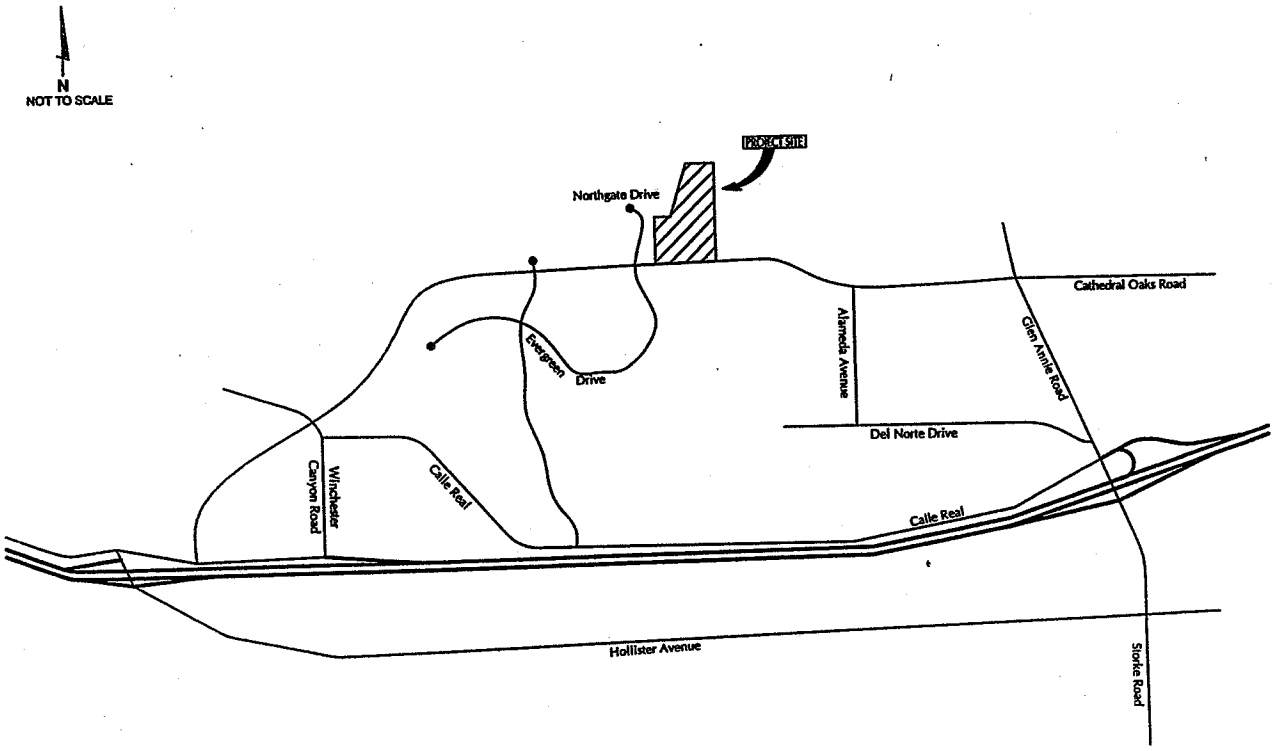
APPENDIX E
TRAFFIC AND CIRCULATION STUDY FOR THE 7400 CATHEDRAL OAKS ROAD PROJECT: CITY OF GOLETA, CA

7400 CATHEDRAL OAKS ROAD PROJECT
CITY OF GOLETA, CALIFORNIA

TRAFFIC AND CIRCULATION STUDY



February 23, 2011 **ATE #10086**

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TRAFFIC AND CIRCULATION STUDY FOR THE
7400 CATHEDRAL OAKS ROAD PROJECT - CITY OF GOLETA, CA

Associated Transportation Engineers (ATE) has prepared the following traffic and circulation study for the 7400 Cathedral Oaks Road Project, located in the City of Goleta. The study addresses potential traffic and circulation impacts associated with the project and identifies improvements where appropriate.

Associated Transportation Engineers

Scott A. Schell, AICP, PTP
Principal Transportation Planner

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INTRODUCTION

The following report contains an analysis of the potential traffic and circulation impacts associated with the 7400 Cathedral Oaks Road Project. The report provides information regarding existing and future traffic conditions within the project study-area, and recommends improvements where necessary. The report also contains an analysis of the site access and circulation plan. The scope of work included in the study was developed based on input from City staff.

PROJECT DESCRIPTION

The project is proposing to develop a vacant site, located at 7400 Cathedral Oaks Road, in the western area of the City of Goleta, with 60 single family dwelling units. Figure1 presents the location of the project site within the City. Access to the project site would be provided via two new roadway connections to Cathedral Oaks Road. A new loop road would be constructed to provide internal circulation throughout the site. Figure 2 presents the project site plan.

EXISTING CONDITIONS

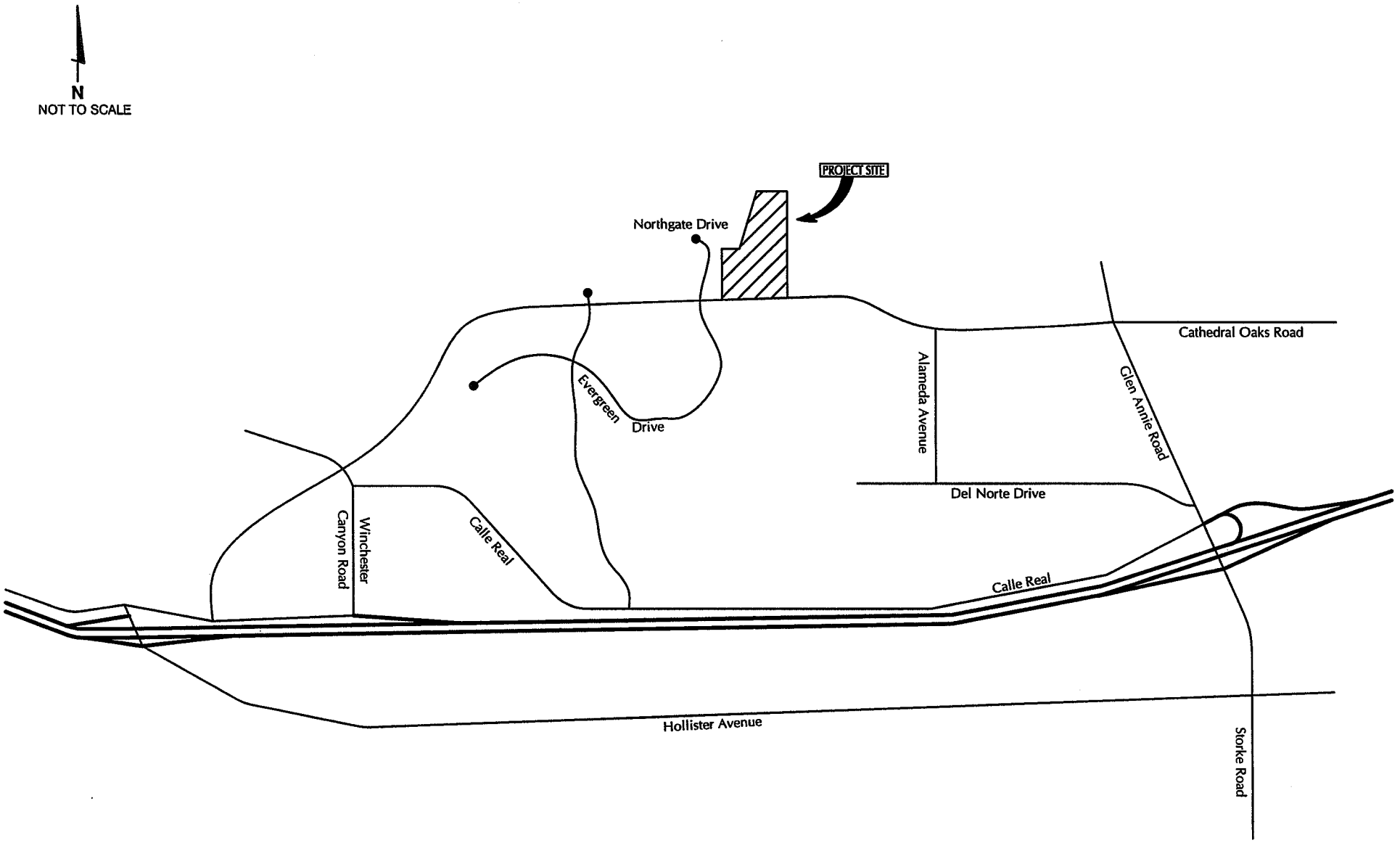
Street Network

The project site is served by a network of highways, arterial streets and collector streets, as illustrated in Figure 1. The following text provides a brief discussion of the major components of the study-area street network.

U.S. Highway 101, located south of the project site, is a multi-lane interstate freeway serving the Pacific Coast between Los Angeles and the state of Washington. U.S. Highway 101 is the principal route between the City of Goleta and the adjacent cities of Santa Barbara, Carpenteria, and Ventura to the south; and the cities of Buellton and Santa Maria to the north. Access from the site to U.S. Highway 101 would be provided via the Glen Annie-Storke Road interchange located east of the project site and the Hollister Avenue interchange located west of the site. It is noted that, at the time this report was published, construction was underway on the U.S. Highway 101/Hollister Avenue interchange project. A detailed discussion of the proposed modifications interchange is provided in the Cumulative Analysis section of this report.

Cathedral Oaks Road is a two- and four-lane arterial roadway located along the project's southern frontage. This east-west roadway extends from Goleta to Santa Barbara, providing an alternative travel route to U.S. Highway 101 and Hollister Avenue.

Storke Road-Glen Annie Road, located east of the project site, is a 2-4 lane north-south arterial roadway that extends between Cathedral Oaks Road on the north and El Colegio Road on the south. Storke Road provides freeway access to the western portion of the Goleta Valley area via an interchange at U.S. Highway 101. North of the interchange, Storke Road becomes Glen Annie Road and extends as a 2-lane road north of Cathedral Oaks Road.



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EXISTING STREET NETWORK AND PROJECT LOCATION

FIGURE 1

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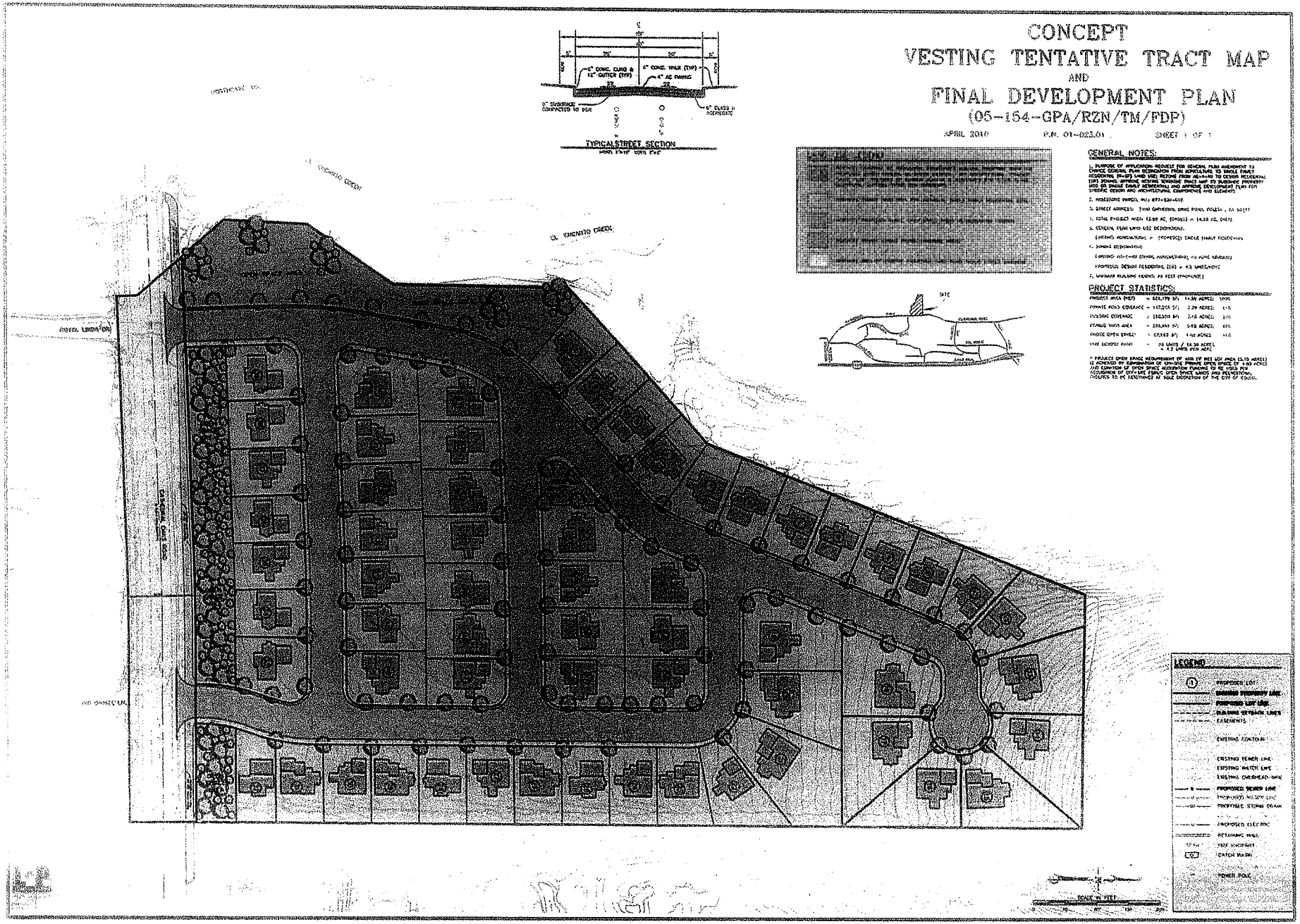

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PROJECT SITE PLAN

FIGURE 2

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Hollister Avenue, located south of U.S. Highway 101, is a 2- to 4-lane east-west arterial which extends easterly from its terminus at the U.S. Highway 101/Hollister Avneue interchange through the community of Goleta, connecting with State Street in the City of Santa Barbara. Hollister Avenue serves as the major alternative east-west travel route to U.S. Highway 101 in the Goleta Valley area.

Calle Real, located south of the project site, is an east-west arterial with 2 travel lanes between Winchester Canyon Road and Glen Annie Road. Calle Real provides direct access from U.S. Highway 101 for the western portion of the Goleta Valley with an off-ramp at Winchester Canyon Road.

Winchester Canyon Road, located west of the project site, is a two-lane road that provides access between the U.S. Highway 101 northbound off-ramp and Cathedral Oaks Road.

Roadway Operations

Figure 3 illustrates the existing average daily traffic (ADT) volumes for the key roadways in the study area. The ADT volumes were obtained from traffic counts conducted in January 2011 for this study as well as counts collected in November 2009. The operational characteristics of the study-area roadways were analyzed based on the City of Goleta engineering roadway design capacities (summarized in the Technical Appendix). Table 1 shows the existing ADT volumes and the acceptable capacity thresholds for the key roadways in the project study area.

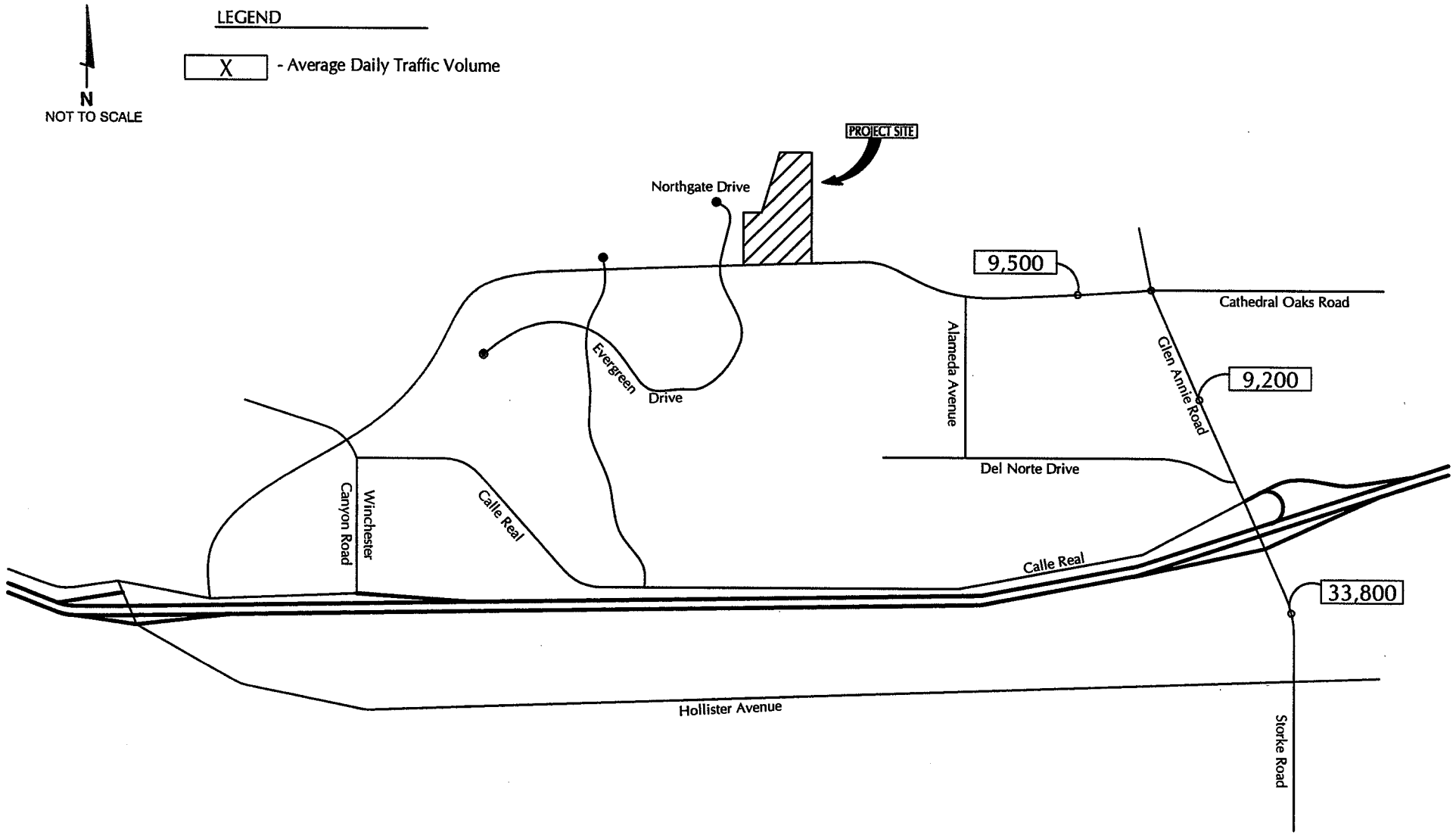
Table 1
Existing Average Daily Roadways Volumes

Roadway Segment	Roadway Classification	Geometry	Acceptable Capacity	Existing ADT
Cathedral Oaks w/o Glen Annie Road	Major Arterial	2-Lane	14,300	9,500
Glen Annie Road n/o U.S. Highway 101	Major Arterial	2-Lane	14,300	9,200
Storke Road s/o U.S. Highway 101	Major Arterial	4-lane	34,000	33,800

The data presented in Table 1 shows that the study-area roadways currently carry volumes within the City's acceptable capacity designations for arterial roadways.

Intersection Operations

Because traffic flow on urban arterials is most constrained at intersections, detailed traffic flow analyses focus on the operating conditions of critical intersections during peak travel periods. In rating intersection operations, "Levels of Service" (LOS) A through F are used, with LOS A indicating free flow operations and LOS F indicating congested operations (more complete definitions of levels of service are included in the Technical Appendix). The City of Goleta considers LOS C as the minimum acceptable operating standard for all intersections, with the exception of the Storke Road/Hollister Avenue intersection, where LOS D is considered acceptable.



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EXISTING AVERAGE DAILY TRAFFIC VOLUMES

FIGURE 3

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Figure 4 presents the intersections analyzed in this study and illustrates the existing traffic controls and lane geometries. Existing A.M. and P.M. peak hour volumes were collected for the study-area intersections in October of 2009 and in January 2011 for this study (traffic count data is contained in the Technical Appendix for reference). Existing A.M. and P.M. peak hour traffic volumes for the study-area intersections are shown on Figures 4 and 5.

Levels of service were calculated for the signalized study-area intersections using the "Intersection Capacity Utilization" (ICU) methodology. Levels of service for the unsignalized intersections were calculated using the methodology outlined in the Highway Capacity Manual (HCM).[1] Table 2 lists the existing traffic control and levels of service for the study-area intersections (calculation worksheets are contained in the Technical Appendix).

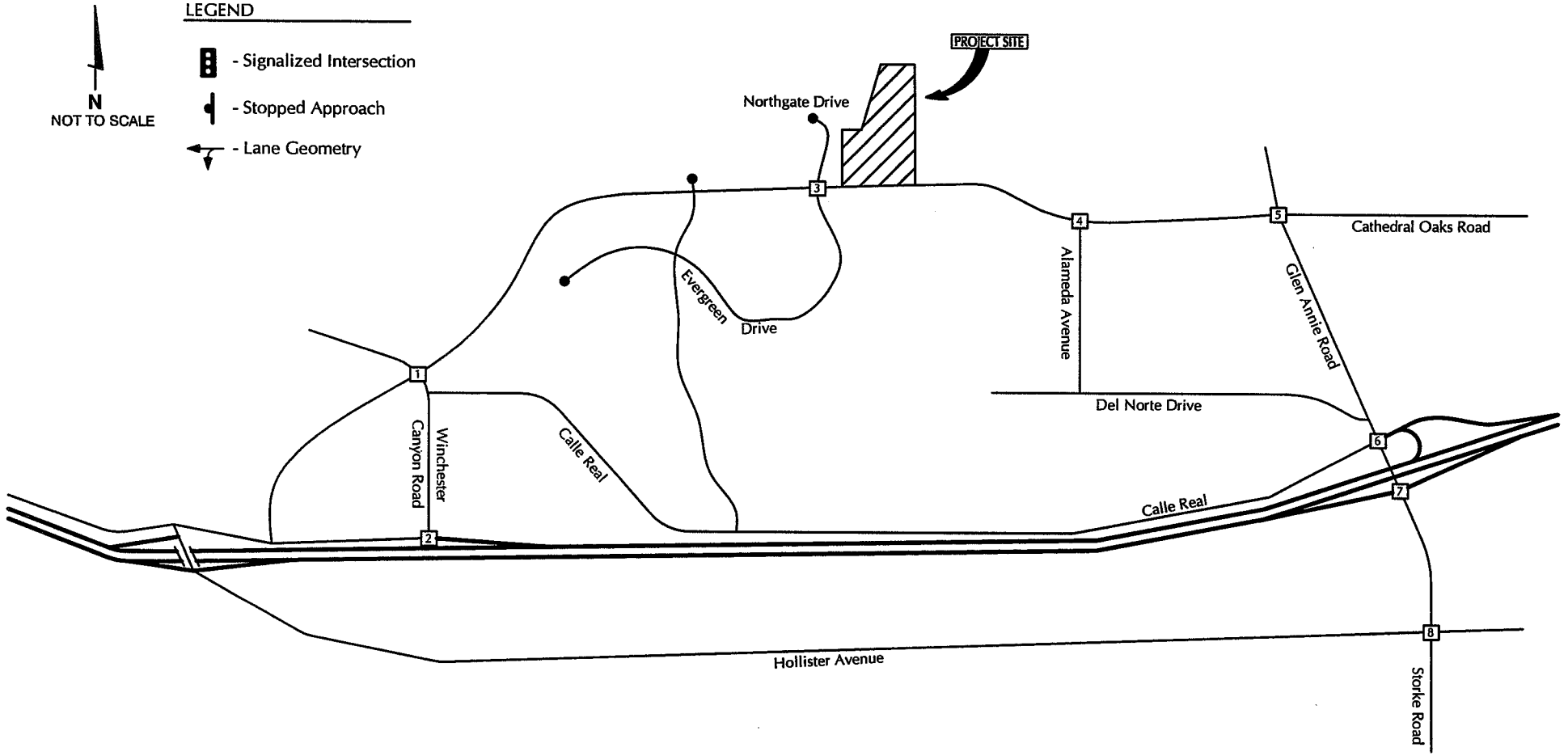
Table 2
Existing Intersection Levels of Service

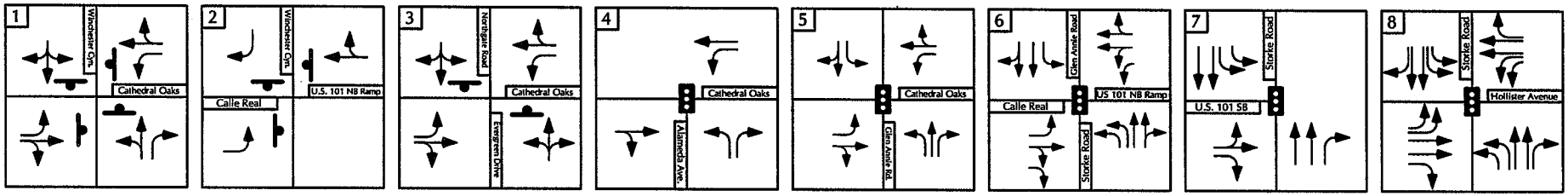
Intersection	Control	A.M. Peak		P.M. Peak	
		ICU	LOS	ICU	LOS
Cathedral Oaks Road/Winchester Canyon Road (a)	4-Way Stop	8.9 sec.	A	8.2 sec.	A
U.S.101 NB- Calle Real/Winchester Canyon Rd. (a)	2-way Stop	8.0 sec.	A	8.7 sec.	A
Cathedral Oaks Road/Northgate Dr.-Evergreen Dr. (a)	2-way Stop	11.4 sec.	B	8.9 sec.	A
Cathedral Oaks Road/Alameda Avenue	Signal	0.50	A	0.28	A
Cathedral Oaks Road/Glen Annie Road	Signal	0.75	C	0.55	A
U.S. 101 NB Ramps-Calle Real/Storke Road	Signal	0.71	C	0.69	B
U.S. 101 SB Ramps/Storke Road	Signal	0.78	C	0.76	C
Hollister Avenue/Storke Road	Signal	0.61	B	0.74	C

(a) Unsignalized Intersection. LOS based on average weighted delay in seconds per vehicle.

