The equivalent office space was calculated by multiplying the office trip equivalency ratio by the proposed use area (sf) to quantify the equivalent office space area (sf) that would generate the requirement of parking spaces.*
[4] *Current County Parking Ordinance is one space for every 200 sf of office space (or equivalent office space), 793 parking spaces are required.*
[5] *Parking exception of one space for every 250 sf of equivalent office space, 634 parking spaces are required.*

Source: Big Wave, LLC, Facilities Plan: Draft #2, Big Wave Property, January 2009.
Big Wave Office Park and Wellness Center Traffic Report, prepared by Hexagon Transportation Consultants, Inc., June 24, 2009.

Table IV.M-10 illustrates the parking spaces proposed for the Wellness Center (southern parcel), which includes 73 parking spaces to accommodate the live-in staff (caregivers and employees), guests, and service areas (i.e., pick-up/drop-off services). It was assumed for the Wellness Center's parking requirements that all Wellness Center employees (special needs individuals and staff) would live at the

Center, and that the special needs residents would not drive or require parking accommodations. It is expected that approximately 10 handicap parking spaces would be available within this parking lot and would be in compliance with ADA requirements. Given the use of the site, an additional 5 handicap spaces may be added.

Table IV.M-10
Wellness Center Proposed Parking Spaces

Proposed Use	Type of Use	Parking Spaces
Residential[1]		
50 units	50 special needs individuals do not drive	0
20 units	20 live-in staff (caregivers and employees)	20
Storage	Pick-up/drop-off services	10
Community Center (pool and fitness center)	Guests	33
Services (laundry, dog grooming, maintenance/janitorial)	Pick-up/drop-off services	10
	Total Proposed Parking Spaces	**73**

[1]The residential unit configurations may vary; however for the DEIR impact analysis, a worst case scenario of a maximum of 70 residential units with 70 residents is used.

Source: Big Wave, LLC, Facilities Plan: Draft #2, Big Wave Property, January 2009. Email correspondence with applicant, Scott Holmes, July 28, 2009.

All project-associated parking would be provided onsite, would follow appropriate County parking requirements, and the parking exception request would be subject to County approval; therefore, the project would not result in inadequate parking capacity and impacts would be ***less than significant*** and no mitigation measures are required.

Impact TRANS-6 Transit Service

The transit service in the project vicinity is minimal. As mentioned previously, this area is serviced by only one route (Route 17) which provides 1-2 hour headways. However, the proposed project would not generate a need for additional transit service. Assuming a transit mode share of five percent, the new development would add 15 and 13 potential new transit trips during the AM and PM peak-hours, respectively. It is expected that these additional riders could be accommodated by the existing transit service. As mentioned above, the project proposes to develop bus stops and shuttle services for residents and visitors. Therefore, impacts related to transit services would be ***less than significant*** and no mitigation measures are required.

Impact TRANS-7 Pedestrian and Bicycle Facilities

As discussed above, the project area is somewhat rural and there are generally no sidewalks in the project vicinity. Airport Street has minimal fronting development, with no existing need for sidewalks. The project would develop sidewalks and islands within the site to accommodate pedestrian traffic. In addition, onsite walkways and a trail system would provide circulation within the proposed Office Park

and Wellness Center properties. The proposed project would develop a pedestrian path along the project frontage on Airport Street. It is recommended that the applicant extend a sidewalk from the project frontage to the transit stop located on Airport Street near the La Granada Avenue intersection to facilitate and encourage transit usage by both residents and visitors.

Within the vicinity of the project site there are designated bike routes. It is reasonable to assume that bicycle trips will comprise no more than five percent of the travel mode share to the site during the peak commute periods. This would equate to 22 and 17 new bicycle trips during the AM and PM peak-hours, respectively. These volumes of bicycle trips are not expected to exceed the bicycle-carrying capacity of streets surrounding the site, and the increase in bicycle trips is not expected to require new offsite bicycle facilities.

Furthermore, and prior to approval, the proposed internal and connecting pedestrian and bicycle system is subject to design review by the County to ensure that a safe movement of people is maintained. Therefore, overall impacts related to pedestrian and bicycle facilities would be ***less than significant*** and no mitigation measures are required.