The data presented in Table 2 show that all of the study-area intersections operate at LOS C or better during the A.M. and P.M. peak hours. These levels of service are considered acceptable based on the City's LOS C operating standard.

[1] Highway Capacity Manual , Transportation Research Special Report 209, National Research Council, 2000.





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EXISTING TRAFFIC CONTROL AND LANE GEOMETRIES

FIGURE 4

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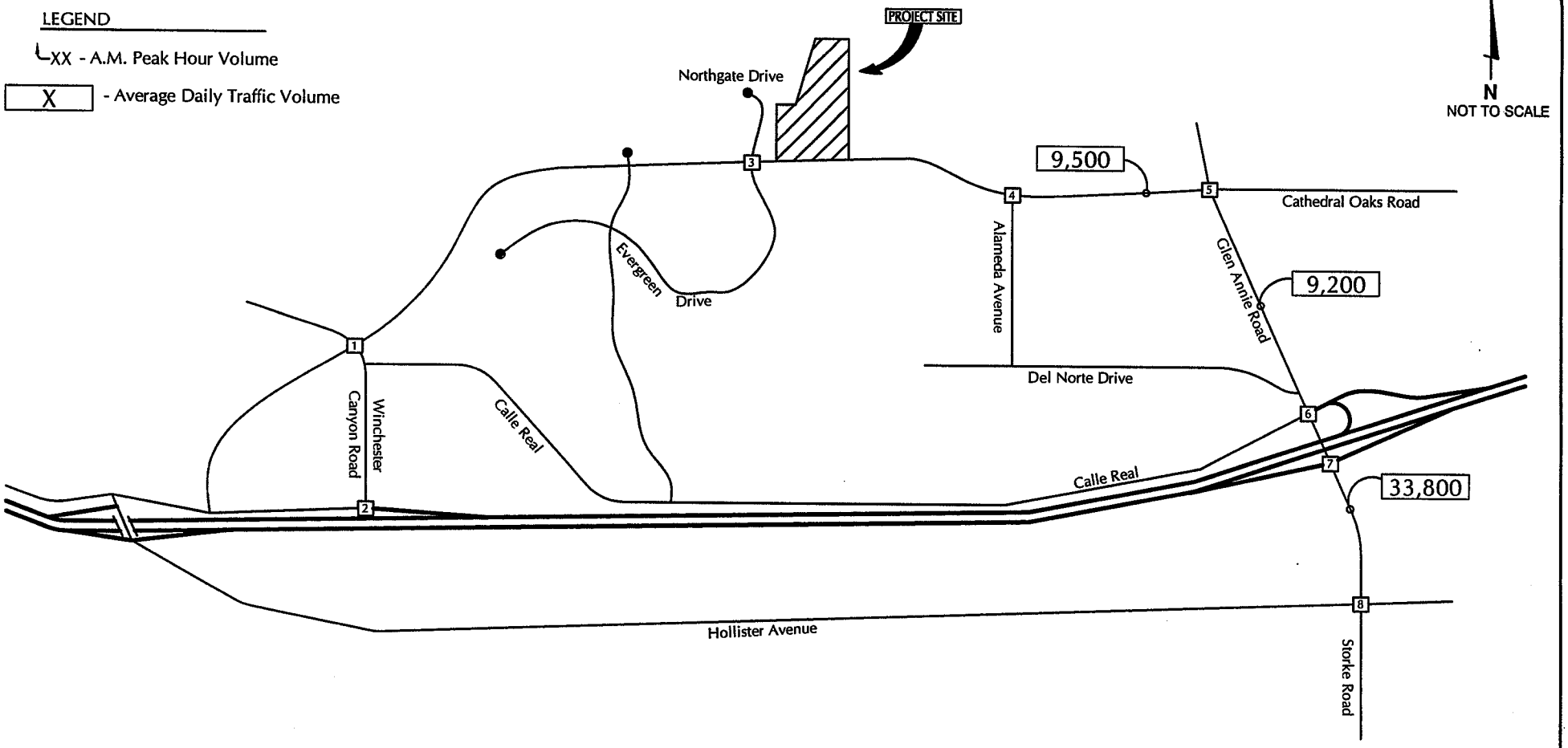

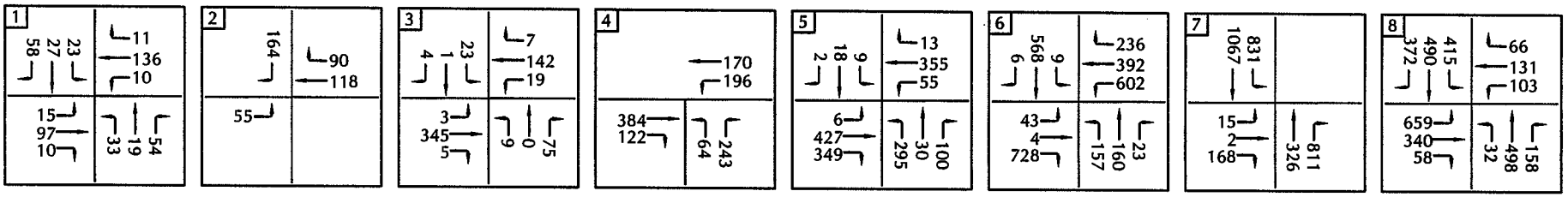

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EXISTING A.M. PEAK HOUR TRAFFIC VOLUMES

FIGURE 5

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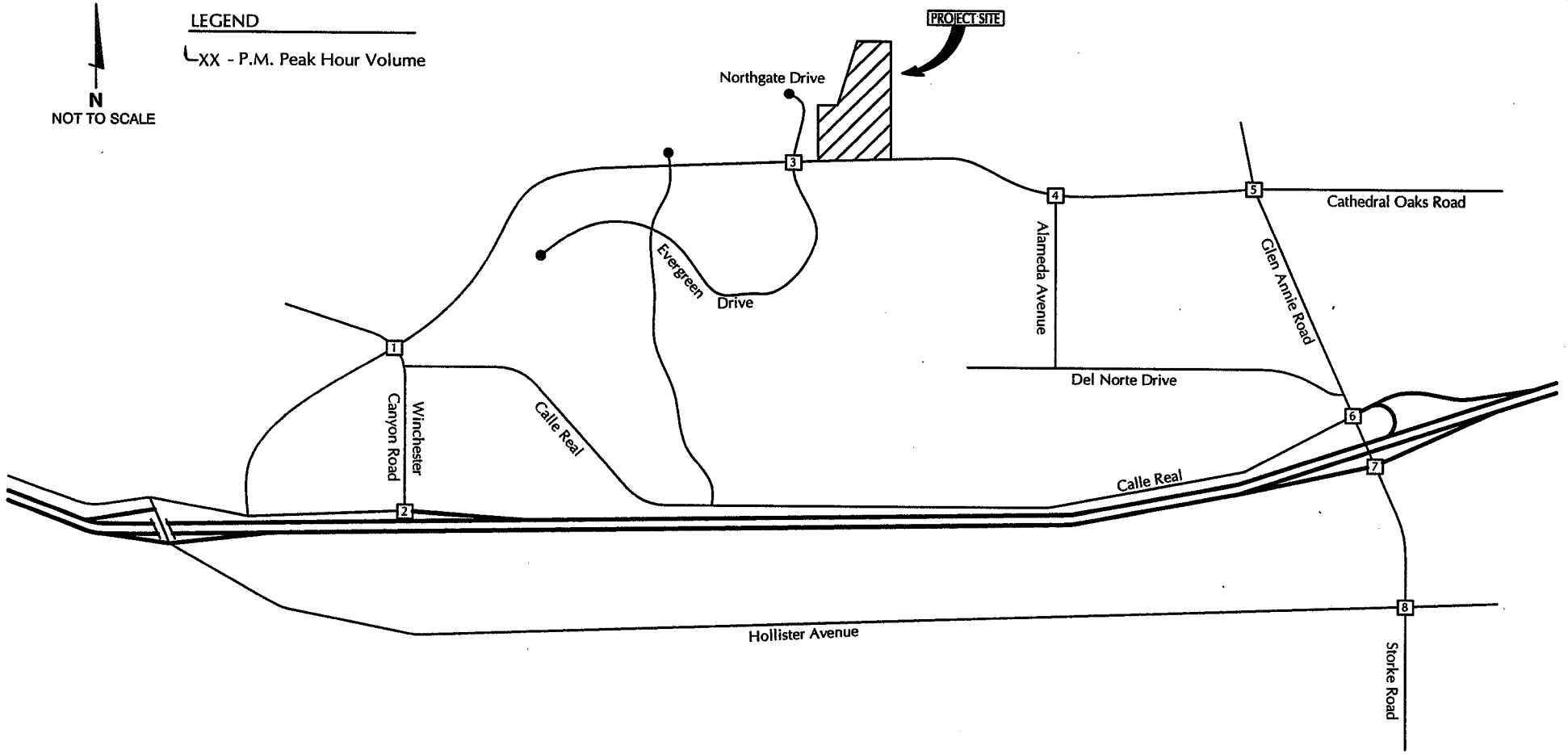

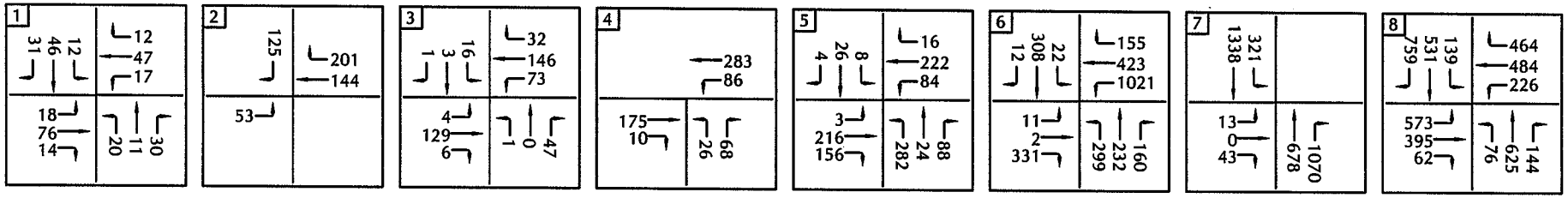

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EXISTING P.M. PEAK HOUR TRAFFIC VOLUMES

FIGURE 6

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THRESHOLDS OF SIGNIFICANCE

The City of Goleta traffic impact thresholds were used to assess the project's potential impacts. The thresholds are listed below.

A. The project will result in a significant impact on transportation and circulation if proposed project traffic increases the volume to capacity (V/C) ratio at local intersections by the values provided in the following table:

Significant Changes In Levels Of Service	
Intersection Level of Service (Including Project)	**Increase in V/C or Trips Greater Than**
LOS A	0.20
LOS B	0.15
LOS C	0.10
LOS D	15 Trips
LOS E	10 Trips
LOS F	5 Trips

B. The project's access to a major road or arterial road would require access that would create an unsafe situation, a new traffic signal, or major revisions to an existing traffic signal.

C. The project would add traffic to a roadway that has design features (e.g., narrow width, road-side ditches, sharp curves, poor sight distance, inadequate pavement structure) that would become a potential safety problem with the addition of project traffic.

D. Project traffic would utilize a substantial portion of an intersection's capacity where the intersection is currently operating at acceptable levels of service, but with cumulative traffic would degrade to or approach LOS D (V/C 0.80) or lower. Substantial is defined as a minimum change of 0.03 for an intersection which would operate from 0.80 to 0.85, a change of 0.02 for an intersection which would operate from 0.86 to 0.90 and a change of 0.01 for an intersection which would operate greater than 0.90 (LOS E or worse).

In addition to the CEQA impact thesholds, the City of Goleta has developed the administrative policy of defining a significant roadway impact if a project would increase traffic volumes by more than 1.0% (either project-specific or project contribution to cumulative impacts) on roadways that currently exceed the Acceptable Capacity or are forecast to exceed the Acceptable Capacity under cumulative conditions.

PROJECT-SPECIFIC ANALYSIS

Project Trip Generation

The project is proposing to develop a traditional style neighborhood with 60 single family homes. Trip generation estimates were calculated for the project based on the rates presented in the Institute of Transportation Engineers (ITE) Trip Generation Manual.[2] The rates for Single Family Detached Housing units (Land Use Code 210) were used to forecast project traffic (trip generation calculations were reviewed and approved by City staff). Table 3 presents trip generation estimates developed for the 7400 Cathedral Oaks Road Project.

Table 3
Project Trip Generation

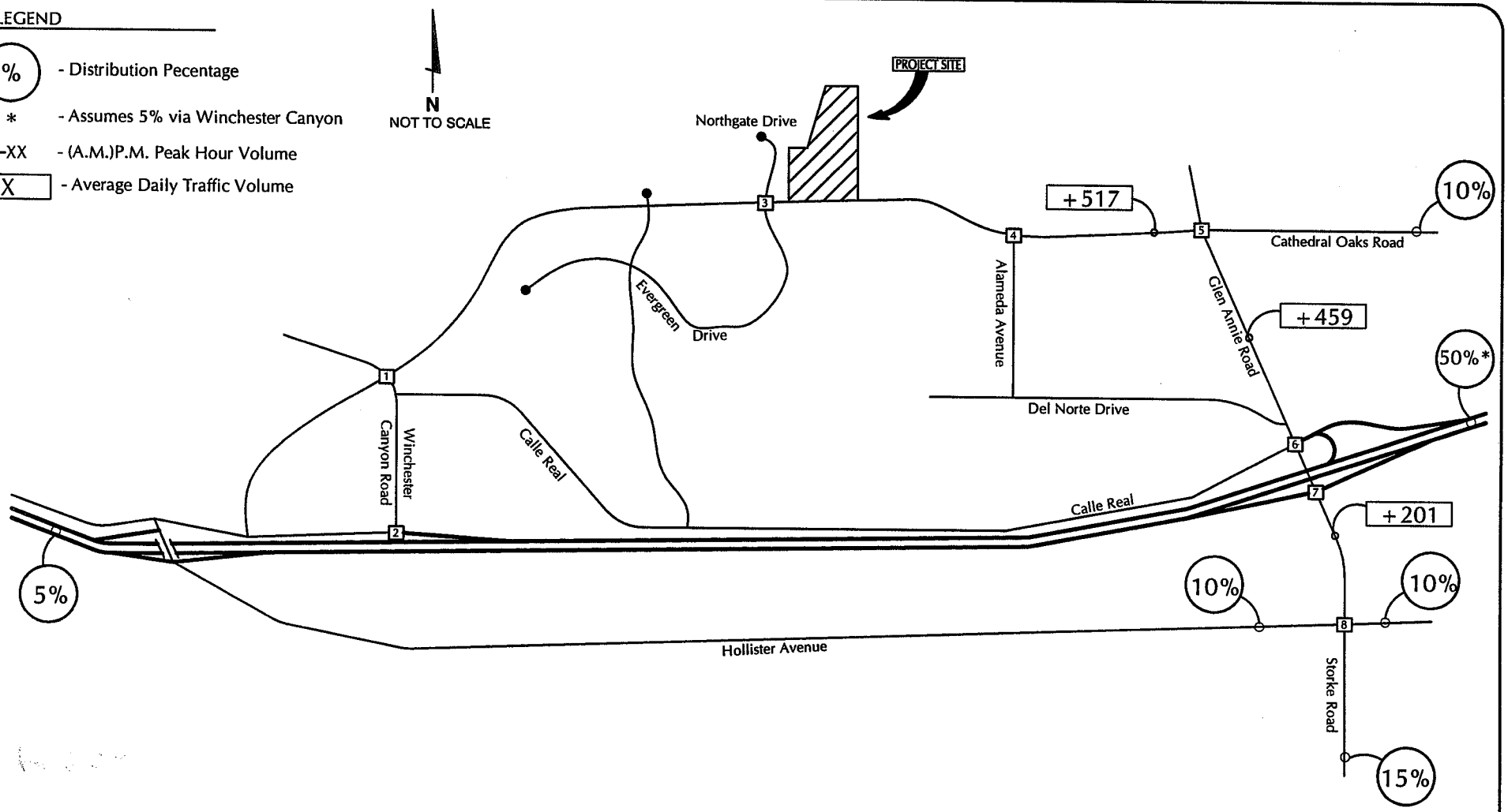
Land Use	Size	Average Daily		A.M. Peak Hour		P.M. Peak Hour	
		Rate	Trips	Rate	Trips (In/Out)	Rate	Trips (In/Out)
Single Family Homes	60 Units	9.57	574	0.75	45 (11/34)	1.01	61 (39/22)

The data presented in Table 1 indicate that the project would generate 574 average daily trips, 45 A.M. peak hour trips and 61 P.M. peak hour trips.

Trip Distribution

Trip distribution percentages were developed for the project based on existing traffic flows and consideration of the retail, school and employment centers in the surrounding area (trip distribution parameters were reviewed and approved by City staff). Table 4 and Figure 7 show the trip distribution percentages developed for the project. The project-added traffic volumes are also presented on Figure 7.

[2] Trip Generation, Institute of Transportation Engineers, 8th edition, 2008.



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PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

FIGURE 7

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Table 4
Trip Distribution Percentages

Origin/Destination	Direction	Percentage
U.S. Highway 101 - Via Hollister Avenue Interchange - Via Hollister Avenue Interchange - Via Storke Road Interchange	 West East East	 5% 5% 45%
Cathedral Oaks Road	East	10%
Hollister Avenue	East of Storke Road West of Storke Road	15% 10%
Storke Road	South of Hollister Ave	10%
Total		**100%**

Existing + Project Roadway Operations

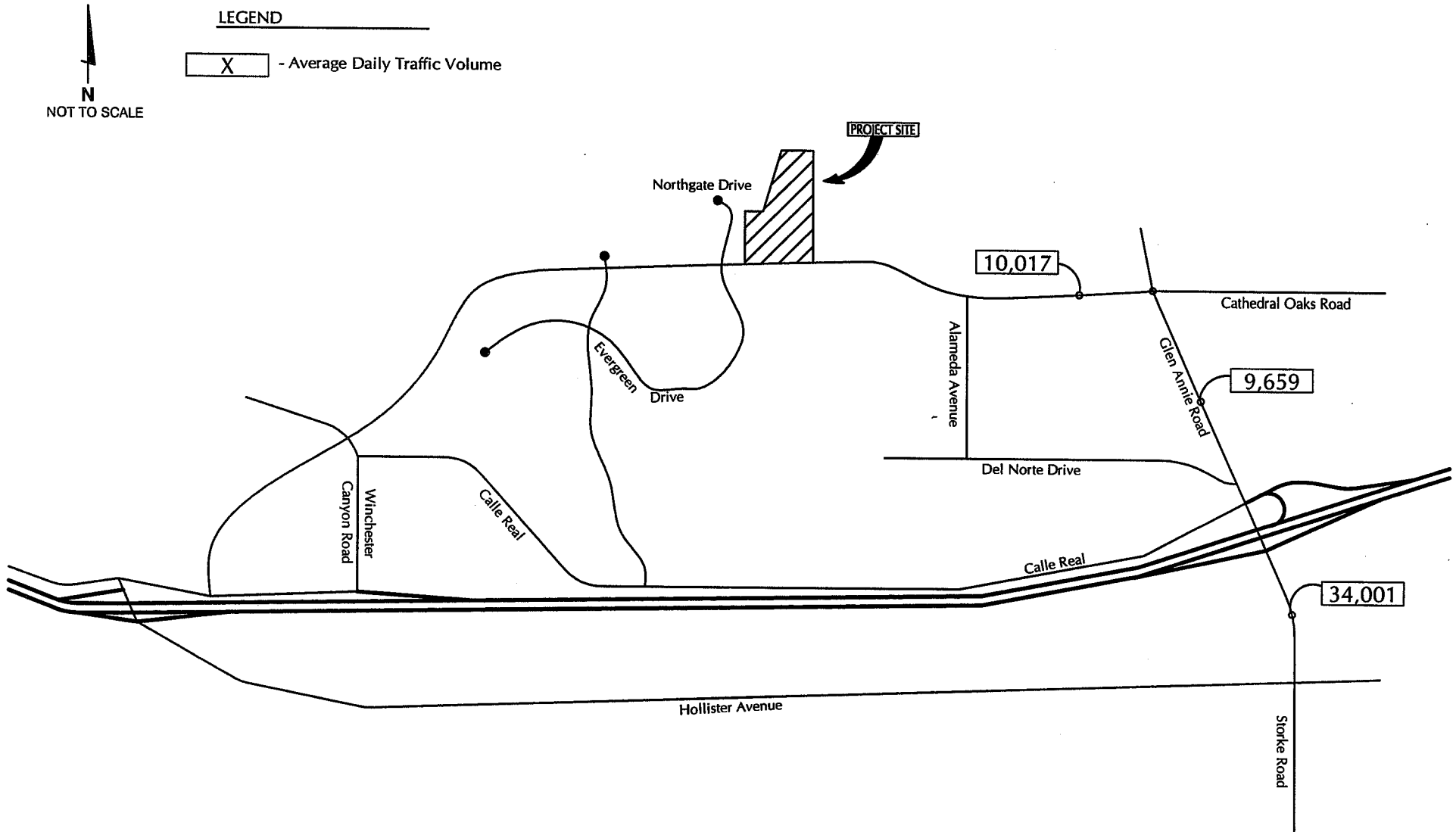
Table 5 lists the Existing + Project roadway volumes and identifies the potential impacts of the traffic additions based on the City of Goleta's capacity thresholds. Existing + Project ADT volumes are presented on Figure 8.

Table 5
Existing + Project Roadway Volumes

Roadway Segment	Acceptable Capacity	Existing ADT	EX + Project ADT	% Change	Impact?
Cathedral Oaks w/o Glen Annie Road	14,300	9,500	10,017	5.4%	No
Glen Annie Road n/o U.S. Highway 101	14,300	9,200	9,659	5.0%	No
Storke Road s/o U.S. Highway 101	34,000	33,800	**34,001**	0.6%	No

Bolded Items Exceed Acceptable Capacity.

The data in Table 5 show that the segments of Cathedral Oaks Road west of Glen Annie Road and Glen Annie Road north of U.S. 101 are forecast to carry volumes within their acceptable capacity designations with Existing + Project volumes. The segment of Storke Road south of U.S. Highway 101 is forecast to carry volumes that will exceed the acceptable capacity under Existing + Project conditions. The project would not impact this segment since project-generated traffic would increase the roadway volume by less than 1%.



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EXISTING + PROJECT AVERAGE DAILY TRAFFIC VOLUMES

FIGURE 8

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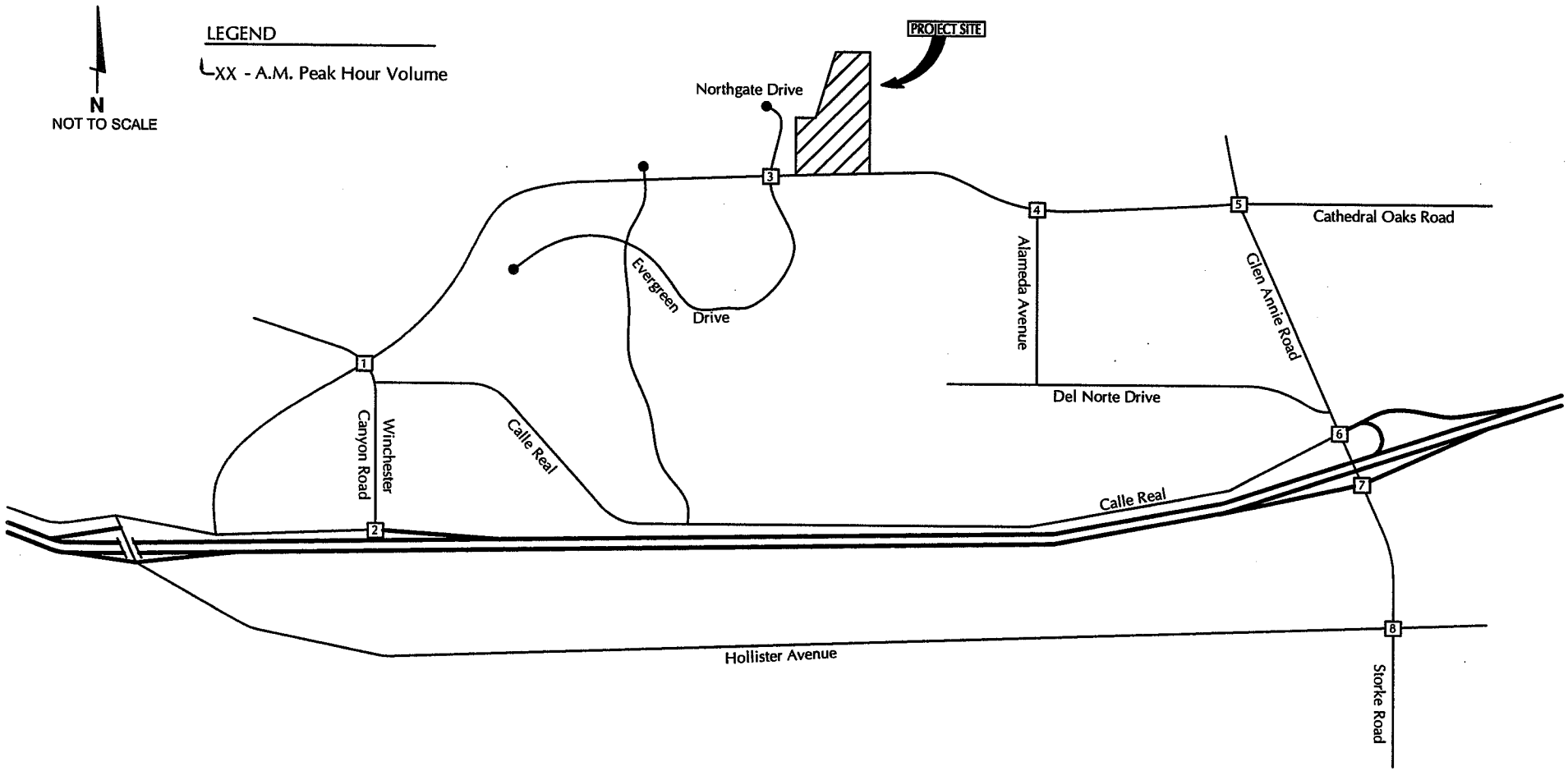
Existing + Project Intersection Operations

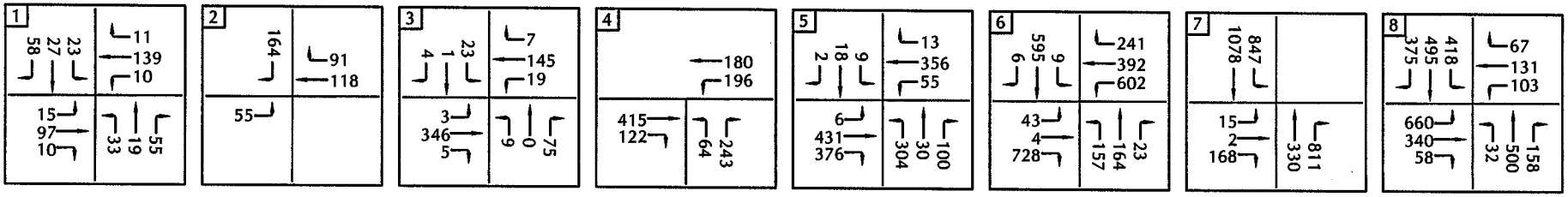
Peak hour levels of service were calculated for the study-area intersections using the Existing + Project traffic volumes presented on Figures 9 and 10. Tables 6 and 7 compare the Existing and Existing + Project levels of service and identify project-specific impacts based on the City's thresholds.

Table 6
Existing + Project A.M. Peak Hour Levels of Service

Intersection	Existing		Existing + Project		Project-Added Trips	Change in V/C	Impact?
	ICU	LOS	ICU	LOS			
Cathedral Oaks Rd./Winchester Cyn. Rd. (a)	8.9 sec.	A	8.9 sec.	A	4 Trips	0.008(b)	No
U.S.101 NB- Calle Real/Winchester Cyn. Rd. (a)	8.0 sec.	A	8.0 sec.	A	1 Trip	0.002(b)	No
Cathedral Oaks Rd./Northgate Drive.-Evergreen Drive. (a)	11.4 sec.	B	11.4 sec.	B	4 Trips	0.006(b)	No
Cathedral Oaks Road/Alameda Avenue	0.50	A	0.52	A	41 Trips	0.018	No
Cathedral Oaks Road/Glen Annie Road	0.75	C	0.77	C	41 Trips	0.021	No
U.S. 101 NB Ramps-Calle Real/Storke Road	0.71	C	0.72	C	36 Trips	0.009	No
U.S. 101 SB Ramps/Storke Road	0.78	C	0.79	C	31 Trips	0.005	No
Hollister Avenue/Storke Road	0.61	B	0.61	B	15 Trips	0.001	No

(a) Unsignalized Intersection. LOS based on average weighted delay in seconds per vehicle.
(b) V/C ratio does not apply to unsignalized locations. Value shown correlates to % change in entering traffic volumes.





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EXISTING + PROJECT A.M. PEAK HOUR TRAFFIC VOLUMES

FIGURE 9

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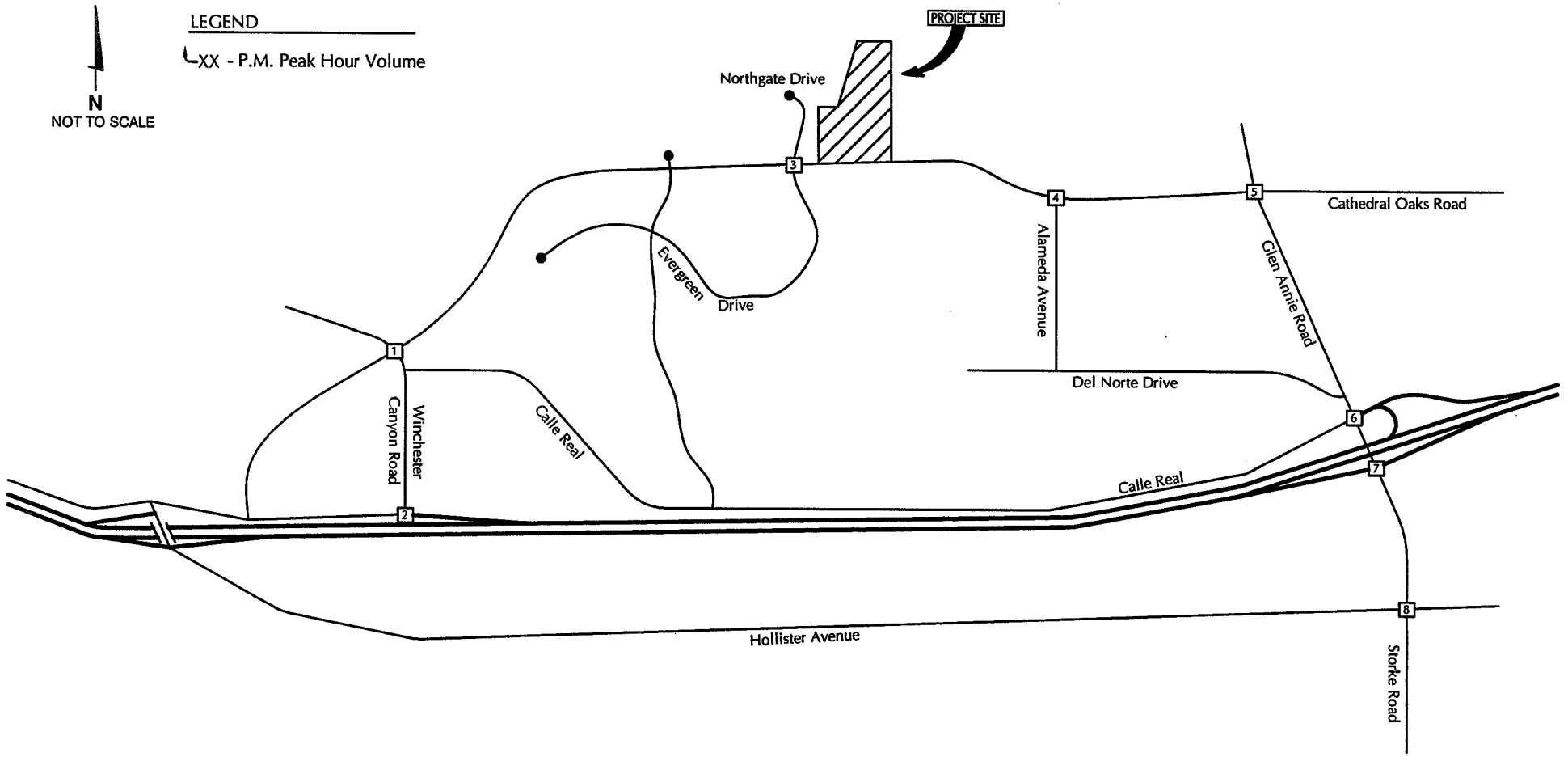

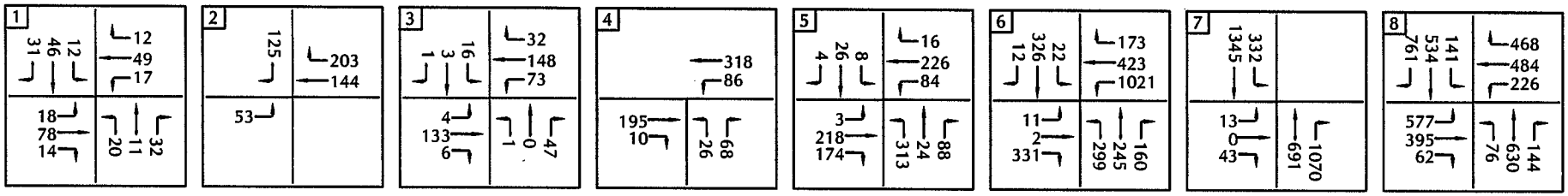

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EXISTING + PROJECT P.M. PEAK HOUR TRAFFIC VOLUMES

FIGURE 10

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Table 7
Existing + Project P.M. Peak Hour Levels of Service

Intersection	Existing		Existing + Project		Project-Added Trips	Change In V/C	Impact?
	ICU	LOS	ICU	LOS			
Cathedral Oaks Road/Winchester Canyon Road (a)	8.2 sec.	A	8.2 sec.	A	6 Trips	0.018 (b)	No
U.S.101 NB- Calle Real/Winchester Canyon Rd. (a)	8.3 sec.	A	8.3 sec.	A	2 Trips	0.004 (b)	No
Cathedral Oaks Road/Northgate Dr.-Evergreen Dr. (a)	8.9 sec.	A	8.9 sec.	A	6 Trips	0.013 (b)	No
Cathedral Oaks Road/Alameda Avenue	0.29	A	0.32	A	55 Trips	0.022	No
Cathedral Oaks Road/Glen Annie Road	0.55	A	0.58	A	55 Trips	0.029	No
U.S. 101 NB Ramps-Calle Real/Storke Road	0.69	B	0.70	B	49 Trips	0.009	No
U.S. 101 SB Ramps/Storke Road	0.76	C	0.76	C	31 Trips	0.004	No
Hollister Avenue/Storke Road	0.74	C	0.74	C	20 Trips	0.006	No

(a) Unsignalized Intersection. LOS based on average weighted delay in seconds per vehicle.
(b) V/C ratio does not apply to unsignalized locations. Value shown correlates to % change in entering traffic volumes.

The data presented in Tables 6 and 7 indicate that the project would not significantly impact the study-area intersections under the Existing + Project scenario based on the City's project-specific traffic impact thresholds.

CUMULATIVE ANALYSIS

Cumulative Traffic Volumes

Cumulative traffic volumes were forecast using the City's traffic model. The cumulative forecasts include traffic generated by approved and pending projects proposed within the Goleta area (the cumulative model volumes and a list summarizing the approved and pending projects is contained in the Technical Appendix for reference) as well as development of the UCSB Long Range Development Plan, the Santa Barbara Airport Specific Plan and terminal expansion, and regional growth in the Goleta-Santa Barbara area. The traffic model also assumes key roadway improvements that are planned in the Goleta area. The two key improvements that would affect traffic in the project study area are discussed below.

U.S. Highway 101 Overcrossing. A new freeway overcrossing is to be built approximately midway between the Storke Road and Hollister Avenue interchanges. The overcrossing would be constructed as a 2-lane roadway that will provide a new connection between Calle Real and

Hollister Avenue. The new freeway overcrossing will result in traffic reductions at the Storke Road and Hollister Avenue interchanges located east and west of the new crossing.

U.S. 101/Hollister Avenue Interchange. Construction is currently underway on modifications to the existing U.S. Highway 101/Hollister Avenue interchange. The modifications consist of relocating the existing U.S. Highway 101 overcrossing to align with Cathedral Oaks Road. The relocated overcrossing will connect to Hollister Avenue south of the U.S. Highway 101, forming a "T" intersection. A new half-diamond interchange will be located at the Cathedral Oaks Road overcrossing, providing access to and from southbound U.S. Highway 101. Access to and from northbound U.S. Highway 101 will be provided via the existing ramps. Traffic signals will control the Cathedral Oaks/Calle Real, U.S. Highway 101 SB Ramps/Cathedral Oaks Road, and Cathedral Oaks, Road/Hollister Avenue intersections. A figure illustrating the proposed traffic controls and lane geometries at the new interchange is contained in the Technical Appendix for reference.

Cumulative Roadway Operations

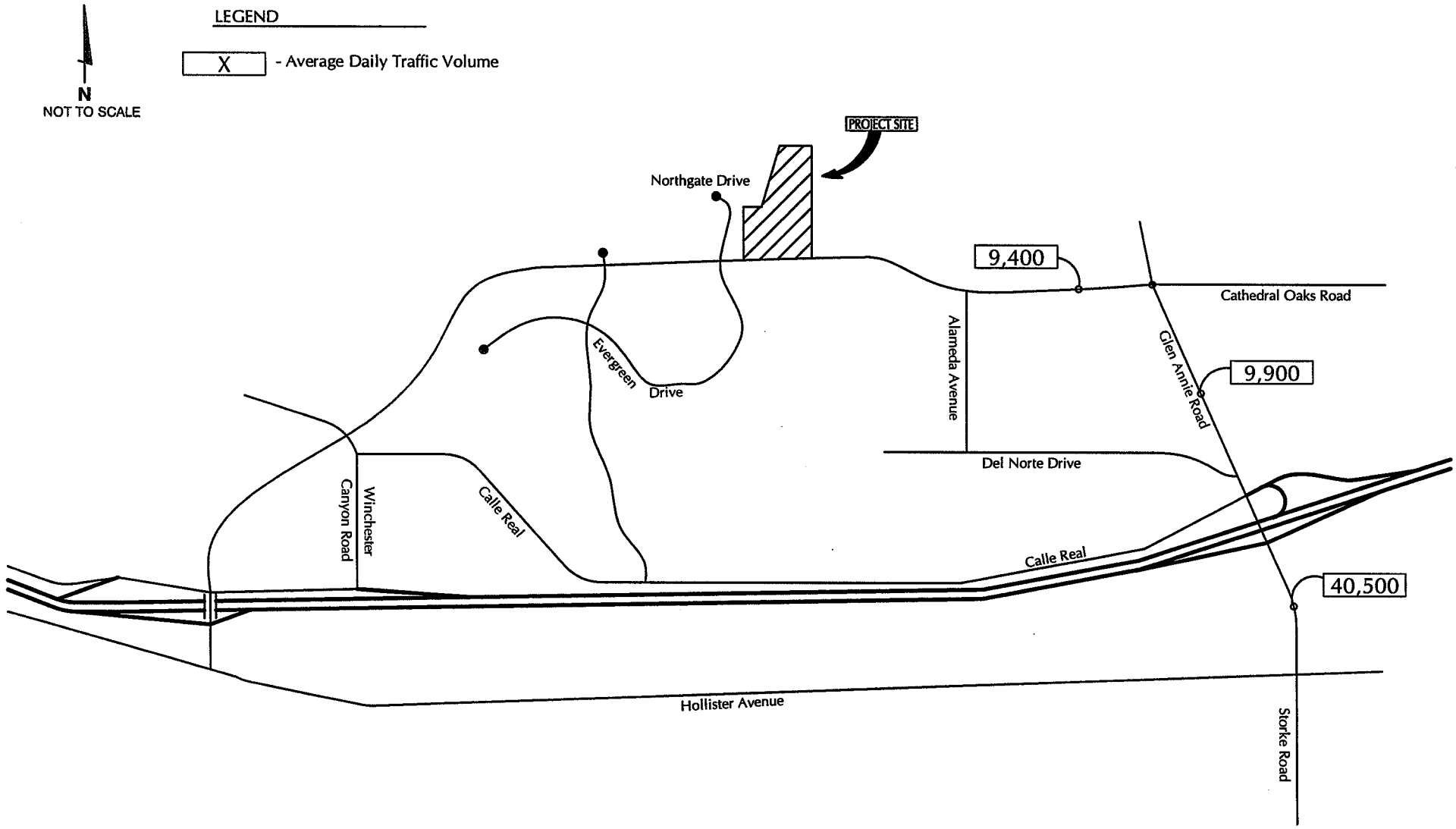
Cumulative ADT volumes were developed based on the change in P.M. peak hour link volumes. The change in peak hour volumes was factored by a peak hour factor and then added to the existing ADT volumes. Table 8 lists the Cumulative and Cumulative + Project roadway volumes and identifies the impacts of the traffic additions based on the City of Goleta's capacity thresholds. Cumulative ADT volumes are shown on Figure 11 and Cumulative + Project ADT volumes are shown on Figure 12.

Table 8
Cumulative and Cumulative + Project Roadway Volumes

Roadway Segment	Acceptable Capacity	Cumulative ADT	CU + Project ADT	% Change	Impact?
Cathedral Oaks w/o Glen Annie Road	14,300	9,400	9,917	5.5%	No
Glen Annie Road n/o U.S. Highway 101	14,300	9,900	10,359	4.6%	No
Storke Road s/o U.S. Highway 101	34,000	**40,500**	**40,701**	0.5%	No

Bolded Items Exceed Acceptable Capacity.

The data in Table 8 show that the segments of Cathedral Oaks Road west of Glen Annie Road and Glen Annie Road north of U.S. Highway 101 are forecast to carry volumes within their acceptable capacity designations with Cumulative and Cumulative + Project volumes. The segment of Storke Road south of U.S. Highway 101 is forecast to carry volumes that will exceed the acceptable capacity under Cumulative and Cumulative + Project conditions. The project would not impact this segment since project-generated traffic would increase the roadway volume by less than 1%.