Impact TRANS-8 Construction

Construction activities have the potential to add construction traffic to the street network in the vicinity of the project site. Construction activities are temporary by nature and project-related construction activities are not expected to cause a substantial disruption to roadway capacity. To fully complete the Wellness Center and Office Park development, the project's construction time schedule is anticipated to last between 30 and 36 months. Construction activities would occur in phases and would be required to comply with applicable County construction standards. The proposed project would not import or export any soil and grading would be balanced on the project site, eliminating truck haul-trips on regional roads. County and emergency services would be notified of any restrictions on any roadways, alternative emergency routes, and detours due to construction activities of the project. Therefore, impacts related to construction traffic would be ***less than significant*** and no mitigation measures are required.

While traffic impacts during construction would be less than significant, the following mitigation measure is recommended to further reduce adverse construction traffic impacts:

Mitigation Measure TRANS-8 Construction

Prior to issuance of grading permits, the applicant shall also submit a traffic control plan to the County Department of Public Works for review and approval. All staging during construction shall occur onsite.

Impact TRANS-9 Intersection Levels of Service Under Cumulative Conditions

The results of the LOS analysis under Cumulative Conditions both with and without the project show that all the intersections would operate at LOS C or better under average conditions (see Table IV.M-11). As

mentioned previously, the traffic study performed travel time runs using two different routes to determine the trip distribution patterns for vehicles traveling from the project site to northbound SR 1.

Under cumulative with no project PM peak-hour conditions there would be a 46.0 second delay for the worst-case movement (eastbound left) of the Cypress Avenue at SR 1 intersection. This delay would continue to increase under the project condition scenario. The worst-case delay for this movement would be 177.7 seconds during the PM peak-hour (131.7 seconds more than without the project). As a result, some of the project trips might take the southbound Airport Street route to equalize this delay. However, the traffic analysis found that even if 25 percent of the project traffic took the southbound route as opposed to the northbound route, the delay at the intersection would continue to operate at LOS F for the left turn from Cypress Avenue onto SR 1 and the signal warrant would be met. This would result in a ***significant*** impact.

With implementation of Mitigation Measure TRANS-1 above, cumulative impacts related to project peak-hour traffic volume and intersection LOS would be reduced to a ***less-than-significant*** level. The LOS calculation sheets are included in Appendix J of this DEIR.

Table IV.M-11
Cumulative Intersection Levels of Service

Intersection	Peak-Hour	Cumulative Without Project				Cumulative With Project			
		Average		Worst-Case		Average		Worst-Case	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Prospect & Capistrano	AM	7.1	A	9.3	A	7.5	A	9.6	A
	PM	7.7	A	11.1	B	8.5	A	11.9	B
2. Broadway & Prospect	AM	8.3	A	9.9	A	10.7	A	12.8	B
	PM	8.6	A	11.0	B	12.1	A	16.0	C
3. Airport & Stanford/Cornell	AM	2.1	A	9.7	A	4.8	A	11.0	B
	PM	2.7	A	10.0	A	4.6	A	11.9	B
4. Airport & La Granada	AM	6.7	A	9.3	A	5.0	A	10.2	B
	PM	5.1	A	9.9	A	4.0	A	10.4	B
5. Airport & Los Banos	AM	3.1	A	9.0	A	2.4	A	9.6	A
	PM	1.7	A	9.4	A	1.5	A	9.9	A
6. State Route 1 & Cypress	AM	3.1	A	34.6	D	5.1	A	52.7	F
	PM	3.2	A	46.0	E	18.2	C	177.7	F
7. State Route 1 & Capistrano (South)*	AM	26.0	C	–	–	26.9	C	–	–
	PM	25.5	C	–	–	26.3	C	–	–
8. State Route 1 & Capistrano (North)	AM	0.2	A	17.3	C	0.2	A	17.3	C
	PM	0.7	A	23.2	C	0.7	A	23.2	C

Notes:
** Signalized Intersection*

Source: Hexagon Transportation Consultants, 2009.

Impact TRANS-10 Cumulative Signal Warrant Analysis

The peak-hour signal warrant (MUTCD 2003, Urban Warrant) was checked for the seven currently unsignalized intersections to determine whether signalization would be justified on the basis of cumulative peak-hour volumes. The analysis showed that the study intersection of SR 1 at Cypress Avenue would meet the peak-hour signal warrant under cumulative conditions both with and without the project. The signal warrant analysis sheets are included in Appendix J of this DEIR.

Based on project and cumulative with and without project conditions, the peak-hour signal warrant is met at the intersection of SR 1 at Cypress Avenue. With this improvement, the SR 1/Cypress Avenue intersection would operate at LOS A during both the AM and PM peak-hours. Under signalized conditions, the existing roadway geometry would be adequate to handle the anticipated traffic demand. With implementation of Mitigation Measure TRANS-1, cumulative impacts related to project peak-hour traffic volume and intersection LOS would be reduced to a ***less-than-significant*** level.