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CUMULATIVE AVERAGE DAILY TRAFFIC VOLUMES

FIGURE 11

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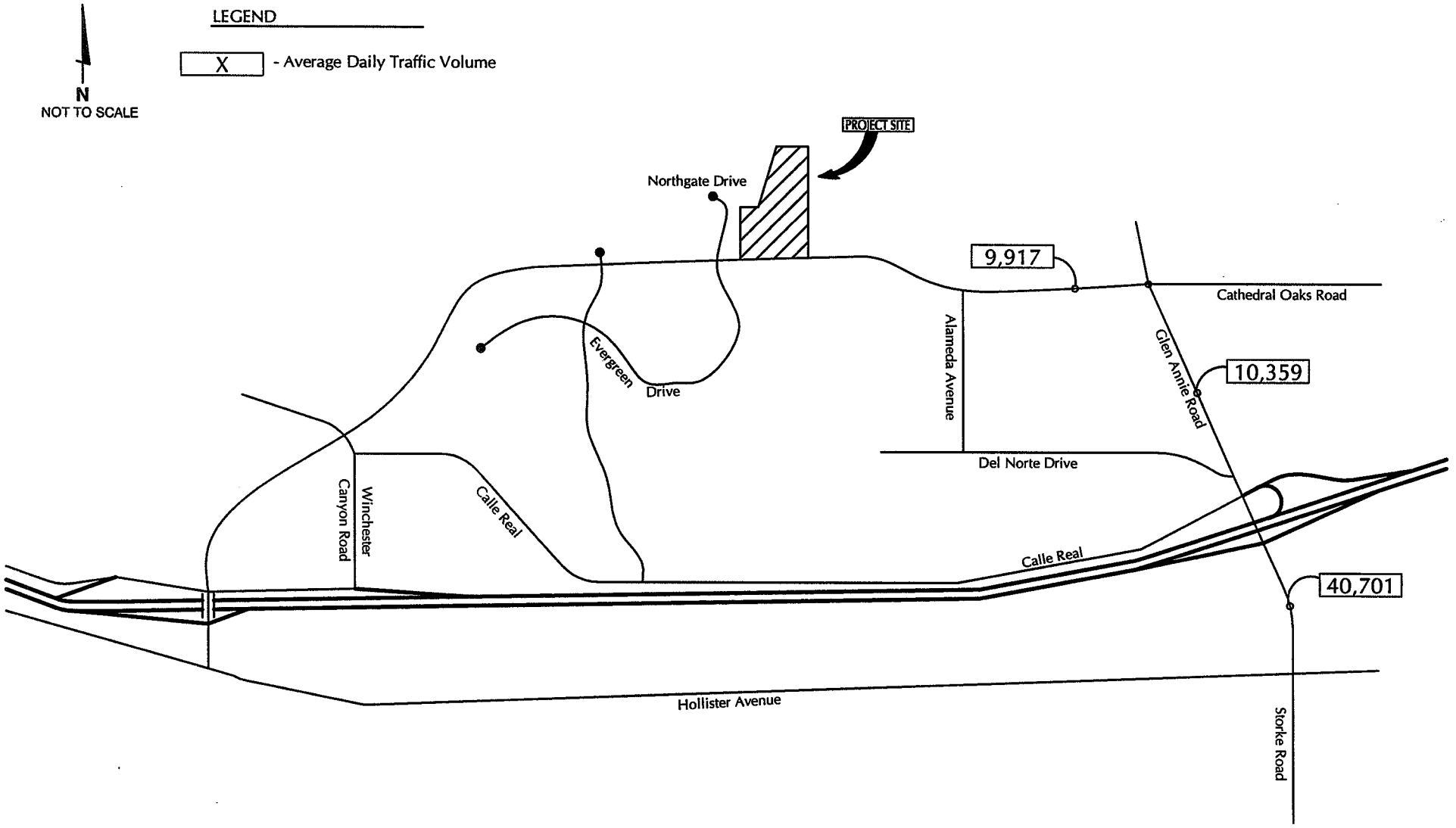

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CUMULATIVE + PROJECT AVERAGE DAILY TRAFFIC VOLUMES

FIGURE 12

MMF - #10086

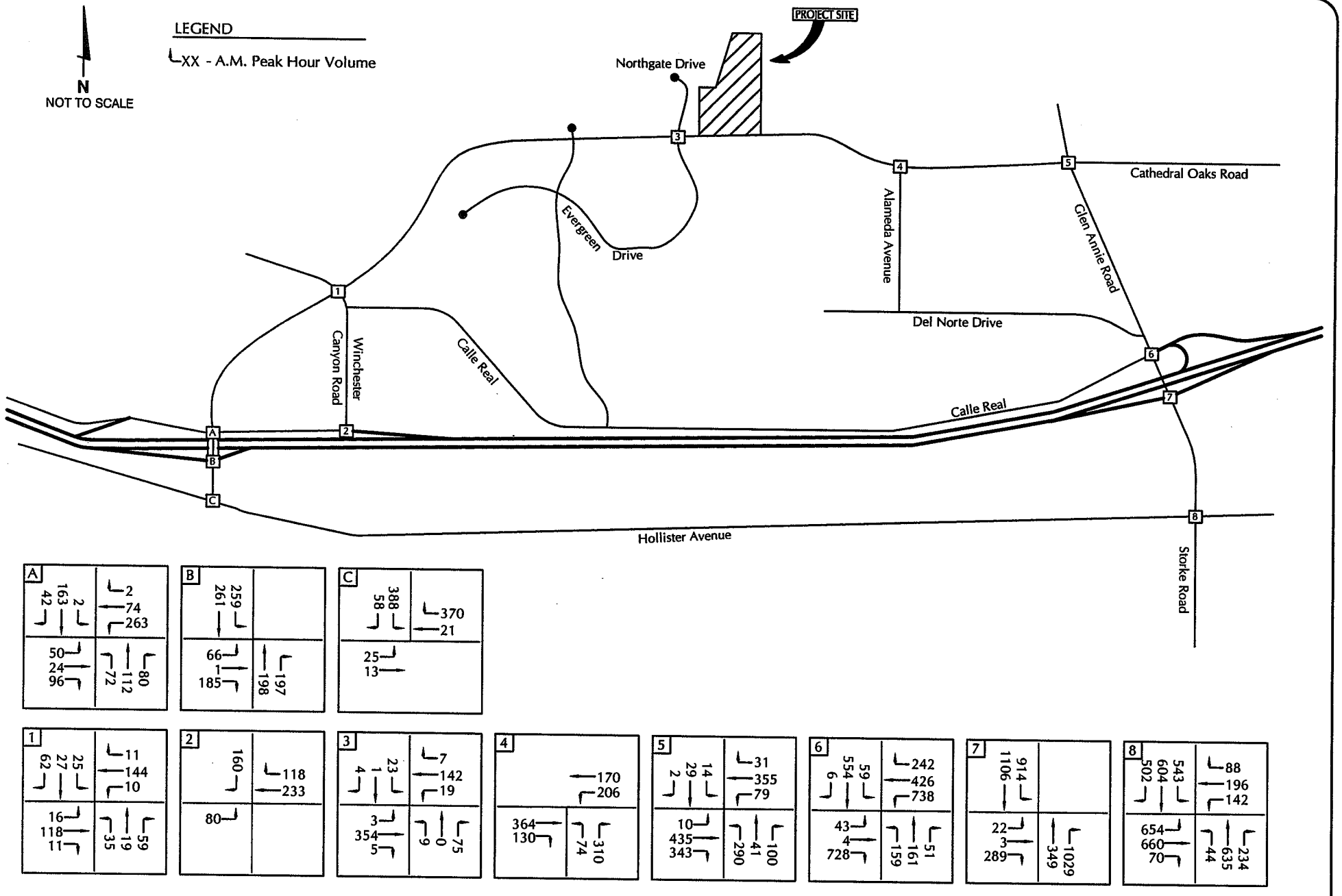
Cumulative Intersection Operations

Levels of service were calculated for the study-area intersections using the Cumulative and Cumulative + Project traffic volumes presented on Figures 13 through 16. Tables 9 and 10 compare the Cumulative and the Cumulative + Project levels of service for the study-area intersections and identify cumulative impacts based on City thresholds.

Table 9
Cumulative and Cumulative + Project A.M. Peak Hour Levels of Service

Intersection	Cumulative		Cumulative + Project		Project V/C Change	Impact?
	ICU	LOS	ICU	LOS		
Cathedral Oaks Rd./Winchester Cyn Rd. (a)	9.1 sec.	A	9.1 sec.	A	0.009(b)	No
U.S.101 NB- Calle Real/Winchester Cyn Rd. (a)	9.0 sec.	A	9.0 sec.	A	0.002(b)	No
Cathedral Oaks Rd/Northgate Dr.-Evergreen Dr. (a)	11.5 sec.	B	11.5 sec.	B	0.006(b)	No
Cathedral Oaks Road/Alameda Avenue	0.52	A	0.54	A	0.19	No
Cathedral Oaks Road/Glen Annie Road	0.77	C	0.79	C	0.02	No
U.S. 101 NB Ramps-Calle Real/Storke Road	0.74	C	0.75	C	0.01	No
U.S. 101 SB Ramps/Storke Road	**0.94**	**E**	**0.94**	**E**	0.005	No
Hollister Avenue/Storke Road	0.73	C	0.74	C	0.003	No
Cathedral Oaks Road/Calle Real	0.54	A	0.55	A	0.002	No
U.S. 10 1 SB Ramps/Cathedral Oaks Road	0.63	B	0.63	B	0.001	No
Cathedral Oaks Road/Hollister Avenue	0.57	A	0.57	A	0.000	No

(a) Unsignalized Intersection. LOS based on average weighted delay in seconds per vehicle.
(b) V/C ratio does not apply to unsignalized locations. Value shown correlates to % change in entering traffic volumes.
Bolded Items Exceed LOS C Operating Standard.



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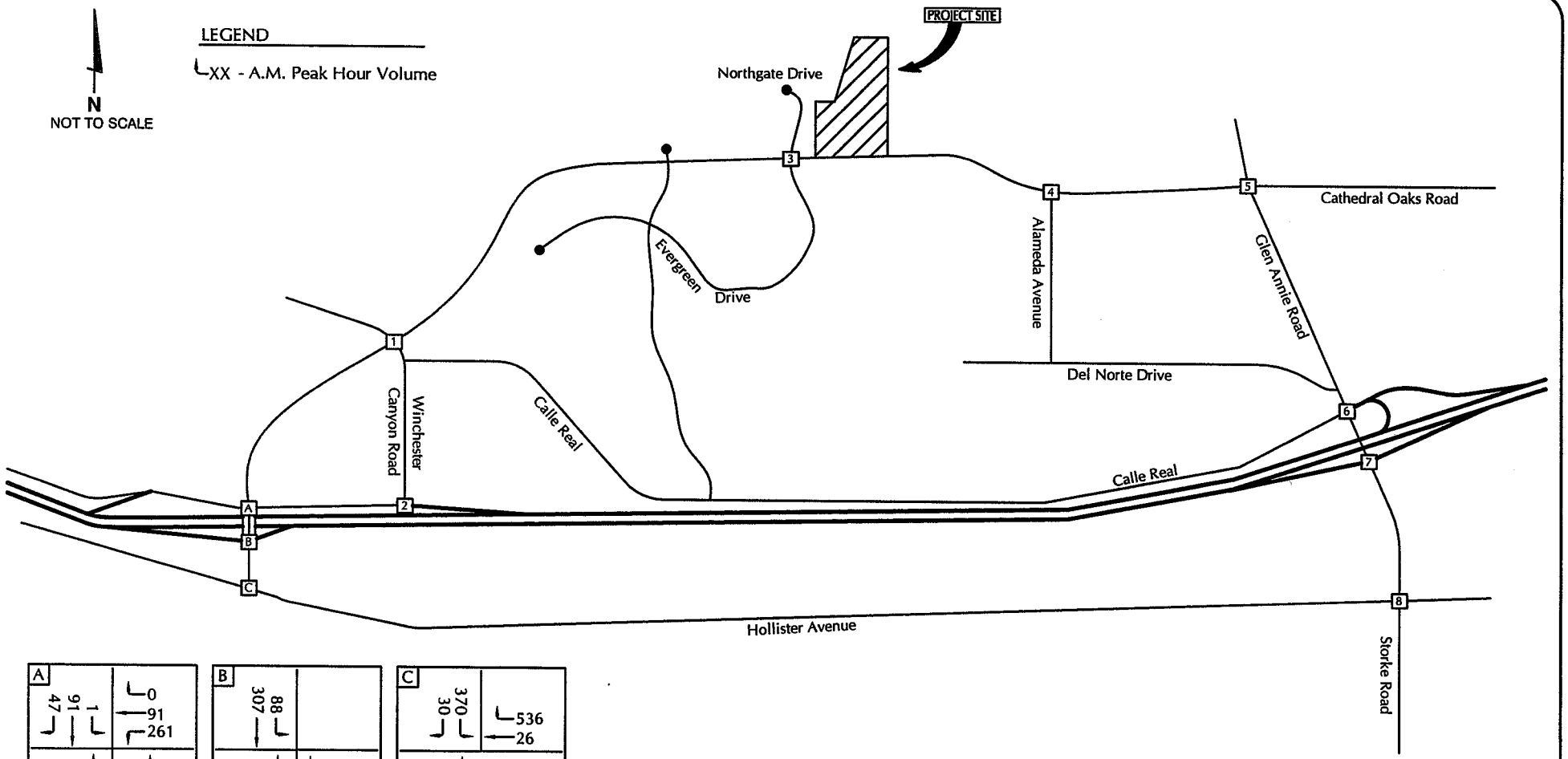
CUMULATIVE A.M. PEAK HOUR TRAFFIC VOLUMES

FIGURE 13

MMF - #10086



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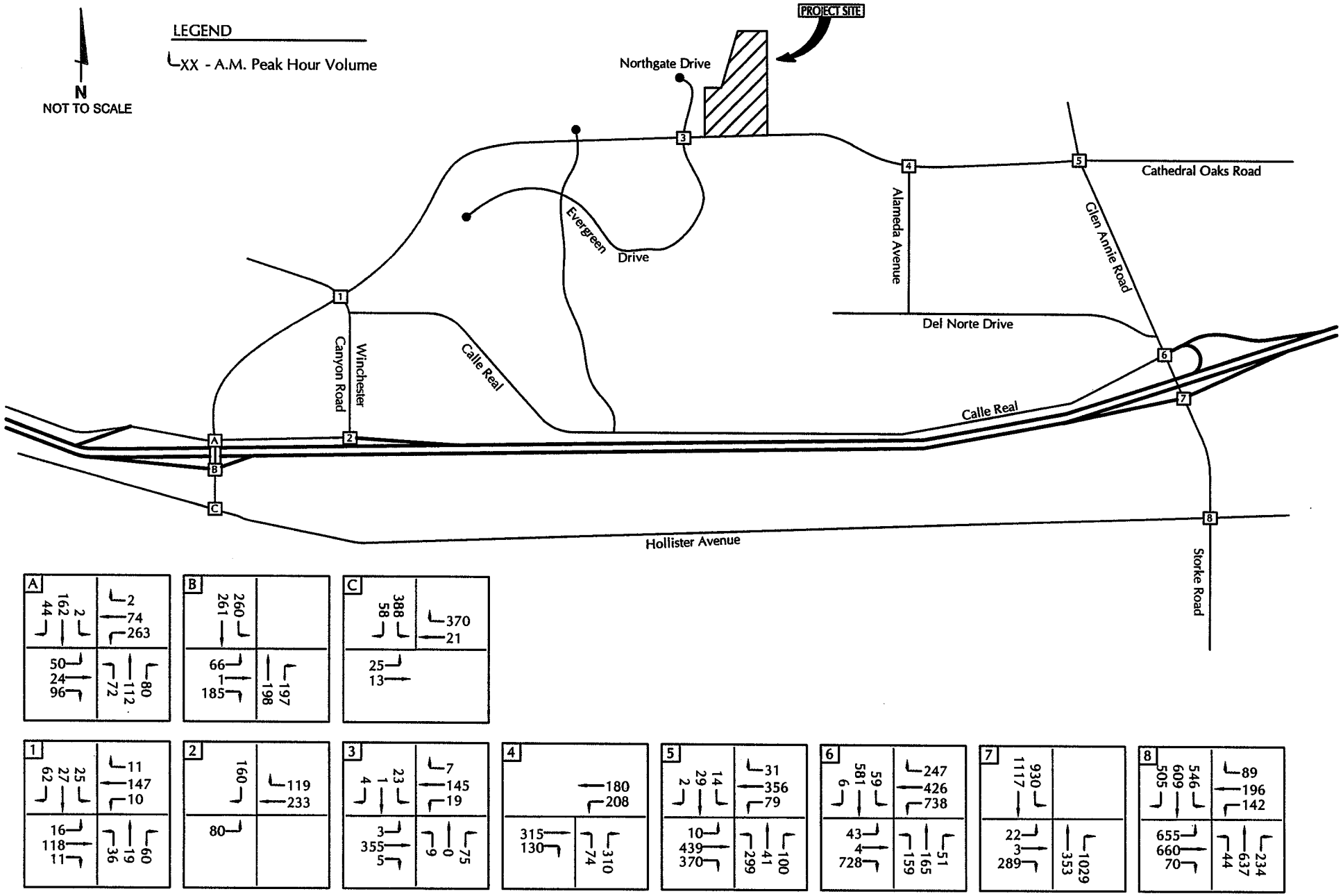
CUMULATIVE P.M. PEAK HOUR TRAFFIC VOLUMES

FIGURE 14

MMF - #10086



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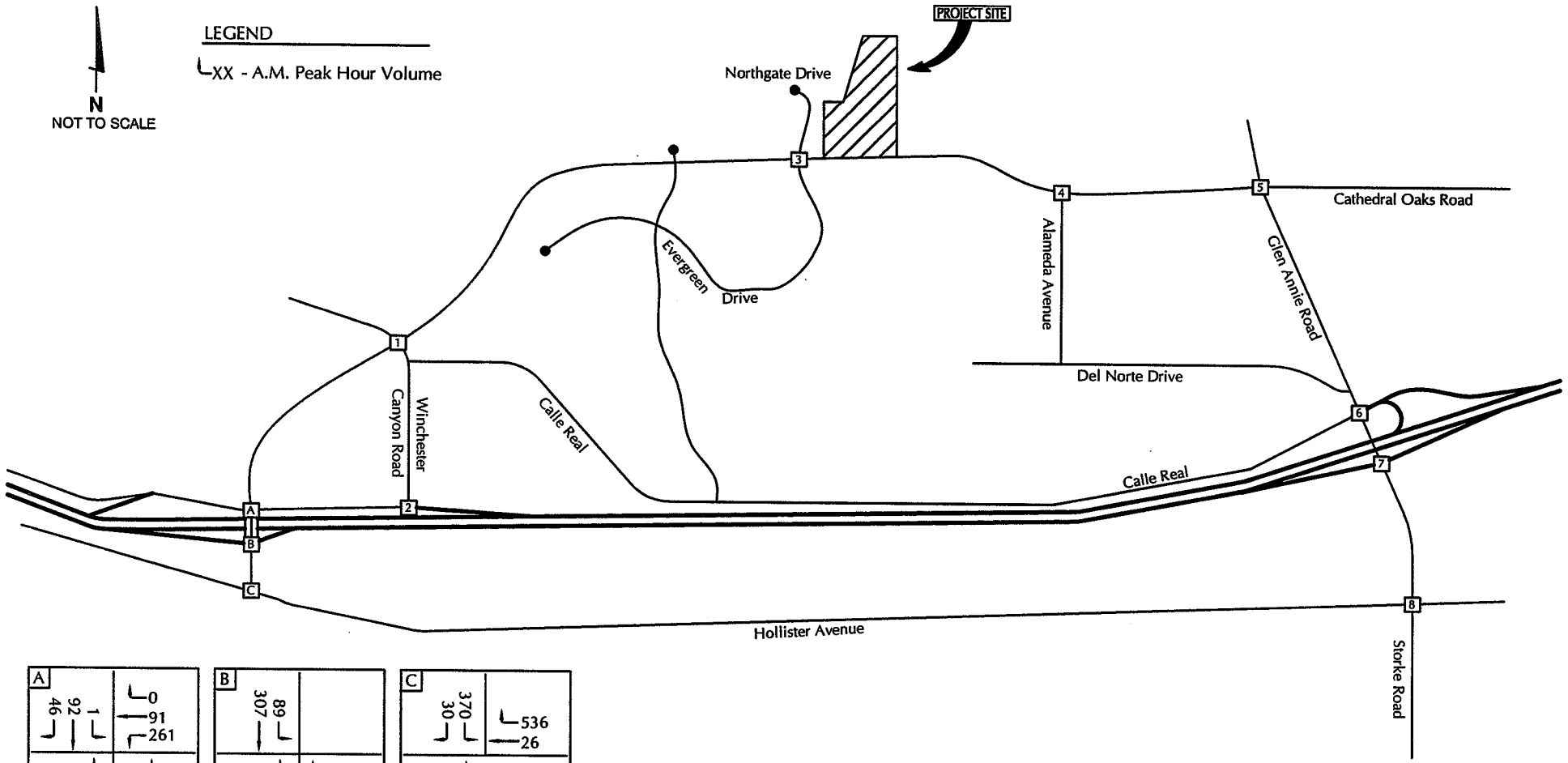
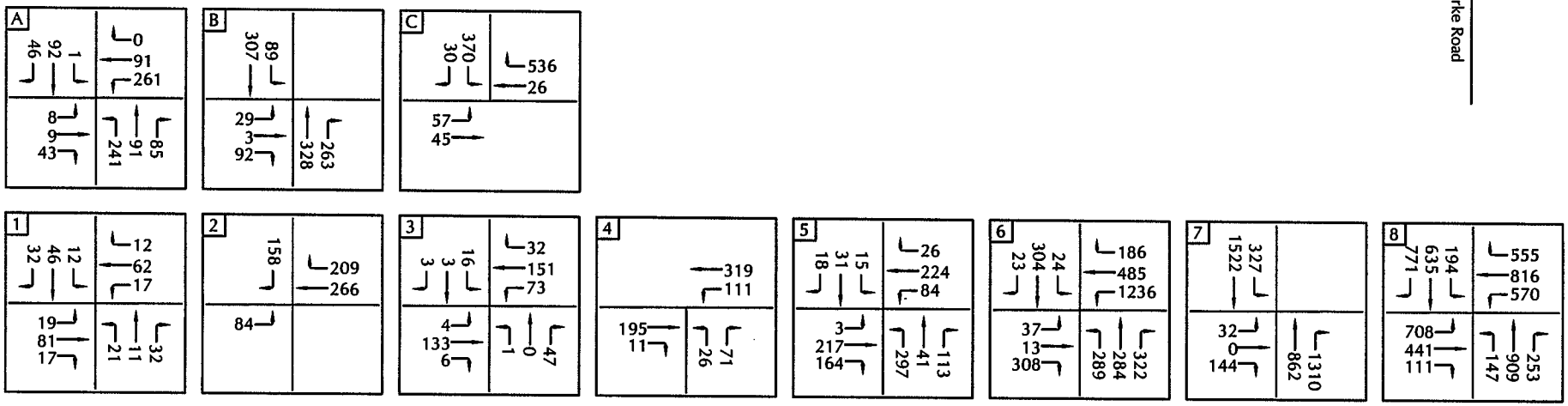
CUMULATIVE + PROJECT A.M. PEAK HOUR TRAFFIC VOLUMES

FIGURE 15

MMF - #10086





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CUMULATIVE + PROJECT P.M. PEAK HOUR TRAFFIC VOLUMES

FIGURE 16

MMF - #10086

Table 10
Cumulative and Cumulative + Project P.M. Peak Hour
Levels of Service

Intersection	Cumulative		Cumulative + Project		Project V/C Change	Impact?
	ICU	LOS	ICU	LOS		
Cathedral Oaks Rd./Winchester Cyn. Rd. (a)	8.3 sec.	A	8.3 sec.	A	0.017(b)	No
U.S.101 NB- Calle Real/Winchester Cyn. Rd. (a)	9.4 sec.	A	9.4 sec.	A	0.003 (b)	No
Cathedral Oaks Rd./Northgate Dr.-Evergreen Dr. (a)	8.9 sec.	A	8.9 sec.	A	0.013(b)	No
Cathedral Oaks Road/Alameda Avenue	0.29	A	0.32	A	0.21	No
Cathedral Oaks Road/Glen Annie Road	0.54	A	0.57	A	0.03	No
U.S. 101 NB Ramps-Calle Real/Storke Road	0.74	C	0.75	C	0.009	No
U.S. 101 SB Ramps/Storke Road	**0.89**	**D**	**0.89**	**D**	0.003	No
Hollister Avenue/Storke Road	**0.92**	**E**	**0.92**	**E**	0.003	No
Cathedral Oaks Road/Calle Real	0.54	A	0.54	A	0.001	No
U.S. 10 1 SB Ramps/Cathedral Oaks Road	0.58	A	0.58	A	0.001	No
Cathedral Oaks Road/Hollister Avenue	0.67	B	0.67	B	0.000	No

(a) Unsignalized Intersection. LOS based on average weighted delay in seconds per vehicle.
(b) V/C ratio does not apply to unsignalized locations. Value shown correlates to % change in entering traffic volumes.
Bolded Items Exceed LOS C Operating Standard.

The data presented in Tables 9 and 10 indicate that the project would not significantly impact the study-area intersections based on the City's cumulative traffic impact thresholds.

SITE ACCESS AND CIRCULATION

Access and site circulation would be provided via a looped roadway that would connect to Cathedral Oaks Road at two locations (see Figure 2 - Project Site Plan). The roadway connections would align with the existing residential roadways located on the south side of Cathedral Oaks Road. The new intersections would be controlled by stop signs on the side street approaches.

Operations at the two access road intersections were analyzed assuming the Cumulative + Project traffic volumes. The methodology outlined in the Highway Capacity Manual for two-way stop sign controlled intersections was used for the evaluation. Table 11 presents the peak hour operations for the project roadway intersections under Cumulative + Project conditions. The Cumulative + Project intersection volumes and level of service forecasts are shown on worksheets contained in the Technical Appendix for reference.

Table 11
Project Driveway Level of Service

Intersection	A.M. Delay/LOS	P.M. Delay/LOS
West Roadway/Cathedral Oaks Road		
Inbound Left Turns	7.5 Sec./LOS A	7.8 Sec./LOS A
Outbound Left & Right Turns	12.8 Sec./LOS B	11.4 Sec./LOS B
East Roadway/Cathedral Oaks Road		
Inbound Left Turns	7.6 Sec./LOS A	7.8 Sec./LOS A
Outbound Left & Right Turns	13.2 Sec./LOS B	11.6 Sec./LOS B

As shown, the two roadway connections at forecast to operate at LOS A-B, which is considered acceptable. The proposed roadway connections would operate sufficiently considering the volumes forecast for the project and the adjacent segment of Cathedral Oaks Road.