Impact TRANS-11 Additional Intersection Analysis

At the request of the project applicant, Hexagon Transportation Consultants, Inc. also analyzed two additional intersections as a supplement to the traffic impact analysis provided above for the proposed project. The two additional intersections analyzed are as follows:

- Highway 92 at Highway 1
- Highway 92 at Main Street

These intersections were added to the analysis in order to determine whether the project would be beneficial by reducing the traffic that currently travels over the hill on Highway 92 for employment. This potential benefit is based on the idea that the new office development associated with the project would provide jobs for Half Moon Bay residents who currently travel outside the project area to work. These two study intersections were analyzed for the existing, background, project and cumulative conditions for both the AM and PM peak period. Existing AM and PM peak hour turning movement counts for the study intersections were obtained from the City/County Association of Governments of San Mateo County (C/CAG) and lane configurations were determined from aerial photographs. A signal cycle length of 90 seconds was assumed for both study intersections.

Traffic Volumes

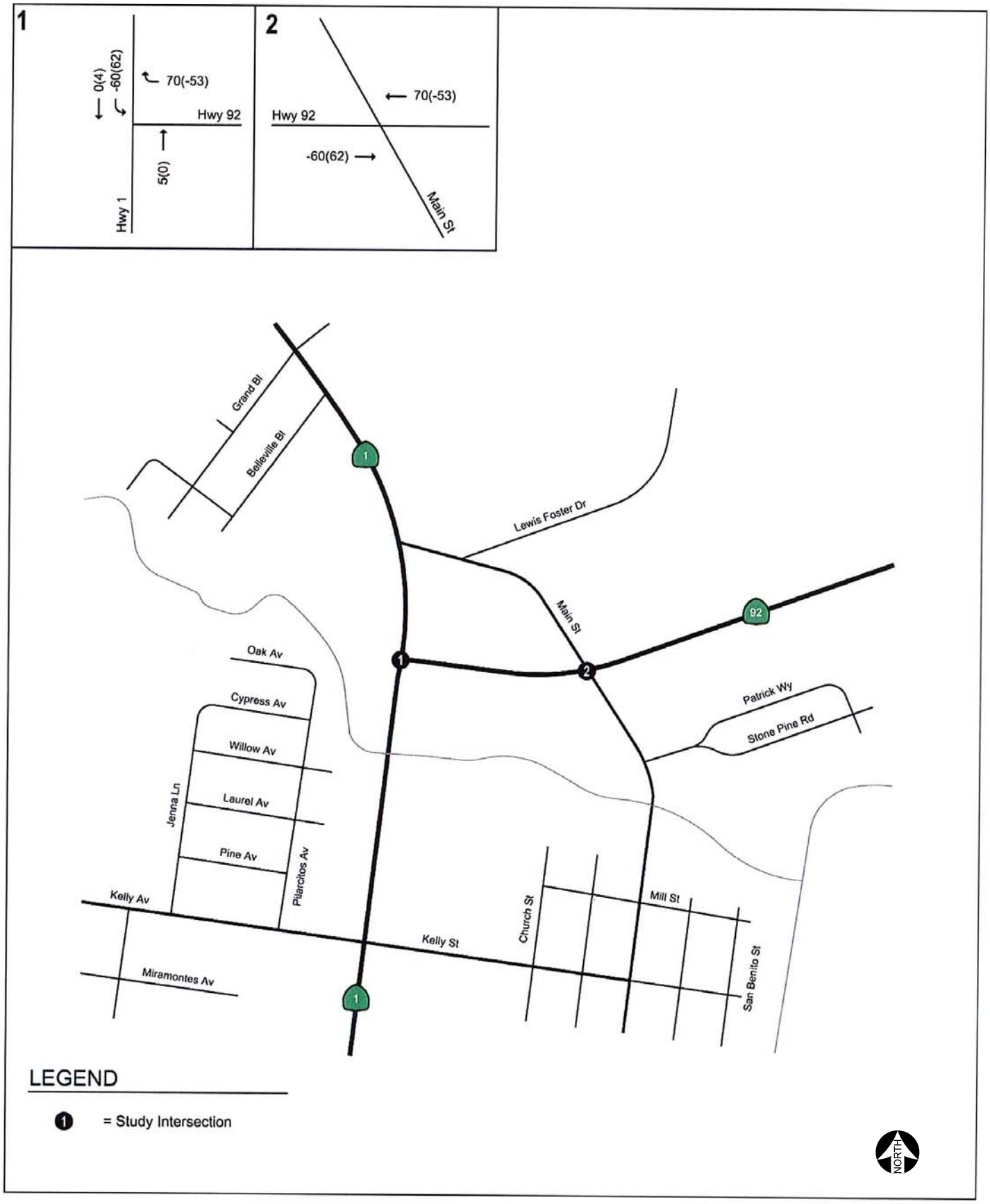
Existing AM and PM turning movement counts were obtained from the C/CAG of San Mateo County (see Appendix J). These counts were taken on March 25, 2009. Background volumes were determined by adding to existing volumes the estimated traffic from approved but not yet constructed developments. The approved development list was obtained from the County of San Mateo. The traffic added to the study intersections from approved but not yet constructed developments was estimated by distributing and assigning trips generated by these developments to the roadway network. Traffic volumes under

cumulative conditions were estimated by applying to the existing volumes an annual growth rate of one percent for twenty years based on standard traffic engineering practice, then adding the trips from approved developments and the project.

Project Traffic Estimates

The office use portion of the project would add a service not currently available in the project vicinity, potentially providing employment for residents who typically travel to jobs in other areas. Thus, this land use could reduce traffic currently traveling southbound on Highway 1 to Highway 92 and then over the hill to 1- 280. The trip distribution pattern for the proposed project was estimated based on existing travel patterns on the surrounding roadway system and the locations of complementary land uses. The office, R&D and light manufacturing portions of the project were distributed through the two new study intersections. The difference between the trip distribution in this supplemental traffic analysis and the original traffic impact analysis completed can be attributed to the distance between the intersections studied in this analysis and the project site (approximately four miles).

According to the Year 2000 U.S. Census, 53 percent of employees in the project vicinity travel from outside the area to work in the Half Moon Bay area and 47 percent of employees in the project vicinity live within the Half Moon Bay area. These percentages were applied to the office portion of the proposed project. There are 214 AM trips and 191 PM trips projected for the office land use. Therefore, it was assumed that 101 (47 percent) employee trips in the AM and 90 (47 percent) employee trips in the PM would be attributed to residents of Half Moon Bay. As a result, these employees of the proposed project would no longer have to travel outside of the Half Moon Bay area for employment. For purposes of this analysis, these trips were then subtracted from existing trips travelling out of the project vicinity via Highway 92 and northbound Highway 1. As outlined above in the original traffic impact analysis, approximately 39 percent of the project trips are traveling to/from the south on Highway 1. See Figure IV.M-15 for the project trip assignment.



Source: Hexagon Transportation Consultants, October 8 2009.

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Environmental Planning and Research

Figure IV.M-15
Project Trip Volumes (Additional Intersection Analysis)

Intersection Impacts

As shown in Table IV.M-12, the two study intersections would operate at acceptable levels of service under project conditions. The intersection of Highway 92 and Highway 1 operates at LOS C under project conditions during both peak hours (AM and PM). The intersection of Highway 92 at Main Street operates at LOS D during both the AM and PM peak hour. Under cumulative conditions with and without the project, the Highway l/Highway 92 intersection will operate at LOS C during the AM peak hour. During the PM peak hour, this intersection will operate at LOS C without the project and LOS D with the project under cumulative conditions. The intersection of Highway 92 at Main Street operates at LOS F both with and without the project under both peak hours. The proposed project would reduce traffic traveling over the hill on Highway 92 for employment by 60 eastbound trips in the AM peak hour and 53 westbound trips in the PM peak hour. Impacts would be ***less than significant*** and no mitigation measures are required.

Table IV.M-12
Intersection Levels of Service Summary

Intersection	Peak-Hour	Existing		Background		Project		Cumulative Without Project		Cumulative With Project	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Highway 1 at Highway 92*	AM	25.9	C	26.1	C	25.4	C	31.8	C	29.3	C
	PM	29.6	C	29.9	C	30.9	C	34.6	C	35.9	D
Highway 92 at Main Street*	AM	48.3	D	51.0	D	44.2	D	96.6	F	81.2	F
	PM	52.3	D	54.9	D	50.0	D	100.6	F	88.7	F

Notes:
** Signalized Intersection*

Source: Hexagon Transportation Consultants, October 8, 2009.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be ***less than significant***.