CONGESTION MANAGEMENT PROGRAM ANALYSIS

Impact Criteria

The Santa Barbara County Association of Governments (SBCAG) has developed a set of traffic impact thresholds to assess the impacts of land use decisions made by local jurisdictions on regional transportation facilities located within the Congestion Management Program (CMP) roadway system. The following guidelines were developed by SBCAG to determine the significance of project-generated traffic impacts on the regional CMP system.

1. For any roadway or intersection operating at "Level of Service" (LOS) A or B, a decrease of two levels of service resulting from the addition of project-generated traffic.

2. For any roadway or intersection operating at LOS C, project-added traffic that results in LOS D or worse.

3. For intersections within the CMP system with existing congestion, the following table defines significant impacts.

Level of Service	Project-Added Peak Hour Trips
LOS D	20
LOS E	10
LOS F	10

4. For freeway segments with existing congestion, the following table defines significant impacts.

Level of Service	Project-Added Peak Hour Trips
LOS D	100
LOS E	50
LOS F	50

Potential Intersection Impacts

The following study-area intersections are located within the CMP network:

- Storke Road/U.S. Highway 101 NB Ramps
- Storke Road/U.S. Highway 101 SB Ramps
- Storke Road/Hollister Avenue

Tables 6 and 7 indicate that the CMP intersections would operate at LOS C or better under Existing + Project conditions. The project would not generate significant project-specific impacts to the CMP network based on the CMP impact criteria.

Tables 9 and 10 show that the U.S. Highway 101 SB Ramps/Storke Road intersection is forecast to operate at LOS E during the A.M. peak hour and at LOS D during the P.M. Peak hour, and that the Storke Road/Hollister Avenue intersection is forecast to operate at LOS E during the P.M. peak hour period under Cumulative + Project conditions. The project is forecast to add 20 or more trips to these locations, which would be considered a significant cumulative impact based on CMP criteria.

The CMP requires that deficiency plans be prepared when an intersection reaches LOS E. The City of Goleta has adopted LOS D as the acceptable operating standard for the Storke Road/Hollister Avenue intersection. The GTIP was established to collect funds to implement future identified improvements within the City. The GTIP includes programmed improvements for the Storke Road corridor, which would return service levels to LOS C at the U.S. Highway 101 SB/Storke Road intersection and LOS D at the Storke Road/Hollister Avenue intersection. These improvements would thereby meet City standards and provide consistency with the CMP. The proposed project would be required to contribute traffic fees to the GTIP for implementation of the planned improvements.

Potential Freeway Impacts

The 2009 CMP report[3] shows that the segment of U.S. Highway 101 between Storke Road and Los Carneros operates at LOS B during the A.M. peak hour and at LOS C during the P.M. peak hour. The proposed project is forecast to add 26 A.M. peak hour trips and 29 P.M. peak hour

[3] 2009 Santa Barbara County Congestion Management Program, Santa Barbara County Association of Governments, June 18, 2009.

trips to this segment of U.S. Highway 101. The CMP threshold for freeway impacts is 50 trips for segments operating at LOS E or LOS F and 100 trips for segments operating at LOS D. Based on these CMP impact criteria, the project would not generate a significant impact to U.S. Highway 101.

■ ■ ■

REFERENCES AND PERSONS CONTACTED

Associated Transportation Engineers

Scott A. Schell, AICP, Principal Transportation Planner
Dan Dawson, Supervising Transportation Planner
Matthew Farrington, Transportation Planner I

References

City of Goleta General Plan/Coastal Land Use Plan Final Traffic Forecast Report, Dowling Associates, 2006.

Highway Capacity Manual, Transportation Research Board, National Research Council, 2000.

Trip Generation, Institute of Transportation Engineers, 8th edition, 2008.

Persons Contacted

Biega, Jim, City of Goleta
Damkowitz, Jim, Dowling Associates
Hansen, Alan, City of Goleta
Miller, Patricia, City of Goleta
Shultz, Marti, City of Goleta
Wagner, Steve, City of Goleta

TECHNICAL APPENDIX

CONTENTS:

LEVEL OF SERVICE DEFINITIONS

Signalized Intersection Level of Service Definitions

LOS	Delay[a]	V/C Ratio	Definition
A	< 10.0	< 0.60	Progression is extremely favorable. Most vehicles arrive during the green phase. Many vehicles do not stop at all.
B	10.1 - 20.0	0.61 - 0.70	Good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.
C	20.1 - 35.0	0.71 - 0.80	Only fair progression, longer cycle lengths, or both, result in higher cycle lengths. Cycle lengths may fail to serve queued vehicles, and overflow occurs. Number of vehicles stopped is significant, though many still pass through intersection without stopping.
D	35.1 - 55.0	0.81 - 0.90	Congestion becomes more noticeable. Unfavorable progression, long cycle lengths and high v/c ratios result in longer delays. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	55.1 - 80.0	0.91 - 1.00	High delay values indicate poor progression, long cycle lengths and high v/c ratios. Individual cycle failures are frequent
F	> 80.0	> 1.00	Considered unacceptable for most drivers, this level occurs when arrival flow rates exceed the capacity of lane groups, resulting in many individual cycle failures. Poor progression and long cycle lengths may also contribute to high delay levels.

[a] Average control delay per vehicle in seconds.

Unsignalized Intersection Level of Service Definitions

The HCM[1] uses *control delay* to determine the level of service at unsignalized intersections. Control delay is the difference between the travel time actually experienced at the control device and the travel time that would occur in the absence of the traffic control device. Control delay includes deceleration from free flow speed, queue move-up time, stopped delay and acceleration back to free flow speed.

LOS	Control Delay Seconds per Vehicle
A	< 10.0
B	10.1 - 15.0
C	15.1 - 25.0
D	25.1 - 35.0
E	35.1 - 50.0
F	> 50.0

[1] Highway Capacity Manual, National Research Board, 2000

ASSOCIATED TRANSPORTATION ENGINEERS
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CITY OF GOLETA ROADWAY DESIGN CAPACITIES

Table 5. Roadway Classification & Level of Service Thresholds*

City of Goleta Functional Street Classification	City of Goleta Purpose and Design Factors	City of Goleta ADT Design Capacity			City of Goleta LOS C ADT Threshold		
		2 Lanes	4 Lanes	4+ Lanes[1]	2 Lanes	4 Lanes	4+ Lanes[1]
Major Arterial (MA)	Continuous roadways that carry through traffic between various neighborhoods and communities, frequently providing access to major traffic generators such as shopping areas, employment centers, and higher density residential areas. Roadways would have a minimum of 12 foot wide lanes with shoulders. Signals are typically spaced at a minimum 0.5-mile intervals.	17,900	42,480	58,750	14,300	34,000	47,000
Minor Arterial (MNA)	Roadways that serve as a secondary type of arterial facility carrying local and through traffic within communities, frequently connecting neighborhood areas within the City, providing access to shopping areas, employment centers, and higher density residential areas. Roadways would have a minimum of 12-foot wide lanes with shoulders. Signal intervals typically range from 0.25 to 0.5 mile.	15,700	37,680	NA	12,500	30,100	NA
Collector Streets (Col)	Roadways designed to collect traffic from local streets and connect to major or minor arterials. Collector Streets provide access to local streets within residential and commercial areas and conect streets of higher calssifications to permit adequate traffic circulation. Generally no more than 2 travel lanes and signalized at intersections with arterial roadways.	11,600	NA	NA	9,280	NA	NA
Local Streets (L)	Roadways designed to provide access to individual properties carrying traffic to and from a collector street. Intended to serve adjacent uses and are not intended for through traffic. Designed with two lanes and close to moderately close driveways.	9,100	NA	NA	7,280	NA	NA
County Functional Street Classification	**County Purpose and Design Factors**	**County ADT Design Capacity**			**County LOS C ADT Threshold**		
		2 Lanes	4 Lanes	4+ Lanes[1]	2 Lanes	4 Lanes	4+ Lanes[1]
Primary 1 (P-1)	Roadways designed to serve primarily non-residential development. Roadways would have a minimum of 12-foot wide lanes with shoulders and few curb cuts. Signals would be spaced at 1 mile or more intervals.	19,900	47,760	NA	15,900	38,200	NA
Primary 2 (P-2)	Roadways designed to serve a high proportion of non-residential development with some residential lots and few or no driveway curb cuts. Roadways would have a minimum of 12-foot wide lanes with few curb cuts. Signals spacing at minimum of 1/2 mile.	17,900	42,480	NA	14,300	34,000	NA
Primary 3 (P-3)	Roadways designed to serve non-residential development and residential development. More frequent driveways are acceptable. Potential signal spacing of ½ to ¼ mile.	15,700	37,680	NA	12,500	30,100	NA
Secondary 1 (S-1)	Roadways designed to serve non-residential development and large lot residential development with well spaced driveways. Roadways would be 2-lanes with infrequent driveways. Signals would generally occur at intersections of primary roadways.	11,600	NA	NA	9,300	NA	NA
Secondary 2 (S-2)	Roadways designed to serve residential and non-residential land uses. Roadways would be 2-lanes with close to moderately spaced driveways.	9,100	NA	NA	7,300	NA	NA
Secondary 3 (S-3)	Roadways designed to primarily serve residential with small to medium size lots. Roadways would be 2-lanes with more frequent driveways.	7,900	NA	NA	6,300	NA	NA

* Source: City of Goleta & County of Santa Barbara Public Works Department

TRAFFIC COUNT DATA

WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

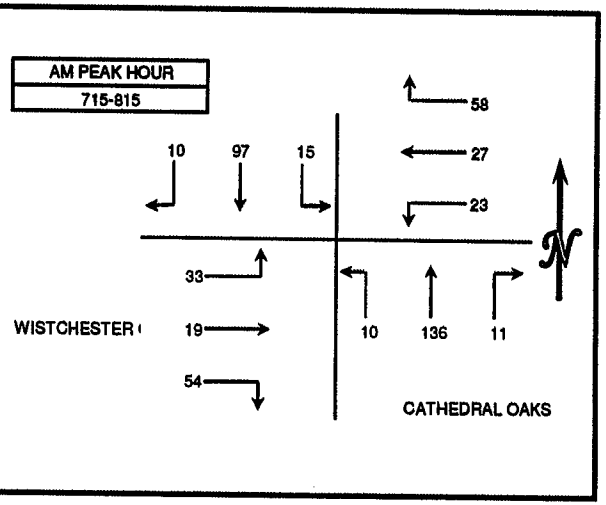
CLIENT: DOWLING ASSOCIATES, INC.
PROJECT: GOLETA TRAFFIC COUNTS
DATE: THURSDAY FEBRUARY 7, 2008
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S CATHEDRAL OAKS
E/W WINCHESTER CANYON
CITY: GOLETA

15 MIN COUNTS — 7:00 AM TO 9:00 AM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	1	11	3	12	3	6	6	11	1	8	4	7	73
715-730	2	17	0	17	4	4	3	18	2	14	3	4	88
730-745	0	19	2	13	9	4	0	44	3	15	5	11	125
745-800	3	33	7	22	5	7	4	59	2	11	6	11	170
800-815	5	28	6	6	9	8	4	15	3	14	5	7	110
815-830	2	8	1	4	7	3	2	15	2	13	1	4	62
830-845	0	13	2	14	1	5	3	6	1	8	5	1	59
845-900	4	9	0	11	5	5	0	12	1	9	6	3	65

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	6	80	12	64	21	21	13	132	8	48	18	33	456
715-815	10	97	15	58	27	23	11	136	10	54	19	33	493
730-830	10	88	16	45	30	22	10	133	10	53	17	33	467
745-845	10	82	16	46	22	23	13	95	8	46	17	23	401
800-900	11	58	9	35	22	21	9	48	7	44	17	15	296

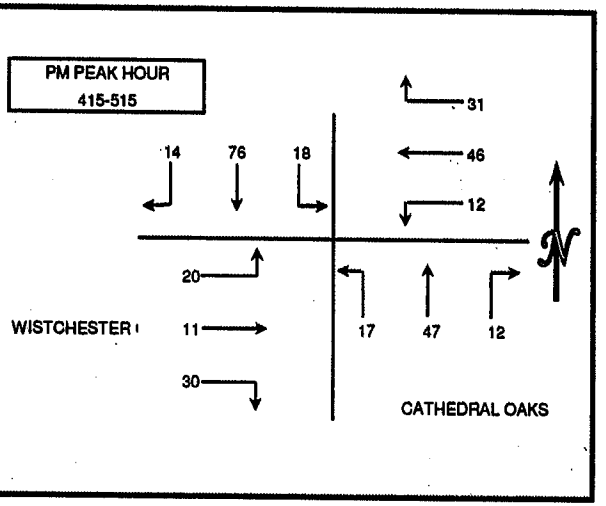


15 MIN COUNTS — 4:00 PM TO 6:00 PM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	4	21	4	3	11	3	2	9	0	7	4	2	70
415-430	2	21	4	8	15	6	2	6	2	8	2	6	82
430-445	5	14	4	8	11	2	2	14	2	10	3	4	79
445-500	3	22	7	9	6	3	2	13	5	6	3	7	86
500-515	4	19	3	6	14	1	6	14	8	6	3	3	87
515-530	5	17	5	7	19	4	1	10	3	3	4	1	79
530-545	2	17	7	6	11	5	4	8	3	8	2	2	75
545-600	4	12	4	7	8	7	2	8	1	6	5	4	68

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	14	78	19	28	43	14	8	42	9	31	12	19	317
415-515	14	76	18	31	46	12	12	47	17	30	11	20	334
430-530	17	72	19	30	50	10	11	51	18	25	13	15	331
445-545	14	75	22	28	50	13	13	45	19	23	12	13	327
500-600	15	65	19	26	52	17	13	40	15	23	14	10	309



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: CITY OF GOLETA
PROJECT: GOLETA TRAFFIC COUNTS
DATE: WEDNESDAY FEBRUARY 13, 2008
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S WINCHESTER CANYON ROAD
E/W CALLE REAL/ US 101 NB RAMPS
CITY: GOLETA

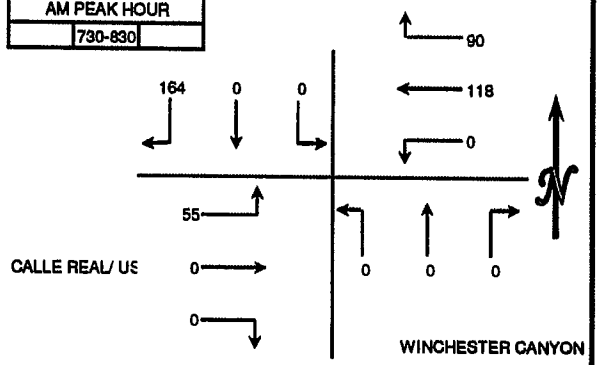
15 MIN COUNTS — 7:00 AM TO 9:00 AM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	21	0	0	10	20	0	0	0	0	0	0	13	64
715-730	30	0	0	16	20	0	0	0	0	0	0	11	77
730-745	30	0	0	23	33	0	0	0	0	0	0	17	103
745-800	59	0	0	33	39	0	0	0	0	0	0	13	144
800-815	36	0	0	20	25	0	0	0	0	0	0	15	96
815-830	39	0	0	14	21	0	0	0	0	0	0	10	84
830-845	25	0	0	22	22	0	0	0	0	0	0	10	79
845-900	30	0	0	21	29	0	0	0	0	0	0	4	84

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	140	0	0	82	112	0	0	0	0	0	0	54	388
715-815	155	0	0	92	117	0	0	0	0	0	0	56	420
730-830	164	0	0	90	118	0	0	0	0	0	0	55	427
745-845	159	0	0	89	107	0	0	0	0	0	0	48	403
800-900	130	0	0	77	97	0	0	0	0	0	0	39	343

AM PEAK HOUR: 730-830



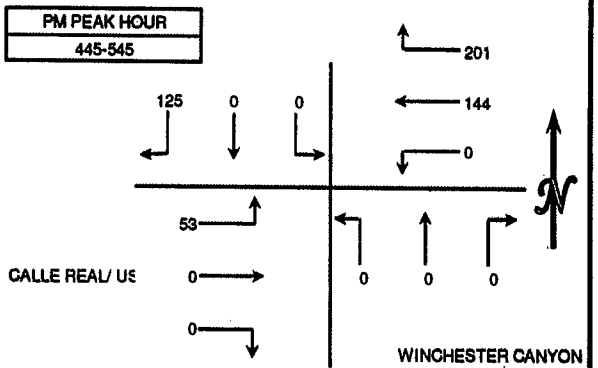
15 MIN COUNTS — 4:00 PM TO 6:00 PM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	25	0	0	42	22	0	0	0	0	0	0	12	101
415-430	41	0	0	38	30	0	0	0	0	0	0	14	123
430-445	33	0	0	50	31	0	0	0	0	0	0	10	124
445-500	29	0	0	39	33	0	0	0	0	0	0	12	113
500-515	23	0	0	43	29	0	0	0	0	0	0	18	113
515-530	37	0	0	72	41	0	0	0	0	0	0	9	159
530-545	36	0	0	47	41	0	0	0	0	0	0	14	138
545-600	30	0	0	38	29	0	0	0	0	0	0	15	112

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	128	0	0	169	116	0	0	0	0	0	0	48	461
415-515	126	0	0	170	123	0	0	0	0	0	0	54	473
430-530	122	0	0	204	134	0	0	0	0	0	0	49	509
445-545	125	0	0	201	144	0	0	0	0	0	0	53	523
500-600	126	0	0	200	140	0	0	0	0	0	0	56	522

PM PEAK HOUR: 445-545

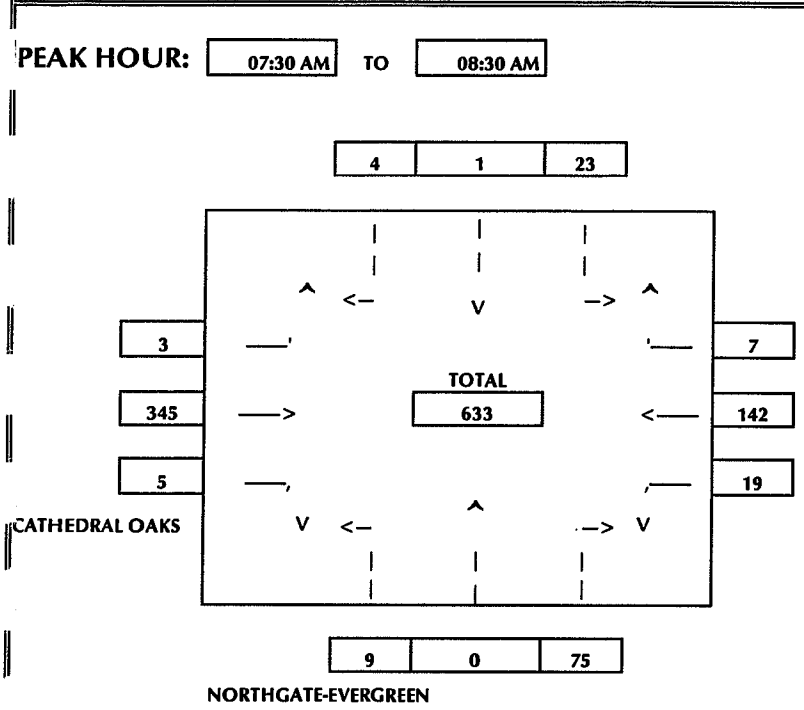


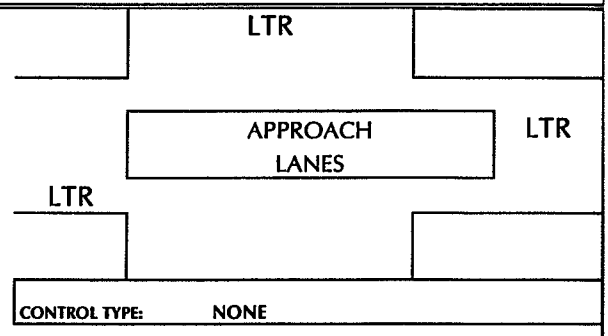
ASSOCIATED TRANSPORTATION ENGINEERS

INTERSECTION TURNING MOVEMENT SUMMARY

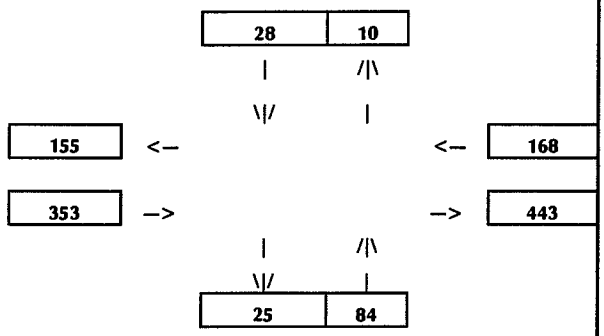
PROJECT: 7400 CATHEDRAL OAKS PROJECT | PROJECT #: 10086 | COUNT DATE: 01-13-11 | FILE NAME: 03AM
N-S Approach: NORTHGATE-EVERGREEN | COUNT TIME: 07:00 AM TO 9:00
E-W Approach: CATHEDRAL OAKS | CITY: GOLETA | WEATHER: SUNNY

PEAK HOUR: 07:30 AM TO 08:30 AM





ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	—	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL VOLUMES
COUNT DATA															
07:00 AM	—	07:15 AM	1	0	13	3	0	1	0	25	0	2	8	1	54
07:15 AM	—	07:30 AM	2	0	25	18	0	3	3	64	1	7	18	2	143
07:30 AM	—	07:45 AM	5	0	52	27	0	3	4	144	1	12	43	4	295
07:45 AM	—	08:00 AM	8	0	70	35	0	3	4	306	4	18	85	7	540
08:00 AM	—	08:15 AM	10	0	82	37	0	5	5	358	4	22	139	9	671
08:15 AM	—	08:30 AM	11	0	100	41	1	7	6	409	6	26	160	9	776
08:30 AM	—	08:45 AM	11	0	112	48	1	8	6	438	7	32	176	13	852
08:45 AM	—	09:00 AM	11	0	130	57	1	8	8	474	7	38	195	15	944
TOTAL BY PERIOD															
07:00 AM	—	07:15 AM	1	0	13	3	0	1	0	25	0	2	8	1	54
07:15 AM	—	07:30 AM	1	0	12	15	0	2	3	39	1	5	10	1	89
07:30 AM	—	07:45 AM	3	0	27	9	0	0	1	80	0	5	25	2	152
07:45 AM	—	08:00 AM	3	0	18	8	0	0	0	162	3	6	42	3	245
08:00 AM	—	08:15 AM	2	0	12	2	0	2	1	52	0	4	54	2	131
08:15 AM	—	08:30 AM	1	0	18	4	1	2	1	51	2	4	21	0	105
08:30 AM	—	08:45 AM	0	0	12	7	0	1	0	29	1	6	16	4	76
08:45 AM	—	09:00 AM	0	0	18	9	0	0	2	36	0	6	19	2	92
HOURLY TOTALS															
07:00 AM	—	08:00 AM	8	0	70	35	0	3	4	306	4	18	85	7	540
07:15 AM	—	08:15 AM	9	0	69	34	0	4	5	333	4	20	131	8	617
07:30 AM	—	08:30 AM	9	0	75	23	1	4	3	345	5	19	142	7	633
07:45 AM	—	08:45 AM	6	0	60	21	1	5	2	294	6	20	133	9	557
08:00 AM	—	09:00 AM	3	0	60	22	1	5	4	168	3	20	110	8	404

ASSOCIATED TRANSPORTATION ENGINEERS

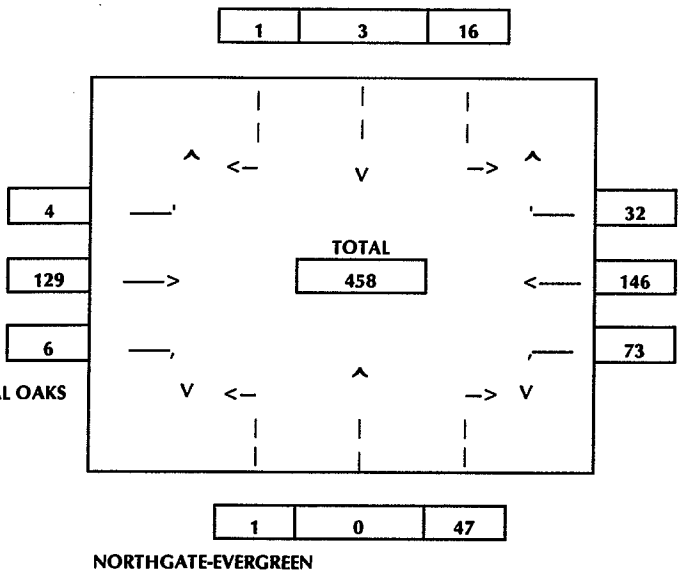
INTERSECTION TURNING MOVEMENT SUMMARY

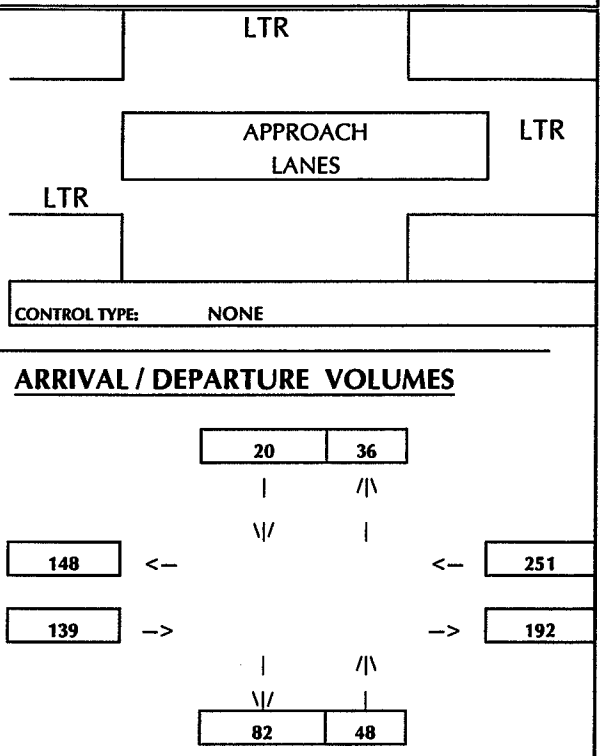
PROJECT: 7400 CATHEDRAL OAKS PROJECT PROJECT #: 10086 COUNT DATE: 01-12-11 FILE NAME: 03PM

N-S Approach: NORTHGATE-EVERGREEN COUNT TIME: 04:00 P.M. TO 6:00

E-W Approach: CATHEDRAL OAKS CITY: GOLETA WEATHER: SUNNY

PEAK HOUR: 04:45 PM TO 05:45 PM





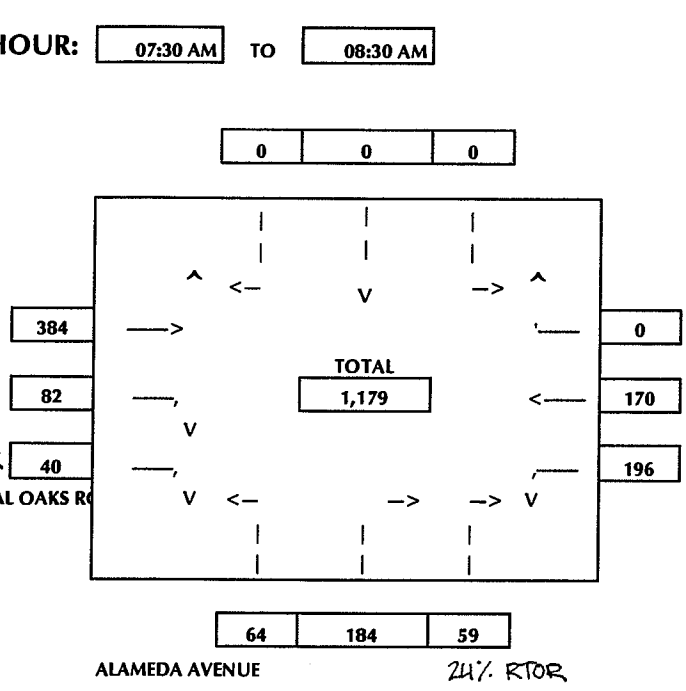
TIME PERIOD From	—	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL VOLUMES
COUNT DATA															
04:00 PM	—	04:15 PM	1	0	5	4	0	0	1	33	1	13	32	6	96
04:15 PM	—	04:30 PM	1	0	10	7	0	1	1	67	4	21	70	7	189
04:30 PM	—	04:45 PM	1	1	12	12	0	2	4	95	4	31	95	12	269
04:45 PM	—	05:00 PM	1	1	30	18	0	2	5	127	6	41	129	22	382
05:00 PM	—	05:15 PM	1	1	39	21	2	2	6	165	9	60	162	30	498
05:15 PM	—	05:30 PM	2	1	53	26	2	3	8	199	10	80	202	37	623
05:30 PM	—	05:45 PM	2	1	59	28	3	3	8	224	10	104	241	44	727
05:45 PM	—	06:00 PM	2	1	67	30	3	4	9	251	11	117	277	58	830
TOTAL BY PERIOD															
04:00 PM	—	04:15 PM	1	0	5	4	0	0	1	33	1	13	32	6	96
04:15 PM	—	04:30 PM	0	0	5	3	0	1	0	34	3	8	38	1	93
04:30 PM	—	04:45 PM	0	1	2	5	0	1	3	28	0	10	25	5	80
04:45 PM	—	05:00 PM	0	0	18	6	0	0	1	32	2	10	34	10	113
05:00 PM	—	05:15 PM	0	0	9	3	2	0	1	38	3	19	33	8	116
05:15 PM	—	05:30 PM	1	0	14	5	0	1	2	34	1	20	40	7	125
05:30 PM	—	05:45 PM	0	0	6	2	1	0	0	25	0	24	39	7	104
05:45 PM	—	06:00 PM	0	0	8	2	0	1	1	27	1	13	36	14	103
HOURLY TOTALS															
04:00 PM	—	05:00 PM	1	1	30	18	0	2	5	127	6	41	129	22	382
04:15 PM	—	05:15 PM	0	1	34	17	2	2	5	132	8	47	130	24	402
04:30 PM	—	05:30 PM	1	1	43	19	2	2	7	132	6	59	132	30	434
04:45 PM	—	05:45 PM	1	0	47	16	3	1	4	129	6	73	146	32	458
05:00 PM	—	06:00 PM	1	0	37	12	3	2	4	124	5	76	148	36	448

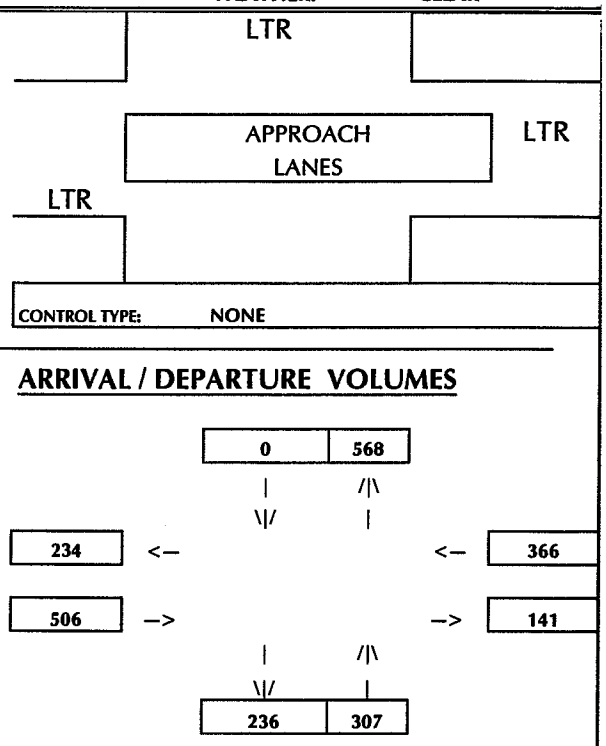
ASSOCIATED TRANSPORTATION ENGINEERS

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT: 7400 CATHEDRAL OAKS PROJECT | PROJECT #: 10086 | COUNT DATE: 01-11-11 | FILE NAME: 04AM
N-S Approach: ALAMEDA AVENUE | COUNT TIME: 07:00 A.M. TO 09:00 A.M.
E-W Approach: CATHEDRAL OAKS ROAD | CITY: GOLETA | WEATHER: CLEAR

PEAK HOUR: 07:30 AM TO 08:30 AM





TIME PERIOD From	—	To	NORTHBOUND LEFT	RIGHT	RTOR	SOUTHBOUND Left	Thru	Right	EASTBOUND THRU	RIGHT	RTOR	WESTBOUND Left	Thru	Right	TOTAL VOLUMES
COUNT DATA															
07:00 AM	—	07:15 AM	3	2	13	0	0	0	33	5	0	14	10	0	80
07:15 AM	—	07:30 AM	5	5	29	0	0	0	82	13	2	40	30	0	206
07:30 AM	—	07:45 AM	21	50	50	0	0	0	172	36	17	111	49	0	506
07:45 AM	—	08:00 AM	52	135	55	0	0	0	254	77	35	198	90	0	896
08:00 AM	—	08:15 AM	65	183	82	0	0	0	358	93	38	224	132	0	1175
08:15 AM	—	08:30 AM	69	189	88	0	0	0	466	95	42	236	200	0	1385
08:30 AM	—	08:45 AM	70	190	96	0	0	0	539	98	42	245	248	0	1528
08:45 AM	—	09:00 AM	72	193	101	0	0	0	592	106	44	259	282	0	1649
TOTAL BY PERIOD															
07:00 AM	—	07:15 AM	3	2	13	0	0	0	33	5	0	14	10	0	80
07:15 AM	—	07:30 AM	2	3	16	0	0	0	49	8	2	26	20	0	126
07:30 AM	—	07:45 AM	16	45	21	0	0	0	90	23	15	71	19	0	300
07:45 AM	—	08:00 AM	31	85	5	0	0	0	82	41	18	87	41	0	390
08:00 AM	—	08:15 AM	13	48	27	0	0	0	104	16	3	26	42	0	279
08:15 AM	—	08:30 AM	4	6	6	0	0	0	108	2	4	12	68	0	210
08:30 AM	—	08:45 AM	1	1	8	0	0	0	73	3	0	9	48	0	143
08:45 AM	—	09:00 AM	2	3	5	0	0	0	53	8	2	14	34	0	121
HOURLY TOTALS															
07:00 AM	—	08:00 AM	52	135	55	0	0	0	254	77	35	198	90	0	896
07:15 AM	—	08:15 AM	62	181	69	0	0	0	325	88	38	210	122	0	1095
07:30 AM	—	08:30 AM	64	184	59	0	0	0	384	82	40	196	170	0	1179
07:45 AM	—	08:45 AM	49	140	46	0	0	0	367	62	25	134	199	0	1022
08:00 AM	—	09:00 AM	20	58	46	0	0	0	338	29	9	61	192	0	753

ASSOCIATED TRANSPORTATION ENGINEERS

INTERSECTION TURNING MOVEMENT SUMMARY

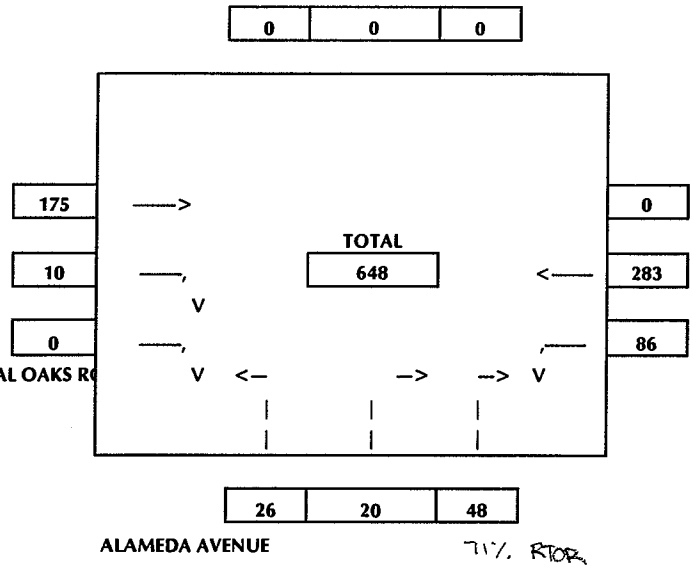
PROJECT: 7400 CATHEDRAL OAKS PROJECT | PROJECT #: 10086 | COUNT DATE: 01-11-11 | FILE NAME: 04PM

N-S Approach: ALAMEDA AVENUE | COUNT TIME: 04:00 PM TO 6:00

E-W Approach: CATHEDRAL OAKS ROAD | CITY: GOLETA | WEATHER: OVERCAST

PEAK HOUR: 04:30 PM TO 05:30 PM

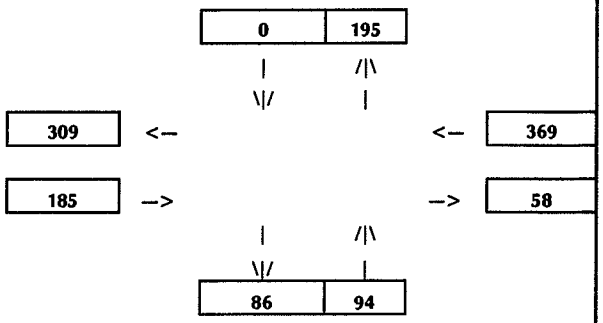
NORTH



APPROACH LANES

CONTROL TYPE: SIGNAL

ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	—	To	NORTHBOUND LEFT	RIGHT	RTOR		EASTBOUND THRU	RIGHT	RTOR	WESTBOUND LEFT	THRU	TOTAL VOLUMES
COUNT DATA												
04:00 PM	—	04:15 PM	8	5	11		52	5	0	18	46	145
04:15 PM	—	04:30 PM	10	8	21		100	5	0	36	96	276
04:30 PM	—	04:45 PM	13	10	33		151	9	0	60	160	436
04:45 PM	—	05:00 PM	19	21	48		192	11	0	89	217	597
05:00 PM	—	05:15 PM	28	27	61		225	13	0	108	283	745
05:15 PM	—	05:30 PM	36	28	69		275	15	0	122	379	924
05:30 PM	—	05:45 PM	39	32	72		316	16	0	137	467	1079
05:45 PM	—	06:00 PM	41	32	76		357	21	0	151	528	1206

TOTAL BY PERIOD															
04:00 PM	—	04:15 PM	8	5	11	0	0	0	52	5	0	18	46	0	145
04:15 PM	—	04:30 PM	2	3	10	0	0	0	48	0	0	18	50	0	131
04:30 PM	—	04:45 PM	3	2	12	0	0	0	51	4	0	24	64	0	160
04:45 PM	—	05:00 PM	6	11	15	0	0	0	41	2	0	29	57	0	161
05:00 PM	—	05:15 PM	9	6	13	0	0	0	33	2	0	19	66	0	148
05:15 PM	—	05:30 PM	8	1	8	0	0	0	50	2	0	14	96	0	179
05:30 PM	—	05:45 PM	3	4	3	0	0	0	41	1	0	15	88	0	155
05:45 PM	—	06:00 PM	2	0	4	0	0	0	41	5	0	14	61	0	127
HOURLY TOTALS															
04:00 PM	—	05:00 PM	19	21	48	0	0	0	192	11	0	89	217	0	597
04:15 PM	—	05:15 PM	20	22	50	0	0	0	173	8	0	90	237	0	600
04:30 PM	—	05:30 PM	26	20	48	0	0	0	175	10	0	86	283	0	648
04:45 PM	—	05:45 PM	26	22	39	0	0	0	165	7	0	77	307	0	643
05:00 PM	—	06:00 PM	22	11	28	0	0	0	165	10	0	62	311	0	609

Intersection Turning Movement

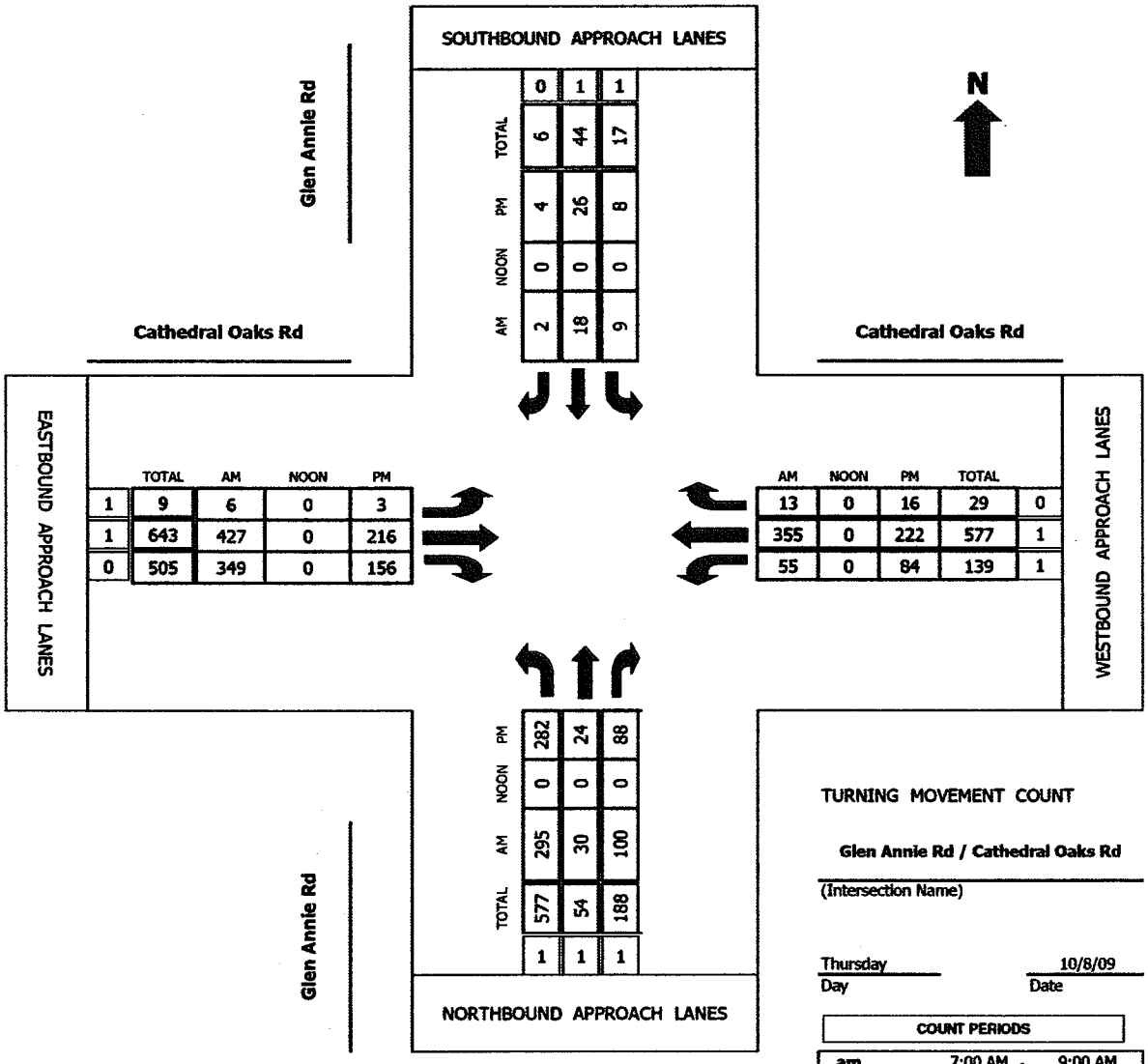
Prepared by:

NDS

National Data & Surveying Services

TMC Summary of Glen Annie Rd/Cathedral Oaks Rd

Project #: 09-8098-001



	TOTAL	AM	NOON	PM
1	9	6	0	3
1	643	427	0	216
0	505	349	0	156

	TOTAL	AM	NOON	PM
0	1	1		
6	44	17	TOTAL	
4	26	8	PM	
0	0	0	NOON	
2	18	9	AM	

AM	NOON	PM	TOTAL	
13	0	16	29	0
355	0	222	577	1
55	0	84	139	1

	TOTAL	AM	NOON	PM
PM	282	24	88	
NOON	0	0	0	
AM	295	30	100	
TOTAL	577	54	188	
	1	1	1	

TURNING MOVEMENT COUNT

Glen Annie Rd / Cathedral Oaks Rd

(Intersection Name)

Thursday — Day

10/8/09 — Date

COUNT PERIODS		
am	7:00 AM -	9:00 AM
noon	-	
pm	4:00 PM -	6:00 PM

CONTROL: Signalized

AM PEAK HOUR	730 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	415 PM

Intersection Turning Movement

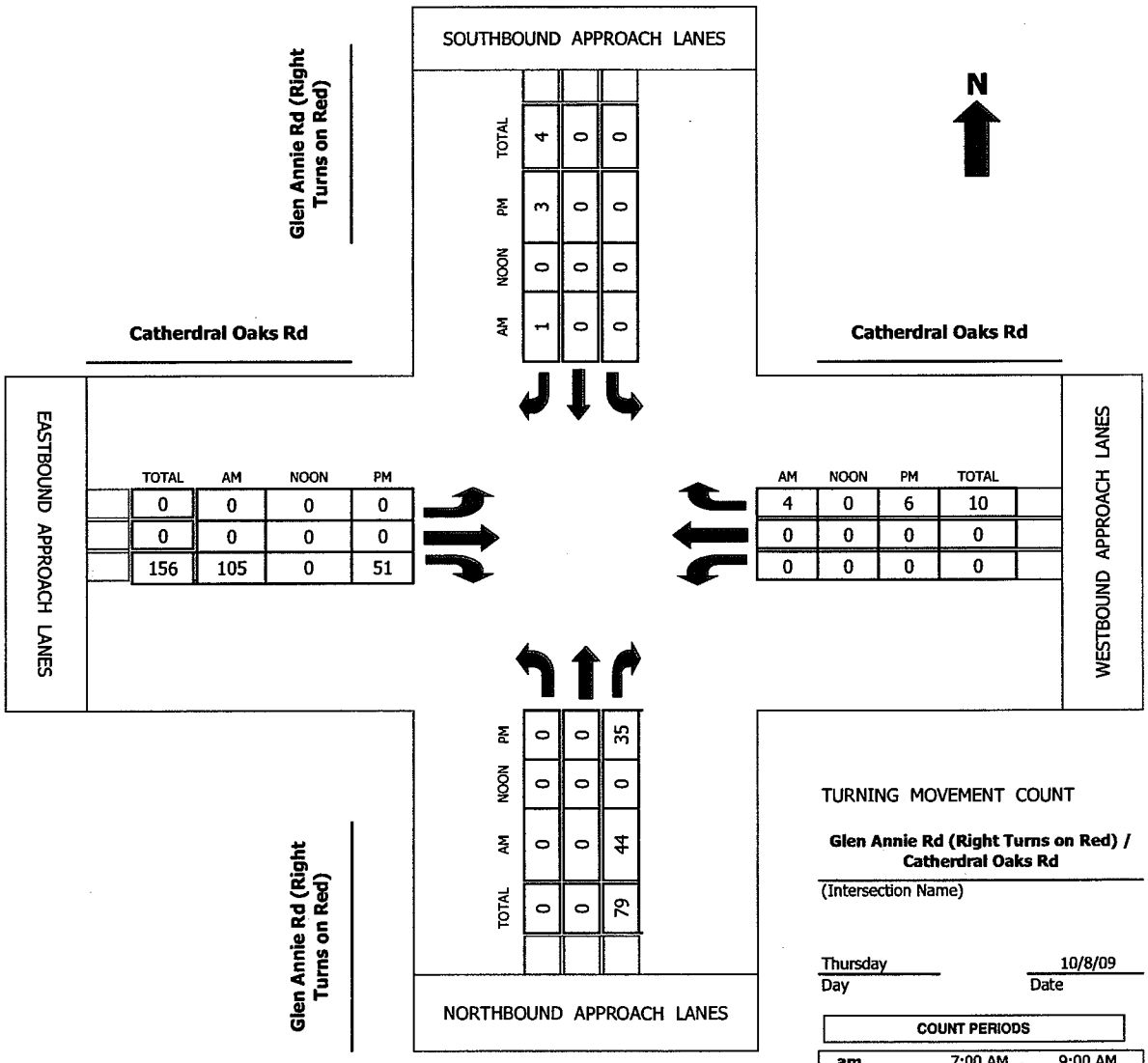
Prepared by:

National Data & Surveying Services

TMC Summary of Glen Annie Rd (Right Turns on Red)/Catherdral Oaks Rd

Project #: 09-8098-002

Right Turns on Red



TURNING MOVEMENT COUNT

Glen Annie Rd (Right Turns on Red) / Catherdral Oaks Rd

(Intersection Name)

Thursday (Day) 10/8/09 (Date)

COUNT PERIODS			
am	7:00 AM	-	9:00 AM
noon		-	
pm	4:00 PM	-	6:00 PM

CONTROL: Right Turns on Red

AM PEAK HOUR	730 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	415 PM

Intersection Turning Movement

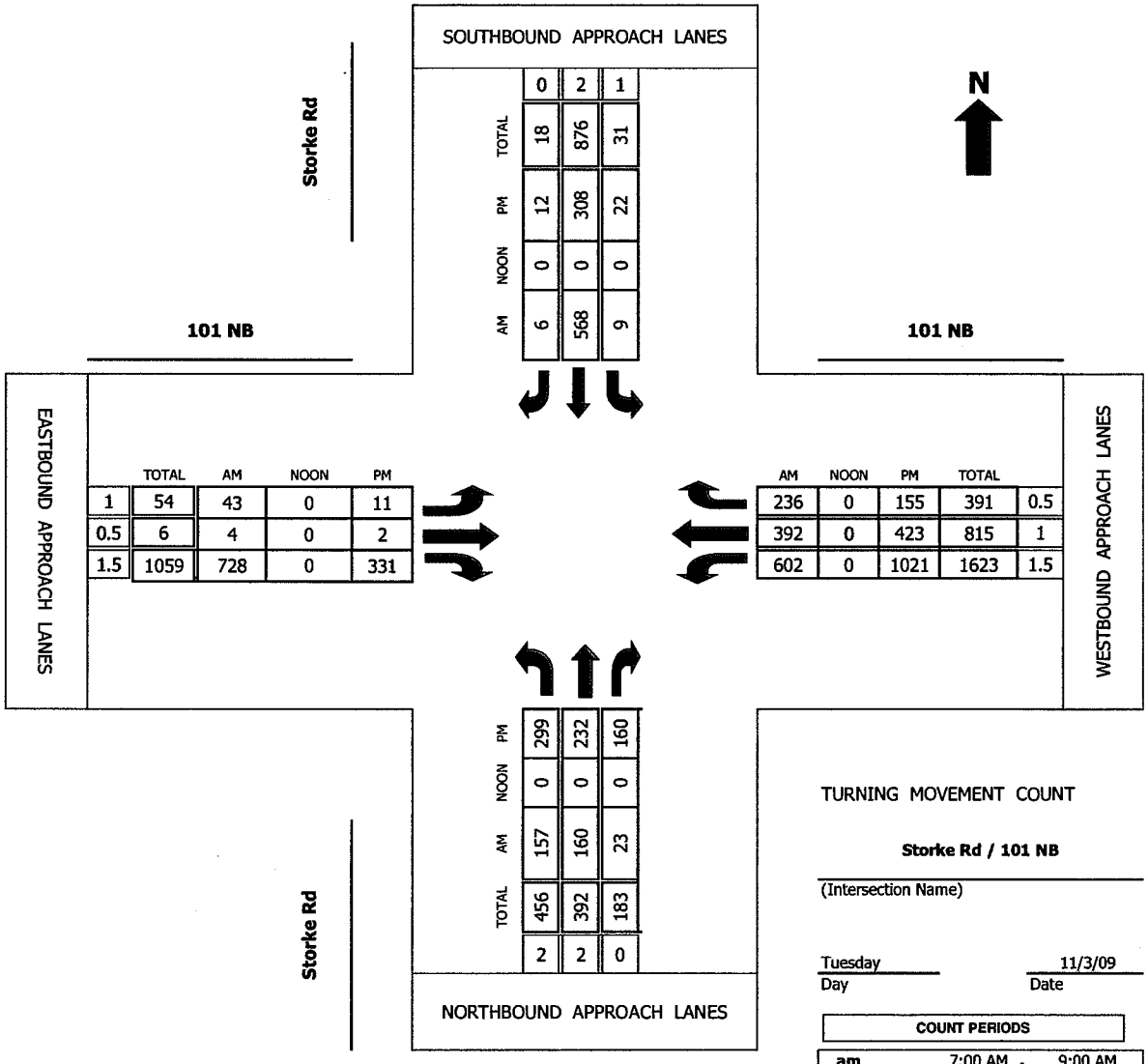
Prepared by:

NDS

National Data & Surveying Services

TMC Summary of Storke Rd/101 NB

Project #: 09-8107-001



	TOTAL	AM	NOON	PM
1	54	43	0	11
0.5	6	4	0	2
1.5	1059	728	0	331

	AM	NOON	PM	TOTAL	
236	0	155	391	0.5	
392	0	423	815	1	
602	0	1021	1623	1.5	

TOTAL	18	876	31
PM	12	308	22
NOON	0	0	0
AM	6	568	9
	0	2	1

PM	299	232	160
NOON	0	0	0
AM	157	160	23
TOTAL	456	392	183
	2	2	0

TURNING MOVEMENT COUNT

Storke Rd / 101 NB

(Intersection Name)

Tuesday — Day

11/3/09 — Date

COUNT PERIODS		
am	7:00 AM -	9:00 AM
noon	-	
pm	4:00 PM -	6:00 PM

CONTROL: Signalized

AM PEAK HOUR	730 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	500 PM

Intersection Turning Movement

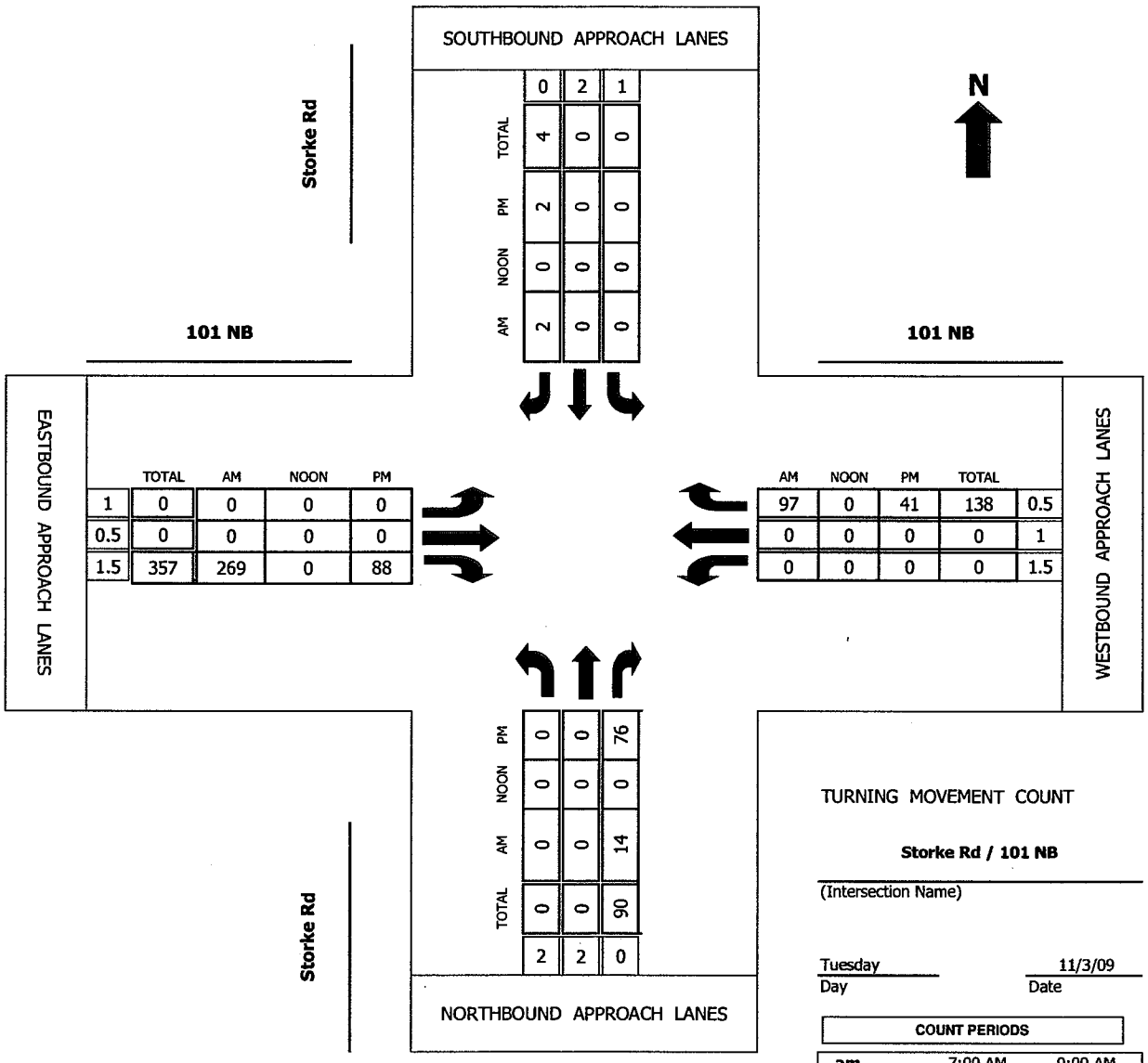
Prepared by:

National Data & Surveying Services

TMC Summary of Storke Rd/101 NB

Project #: 09-8107 RTOR-001

Right Turns on Red



TURNING MOVEMENT COUNT

Storke Rd / 101 NB

(Intersection Name)

Tuesday (Day) 11/3/09 (Date)

COUNT PERIODS			
am	7:00 AM	-	9:00 AM
noon		-	
pm	4:00 PM	-	6:00 PM

CONTROL: Signalized

AM PEAK HOUR	730 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	500 PM

Intersection Turning Movement

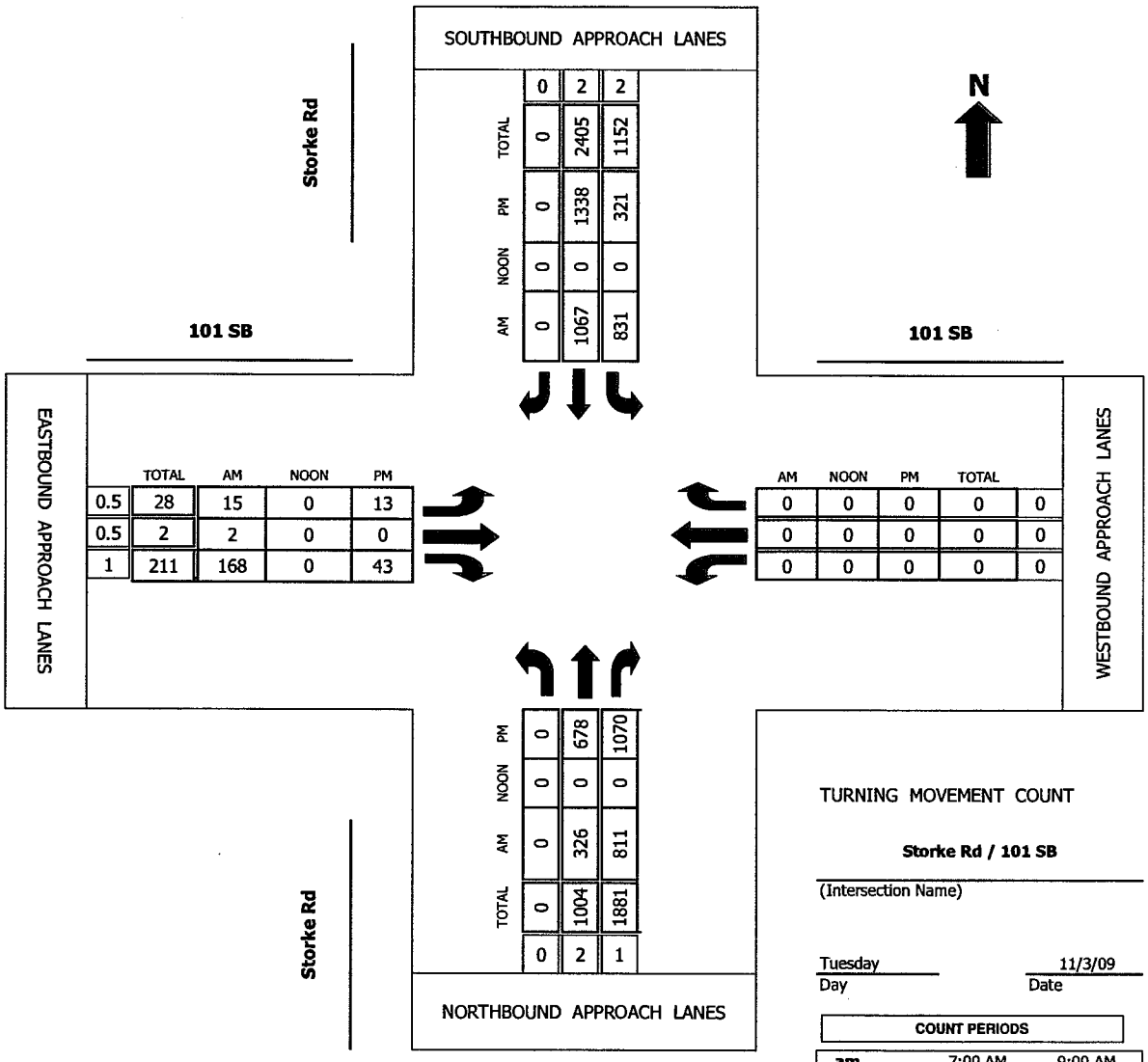
Prepared by:

NDS

National Data & Surveying Services

TMC Summary of Storke Rd/101 SB

Project #: 09-8107-002



	TOTAL	AM	NOON	PM
0	2	2		
0	2405	1152		
0	1338	321		
0	0	0		
0	1067	831		

	TOTAL	AM	NOON	PM
0.5	28	15	0	13
0.5	2	2	0	0
1	211	168	0	43

AM	NOON	PM	TOTAL	
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

	TOTAL	AM	NOON	PM
0	1004	326	0	678
0	0	0	0	0
0	0	811	0	1070
0	1881			
0	2	1		

TURNING MOVEMENT COUNT

Storke Rd / 101 SB

(Intersection Name)

Tuesday — Day

11/3/09 — Date

COUNT PERIODS			
am	7:00 AM	-	9:00 AM
noon		-	
pm	4:00 PM	-	6:00 PM

CONTROL: Signalized

AM PEAK HOUR	730 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	500 PM

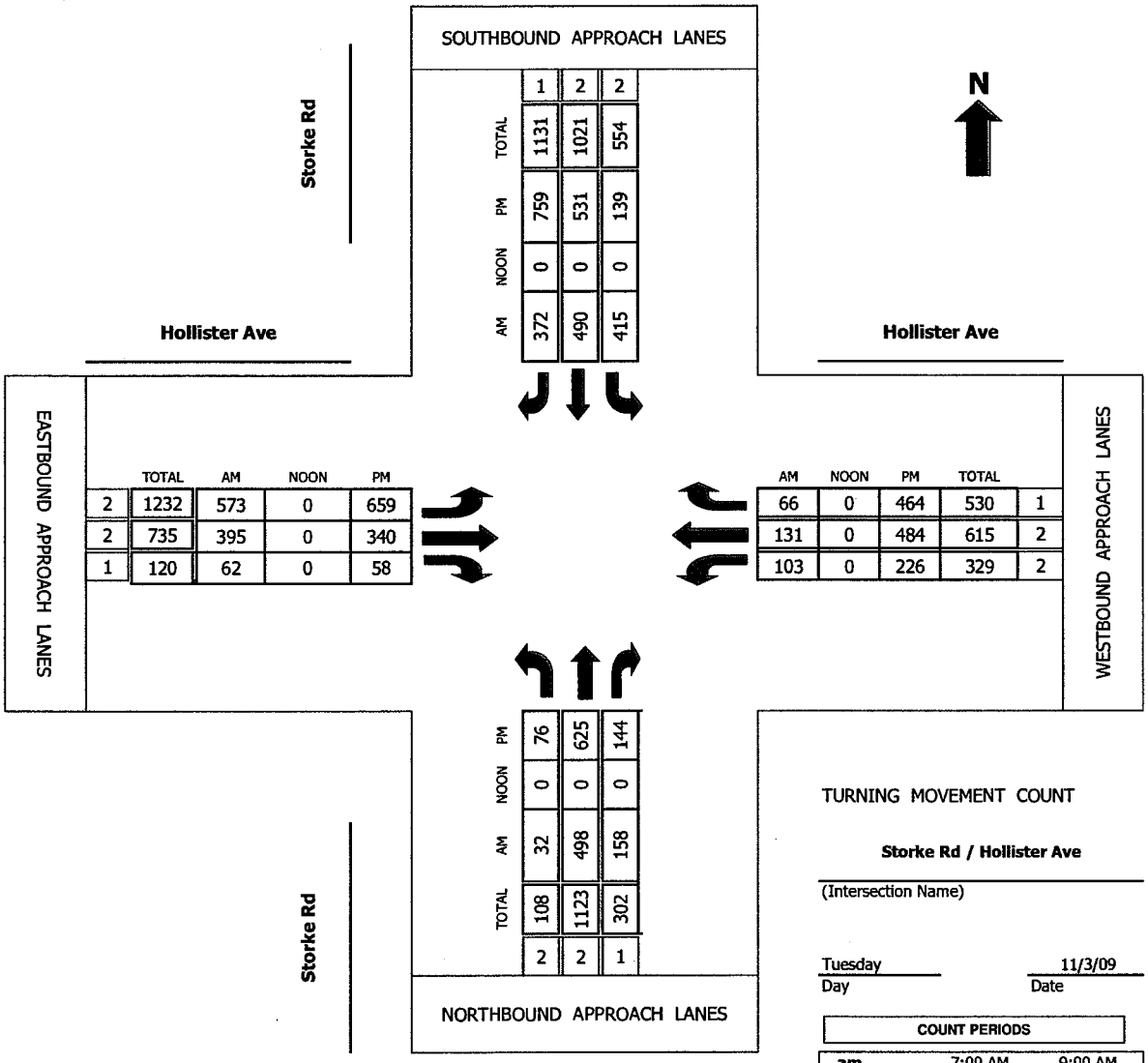
Intersection Turning Movement

Prepared by:

National Data & Surveying Services

TMC Summary of Storke Rd/Hollister Ave

Project #: 09-8107-005



	1	2	2
TOTAL	1131	1021	554
PM	759	531	139
NOON	0	0	0
AM	372	490	415

	TOTAL	AM	NOON	PM
2	1232	573	0	659
2	735	395	0	340
1	120	62	0	58

AM	NOON	PM	TOTAL	
66	0	464	530	1
131	0	484	615	2
103	0	226	329	2

	76	625	144
PM			
NOON	0	0	0
AM	32	498	158
TOTAL	108	1123	302
	2	2	1

TURNING MOVEMENT COUNT

Storke Rd / Hollister Ave

(Intersection Name)

Tuesday — Day

11/3/09 — Date

COUNT PERIODS		
am	7:00 AM -	9:00 AM
noon	-	
pm	4:00 PM -	6:00 PM

CONTROL: Signalized

AM PEAK HOUR	730 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	500 PM

Intersection Turning Movement

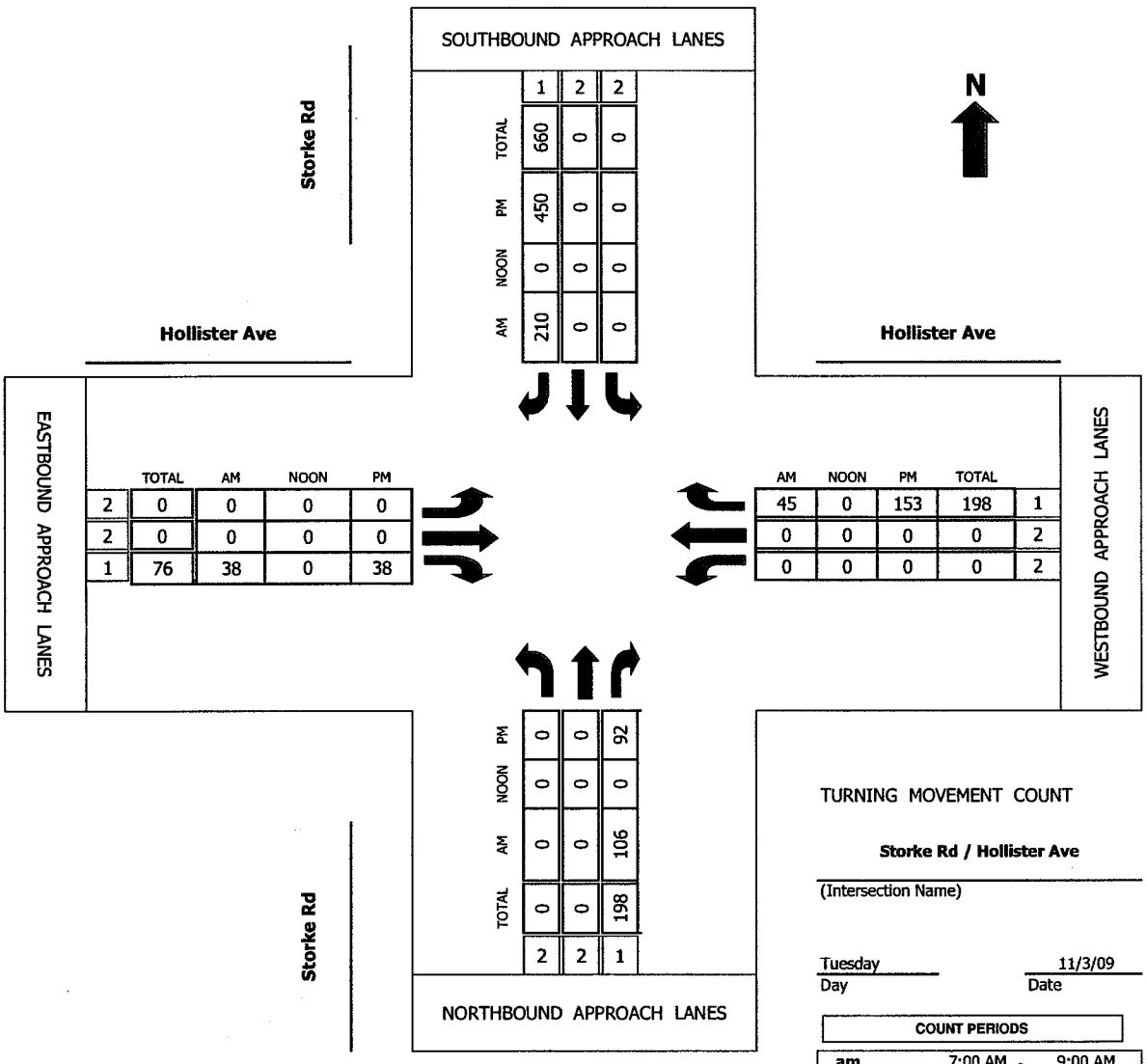
Prepared by:

National Data & Surveying Services

TMC Summary of Storke Rd/Hollister Ave

Project #: 09-8107 RTOR-005

Right Turns on Red



TURNING MOVEMENT COUNT

Storke Rd / Hollister Ave

(Intersection Name)

Tuesday (Day) 11/3/09 (Date)

COUNT PERIODS			
am	7:00 AM	-	9:00 AM
noon		-	
pm	4:00 PM	-	6:00 PM

CONTROL: Signalized

AM PEAK HOUR	730 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	500 PM

Prepared by NDS/ATD

Volumes for: Wednesday, November 04, 2009	City:	Goleta	NB	SB	EB	WB	Total
Location: Storke N/o Hollister	Project:	09-8108-001	16,704	17,055	0	0	33,759

AM Period	NB		SB		EB	WB		PM Period	NB		SB		EB	WB	
00:00	44		24					12:00	340		295				
00:15	28		19					12:15	278		314				
00:30	17		17					12:30	281		332				
00:45	15	104	9	69			173	12:45	309	1208	313	1254			2462
01:00	19		13					13:00	274		265				
01:15	12		6					13:15	297		288				
01:30	14		11					13:30	298		240				
01:45	4	49	11	41			90	13:45	301	1170	252	1045			2215
02:00	9		12					14:00	295		279				
02:15	9		6					14:15	283		276				
02:30	11		19					14:30	334		310				
02:45	7	36	6	43			79	14:45	325	1237	304	1169			2406
03:00	5		5					15:00	340		314				
03:15	6		10					15:15	326		402				
03:30	7		17					15:30	371		369				
03:45	9	27	34	66			93	15:45	297	1334	377	1462			2796
04:00	10		17					16:00	369		357				
04:15	12		9					16:15	364		330				
04:30	16		21					16:30	382		329				
04:45	16	54	42	89			143	16:45	370	1485	330	1346			2831
05:00	36		15					17:00	433		324				
05:15	28		32					17:15	444		346				
05:30	33		53					17:30	395		354				
05:45	57	154	64	164			318	17:45	365	1637	333	1357			2994
06:00	49		111					18:00	338		319				
06:15	81		133					18:15	270		242				
06:30	146		158					18:30	273		221				
06:45	163	439	171	573			1012	18:45	243	1124	219	1001			2125
07:00	138		216					19:00	225		188				
07:15	223		244					19:15	167		205				
07:30	256		267					19:30	213		129				
07:45	277	894	321	1048			1942	19:45	158	763	179	701			1464
08:00	234		307					20:00	149		145				
08:15	233		294					20:15	142		142				
08:30	273		279					20:30	140		125				
08:45	291	1031	315	1195			2226	20:45	118	549	130	542			1091
09:00	199		251					21:00	117		129				
09:15	180		220					21:15	108		119				
09:30	194		226					21:30	112		97				
09:45	173	746	233	930			1676	21:45	91	428	118	463			891
10:00	173		243					22:00	71		79				
10:15	181		237					22:15	62		70				
10:30	223		249					22:30	61		65				
10:45	223	800	275	1004			1804	22:45	36	230	43	257			487
11:00	247		272					23:00	53		46				
11:15	227		257					23:15	45		42				
11:30	283		263					23:30	39		35				
11:45	277	1034	284	1076			2110	23:45	34	171	37	160			331
Total Vol.		5368		6298			11666			11336		10757			22093

	NB	SB	EB	WB	Total
Daily Totals :	16,704	17,055	0	0	33,759

	AM			PM			
Split %	46.0%	54.0%	34.6%		51.3%	48.7%	65.4%
AM				PM			
Peak Hr.	11:30	11:45	11:45	Peak Hr.	16:45	15:15	16:45
Volume	1176	1225	2401	Volume	1642	1506	2996
P.H.F.	0.866	0.923	0.945	P.H.F.	0.925	0.935	0.948
7 - 9 Vol.	1925	2243	4168	4 - 6 Vol.	3122	2703	5825
Peak Hr.	08:00	07:45	08:00	Peak Hr.	16:45	17:00	16:45
Volume	1031	1201	2226	Volume	1642	1357	2996
P.H.F.	0.886	0.935	0.918	P.H.F.	0.925	0.958	0.948

Description 1 : GLEN ANNIE ROAD N/O CALLE REAL
Description 2 :
Description 3 :

Site: 10086
Date: 1/12/2011
Wednesday

24 Hour Volume (2 Channel/pg., 60 Min.)

Interval Begin	SOUTH	NORTH	Combined
12:00 AM	11	24	35
1:00 AM	6	17	23
2:00 AM	3	16	19
3:00 AM	3	4	7
4:00 AM	10	9	19
5:00 AM	44	36	80
6:00 AM	110	135	245
7:00 AM	359	625	984
8:00 AM	302	403	705
9:00 AM	207	200	407
10:00 AM	182	206	388
11:00 AM	238	250	488
12:00 PM	287	364	651
1:00 PM	244	268	512
2:00 PM	285	462	747
3:00 PM	452	538	990
4:00 PM	277	415	692
5:00 PM	299	514	813
6:00 PM	157	345	502
7:00 PM	108	198	306
8:00 PM	80	142	222
9:00 PM	77	159	236
10:00 PM	30	73	103
11:00 PM	24	42	66
Totals	3795	5445	9240
	41.1 %	58.9 %	

Peak Hours

AM	7:00 AM	7:00 AM	7:00 AM
Volume	359	625	984
PM	3:00 PM	3:00 PM	3:00 PM
Volume	452	538	990

Description 1 : CATHEDRAL OAKS ROAD W/O GLEN ANNIE ROAD
Description 2 :
Description 3 :

Site: 10086
Date: 1/12/2011
Wednesday

24 Hour Volume (2 Channel/pg., 60 Min.)

Interval Begin	WESTBOU ND	EASTBOU ND	Combined
12:00 AM	21	11	32
1:00 AM	16	7	23
2:00 AM	11	1	12
3:00 AM	3	1	4
4:00 AM	3	8	11
5:00 AM	23	56	79
6:00 AM	119	143	262
7:00 AM	598	669	1267
8:00 AM	257	493	750
9:00 AM	143	230	373
10:00 AM	134	202	336
11:00 AM	174	196	370
12:00 PM	338	323	661
1:00 PM	216	264	480
2:00 PM	456	367	823
3:00 PM	450	677	1127
4:00 PM	344	309	653
5:00 PM	445	329	774
6:00 PM	297	163	460
7:00 PM	185	129	314
8:00 PM	150	94	244
9:00 PM	148	93	241
10:00 PM	61	33	94
11:00 PM	38	23	61
Totals	4630 49.0 %	4821 51.0 %	9451

Peak Hours

AM	7:00 AM	7:00 AM	7:00 AM
Volume	598	669	1267
PM	2:00 PM	3:00 PM	3:00 PM
Volume	456	677	1127

INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

Reference 1 Winchester Canyon Road/Cathedral Oaks Road
Reference 2 U.S. 101 NB Ramps- Calle Real/Winchester Canyon Road
Reference 3 Cathedral Oaks Road/Northgate Drive-Evergreen Drive
Reference 4 Cathedral Oaks Road/Alameda Avenue
Reference 5 Glen Annie Road/Cathedral Oaks Road
Reference 6 U.S. 101 NB Ramps/Glen Annie Road
Reference 7 U.S. 101 SB Ramps/Storke Road
Reference 8 Hollister Avenue/Storke Road
Reference A Cathedral Oaks Road/Calle Real
Reference B U.S. 101 SB Ramps/Cathedral Oaks Road
Reference C Cathedral Oaks Road/Hollister Avenue

ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	*MMF*	Intersection	*01_EX_AM*
Agency/Co.	*ATE*	Jurisdiction	*GOLETA*
Date Performed	*1/13/2011*	Analysis Year	*EXISTING*
Analysis Time Period	*A.M. PEAK HOUR*		

Project ID *#10086 - 7400 CATHEDRAL OAKS PROJECT*

East/West Street: *CATHEDRAL OAKS ROAD* | North/South Street: *WINCHESTER CANYON ROAD*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*15*	*97*	*10*	*10*	*136*	*11*
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*33*	*19*	*54*	*23*	*27*	*58*
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	*L*	*TR*	*L*	*TR*	*LT*	*R*	*LTR*	
PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	
Flow Rate (veh/h)	*15*	*107*	*10*	*147*	*52*	*54*	*108*	
% Heavy Vehicles	*4*	*4*	*4*	*4*	*4*	*4*	*4*	
No. Lanes	*2*		*2*		*2*		*1*	
Geometry Group	*5*		*5*		*5*		*4b*	
Duration, T	*0.25*							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	*1.0*	*0.0*	*1.0*	*0.0*	*0.6*	*0.0*	*0.2*	
Prop. Right-Turns	*0.0*	*0.1*	*0.0*	*0.1*	*0.0*	*1.0*	*0.5*	
Prop. Heavy Vehicle	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	
hLT-adj	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.2*	*0.2*
hRT-adj	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.6*	*-0.6*
hHV-adj	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*
hadj, computed	*0.6*	*0.0*	*0.6*	*0.0*	*0.4*	*-0.6*	*-0.2*	

Departure Headway and Service Time

hd, initial value (s)	*3.20*	*3.20*	*3.20*	*3.20*	*3.20*	*3.20*	*3.20*	
x, initial	*0.01*	*0.10*	*0.01*	*0.13*	*0.05*	*0.05*	*0.10*	
hd, final value (s)	*5.80*	*5.23*	*5.76*	*5.21*	*5.72*	*4.70*	*5.14*	
x, final value	*0.02*	*0.16*	*0.02*	*0.21*	*0.08*	*0.07*	*0.15*	
Move-up time, m (s)	*2.3*		*2.3*		*2.3*		*2.3*	
Service Time, t_s (s)	*3.5*	*2.9*	*3.5*	*2.9*	*3.4*	*2.4*	*2.8*	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	*265*	*357*	*260*	*397*	*302*	*304*	*358*	
Delay (s/veh)	*8.64*	*8.89*	*8.56*	*9.31*	*8.94*	*7.76*	*8.77*	
LOS	*A*	*A*	*A*	*A*	*A*	*A*	*A*	
Approach: Delay (s/veh)	*8.86*		*9.26*		*8.34*		*8.77*	
LOS	*A*		*A*		*A*		*A*	
Intersection Delay (s/veh)	*8.86*							
Intersection LOS	*A*							

ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	MMF	Intersection	01_EX+PR_AM
Agency/Co.	ATE	Jurisdiction	GOLETA
Date Performed	1/13/2011	Analysis Year	EXISTING+PROJECT
Analysis Time Period	A.M. PEAK HOUR		

Project ID #10086 - 7400 CATHEDRAL OAKS PROJECT

East/West Street: CATHEDRAL OAKS ROAD | North/South Street: WINCHESTER CANYON ROAD

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	15	97	10	10	139	11
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	33	19	55	23	27	58
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L	TR	L	TR	LT	R	LTR	
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flow Rate (veh/h)	15	107	10	150	52	55	108	
% Heavy Vehicles	4	4	4	4	4	4	4	
No. Lanes	2		2		2		1	
Geometry Group	5		5		5		4b	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	1.0	0.0	1.0	0.0	0.6	0.0	0.2	
Prop. Right-Turns	0.0	0.1	0.0	0.1	0.0	1.0	0.5	
Prop. Heavy Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
LT-adj	0.5	0.5	0.5	0.5	0.5	0.5	0.2	0.2
RT-adj	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
adj, computed	0.6	0.0	0.6	0.0	0.4	-0.6	-0.2	

Departure Headway and Service Time

hd, initial value (s)	3.20	3.20	3.20	3.20	3.20	3.20	3.20	
, initial	0.01	0.10	0.01	0.13	0.05	0.05	0.10	
d, final value (s)	5.80	5.24	5.77	5.21	5.73	4.71	5.15	
x, final value	0.02	0.16	0.02	0.22	0.08	0.07	0.15	
love-up time, m (s)	2.3		2.3		2.3		2.3	
ervice Time, t_s (s)	3.5	2.9	3.5	2.9	3.4	2.4	2.8	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	265	357	260	400	302	305	358	
elay (s/veh)	8.65	8.90	8.56	9.35	8.95	7.78	8.79	
LOS	A	A	A	A	A	A	A	
pproach: Delay (s/veh)	8.87		9.30		8.35		8.79	
LOS	A		A		A		A	
Intersection Delay (s/veh)	8.88							
tersection LOS	A							

ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	MMF	Intersection	01_EX_AM
Agency/Co.	ATE	Jurisdiction	GOLETA
Date Performed	2/23/2011	Analysis Year	CUMULATIVE
Analysis Time Period	A.M. PEAK HOUR		

Project ID #10086 - 7400 CATHEDRAL OAKS PROJECT

East/West Street: CATHEDRAL OAKS ROAD | North/South Street: WINCHESTER CANYON ROAD

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	16	118	11	10	144	11
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	36	19	59	25	27	62
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L	TR	L	TR	LT	R	LTR	
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flow Rate (veh/h)	16	129	10	155	55	59	114	
% Heavy Vehicles	4	4	4	4	4	4	4	
No. Lanes	2		2		2		1	
Geometry Group	5		5		5		4b	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	1.0	0.0	1.0	0.0	0.7	0.0	0.2	
Prop. Right-Turns	0.0	0.1	0.0	0.1	0.0	1.0	0.5	
Prop. Heavy Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
hLT-adj	0.5	0.5	0.5	0.5	0.5	0.5	0.2	0.2
hRT-adj	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	0.6	0.0	0.6	0.0	0.4	-0.6	-0.2	

Departure Headway and Service Time

hd, initial value (s)	3.20	3.20	3.20	3.20	3.20	3.20	3.20	
x, initial	0.01	0.11	0.01	0.14	0.05	0.05	0.10	
hd, final value (s)	5.86	5.30	5.84	5.29	5.83	4.80	5.24	
x, final value	0.03	0.19	0.02	0.23	0.09	0.08	0.17	
Move-up time, m (s)	2.3		2.3		2.3		2.3	
Service Time, t_s (s)	3.6	3.0	3.5	3.0	3.5	2.5	2.9	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	266	379	260	405	305	309	364	
Delay (s/veh)	8.72	9.23	8.64	9.54	9.10	7.91	8.98	
LOS	A	A	A	A	A	A	A	
Approach: Delay (s/veh)	9.18		9.48		8.49		8.98	
LOS	A		A		A		A	
Intersection Delay (s/veh)	9.08							
Intersection LOS	A							

ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	MMF	Intersection	01_EX_AM
Agency/Co.	ATE	Jurisdiction	GOLETA
Date Performed	2/23/2011	Analysis Year	CUMULATIVE+PROJECT
Analysis Time Period	A.M. PEAK HOUR		

Project ID #10086 - 7400 CATHEDRAL OAKS PROJECT

East/West Street: CATHEDRAL OAKS ROAD | North/South Street: WINCHESTER CANYON ROAD

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	16	118	11	10	147	11
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	36	19	60	25	27	62
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L	TR	L	TR	LT	R	LTR	
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flow Rate (veh/h)	16	129	10	158	55	60	114	
% Heavy Vehicles	4	4	4	4	4	4	4	
No. Lanes	2		2		2		1	
Geometry Group	5		5		5		4b	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	1.0	0.0	1.0	0.0	0.7	0.0	0.2	
Prop. Right-Turns	0.0	0.1	0.0	0.1	0.0	1.0	0.5	
Prop. Heavy Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
hLT-adj	0.5	0.5	0.5	0.5	0.5	0.5	0.2	0.2
hRT-adj	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	0.6	0.0	0.6	0.0	0.4	-0.6	-0.2	

Departure Headway and Service Time

hd, initial value (s)	3.20	3.20	3.20	3.20	3.20	3.20	3.20	
x, initial	0.01	0.11	0.01	0.14	0.05	0.05	0.10	
hd, final value (s)	5.87	5.30	5.84	5.29	5.84	4.81	5.25	
x, final value	0.03	0.19	0.02	0.23	0.09	0.08	0.17	
Move-up time, m (s)	2.3		2.3		2.3		2.3	
Service Time, t_s (s)	3.6	3.0	3.5	3.0	3.5	2.5	2.9	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	266	379	260	408	305	310	364	
Delay (s/veh)	8.72	9.24	8.64	9.58	9.11	7.93	8.99	
LOS	A	A	A	A	A	A	A	
Approach: Delay (s/veh)	9.19		9.53		8.50		8.99	
LOS	A		A		A		A	
Intersection Delay (s/veh)	9.11							
Intersection LOS	A							

ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	*MMF*	Intersection	*01_EX_PM*
Agency/Co.	*ATE*	Jurisdiction	*GOLETA*
Date Performed	*1/13/2011*	Analysis Year	*EXISTING*
Analysis Time Period	*P.M. PEAK HOUR*		

Project ID *#10086 - 7400 CATHEDRAL OAKS PROJECT*

East/West Street: *CATHEDRAL OAKS ROAD* | North/South Street: *WINCHESTER CANYON ROAD*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	18	76	14	17	47	12
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	20	11	30	12	46	31
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L	TR	L	TR	LT	R	LTR	
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flow Rate (veh/h)	18	90	17	59	31	30	89	
% Heavy Vehicles	4	4	4	4	4	4	4	
No. Lanes	2		2		2		1	
Geometry Group	5		5		5		4b	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	1.0	0.0	1.0	0.0	0.6	0.0	0.1	
Prop. Right-Turns	0.0	0.2	0.0	0.2	0.0	1.0	0.3	
Prop. Heavy Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
hLT-adj	0.5	0.5	0.5	0.5	0.5	0.5	0.2	0.2
hRT-adj	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	0.6	-0.0	0.6	-0.1	0.4	-0.6	-0.1	

Departure Headway and Service Time

hd, initial value (s)	3.20	3.20	3.20	3.20	3.20	3.20	3.20	
x, initial	0.02	0.08	0.02	0.05	0.03	0.03	0.08	
hd, final value (s)	5.52	4.91	5.55	4.91	5.43	4.40	4.91	
x, final value	0.03	0.12	0.03	0.08	0.05	0.04	0.12	
Move-up time, m (s)	2.3		2.3		2.3		2.3	
Service Time, t_s (s)	3.2	2.6	3.2	2.6	3.1	2.1	2.6	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	268	340	267	309	281	280	339	
Delay (s/veh)	8.38	8.30	8.40	8.03	8.39	7.27	8.29	
LOS	A	A	A	A	A	A	A	
Approach: Delay (s/veh)	8.31		8.12		7.84		8.29	
LOS	A		A		A		A	
Intersection Delay (s/veh)	8.17							
Intersection LOS	A							

ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	*MMF*	Intersection	*01_EX+PR_PM*
Agency/Co.	*ATE*	Jurisdiction	*GOLETA*
Date Performed	*1/13/2011*	Analysis Year	*EXISTING+PROJECT*
Analysis Time Period	*P.M. PEAK HOUR*		

Project ID *#10086 - 7400 CATHEDRAL OAKS PROJECT*

East/West Street: *CATHEDRAL OAKS ROAD* | North/South Street: *WINCHESTER CANYON ROAD*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	18	78	14	17	49	12
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	20	11	32	12	46	31
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	*L*	*TR*	*L*	*TR*	*LT*	*R*	*LTR*	
PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	
Flow Rate (veh/h)	*18*	*92*	*17*	*61*	*31*	*32*	*89*	
% Heavy Vehicles	*4*	*4*	*4*	*4*	*4*	*4*	*4*	
No. Lanes	*2*		*2*		*2*		*1*	
Geometry Group	*5*		*5*		*5*		*4b*	
Duration, T	*0.25*							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	*1.0*	*0.0*	*1.0*	*0.0*	*0.6*	*0.0*	*0.1*	
Prop. Right-Turns	*0.0*	*0.2*	*0.0*	*0.2*	*0.0*	*1.0*	*0.3*	
Prop. Heavy Vehicle	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	
hLT-adj	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.2*	*0.2*
hRT-adj	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.6*	*-0.6*
hHV-adj	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*
hadj, computed	*0.6*	*-0.0*	*0.6*	*-0.1*	*0.4*	*-0.6*	*-0.1*	

Departure Headway and Service Time

hd, initial value (s)	*3.20*	*3.20*	*3.20*	*3.20*	*3.20*	*3.20*	*3.20*	
, initial	*0.02*	*0.08*	*0.02*	*0.05*	*0.03*	*0.03*	*0.08*	
d, final value (s)	*5.53*	*4.92*	*5.56*	*4.92*	*5.44*	*4.42*	*4.92*	
x, final value	*0.03*	*0.13*	*0.03*	*0.08*	*0.05*	*0.04*	*0.12*	
Move-up time, m (s)	*2.3*		*2.3*		*2.3*		*2.3*	
Service Time, t_s (s)	*3.2*	*2.6*	*3.3*	*2.6*	*3.1*	*2.1*	*2.6*	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	*268*	*342*	*267*	*311*	*281*	*282*	*339*	
Delay (s/veh)	*8.39*	*8.33*	*8.41*	*8.06*	*8.41*	*7.30*	*8.31*	
LOS	*A*	*A*	*A*	*A*	*A*	*A*	*A*	
Approach: Delay (s/veh)	*8.34*		*8.14*		*7.84*		*8.31*	
LOS	*A*		*A*		*A*		*A*	
Intersection Delay (s/veh)	*8.19*							
Intersection LOS	*A*							

ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	*MMF*	Intersection	*01_EX_PM*
Agency/Co.	*ATE*	Jurisdiction	*GOLETA*
Date Performed	*2/23/2011*	Analysis Year	*CUMULATIVE*
Analysis Time Period	*P.M. PEAK HOUR*		

Project ID *#10086 - 7400 CATHEDRAL OAKS PROJECT*

East/West Street: *CATHEDRAL OAKS ROAD* | North/South Street: *WINCHESTER CANYON ROAD*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*19*	*79*	*17*	*17*	*60*	*12*
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*21*	*11*	*30*	*12*	*46*	*32*
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	*L*	*TR*	*L*	*TR*	*LT*	*R*	*LTR*	
PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	
Flow Rate (veh/h)	*19*	*96*	*17*	*72*	*32*	*30*	*90*	
% Heavy Vehicles	*4*	*4*	*4*	*4*	*4*	*4*	*4*	
No. Lanes	*2*		*2*		*2*		*1*	
Geometry Group	*5*		*5*		*5*		*4b*	
Duration, T	*0.25*							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	*1.0*	*0.0*	*1.0*	*0.0*	*0.7*	*0.0*	*0.1*	
Prop. Right-Turns	*0.0*	*0.2*	*0.0*	*0.2*	*0.0*	*1.0*	*0.4*	
Prop. Heavy Vehicle	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	
hLT-adj	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.2*	*0.2*
hRT-adj	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.6*	*-0.6*
hHV-adj	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*
hadj, computed	*0.6*	*-0.1*	*0.6*	*-0.0*	*0.4*	*-0.6*	*-0.1*	

Departure Headway and Service Time

hd, initial value (s)	*3.20*	*3.20*	*3.20*	*3.20*	*3.20*	*3.20*	*3.20*	
x, initial	*0.02*	*0.09*	*0.02*	*0.06*	*0.03*	*0.03*	*0.08*	
hd, final value (s)	*5.54*	*4.92*	*5.57*	*4.95*	*5.49*	*4.46*	*4.96*	
x, final value	*0.03*	*0.13*	*0.03*	*0.10*	*0.05*	*0.04*	*0.12*	
Move-up time, m (s)	*2.3*		*2.3*		*2.3*		*2.3*	
Service Time, t_s (s)	*3.2*	*2.6*	*3.3*	*2.6*	*3.2*	*2.2*	*2.7*	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	*269*	*346*	*267*	*322*	*282*	*280*	*340*	
Delay (s/veh)	*8.41*	*8.36*	*8.42*	*8.19*	*8.47*	*7.33*	*8.36*	
LOS	*A*	*A*	*A*	*A*	*A*	*A*	*A*	
Approach: Delay (s/veh)	*8.37*		*8.23*		*7.92*		*8.36*	
LOS	*A*		*A*		*A*		*A*	
Intersection Delay (s/veh)	*8.25*							
Intersection LOS	*A*							

ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	*MMF*	Intersection	*01_EX_PM*
Agency/Co.	*ATE*	Jurisdiction	*GOLETA*
Date Performed	*2/23/2011*	Analysis Year	*CUMULATIVE+PROJECT*
Analysis Time Period	*P.M. PEAK HOUR*		

Project ID *#10086 - 7400 CATHEDRAL OAKS PROJECT*

East/West Street: *CATHEDRAL OAKS ROAD* | North/South Street: *WINCHESTER CANYON ROAD*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	19	81	17	17	62	12
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	21	11	32	12	46	32
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L	TR	L	TR	LT	R	LTR	
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flow Rate (veh/h)	19	98	17	74	32	32	90	
% Heavy Vehicles	4	4	4	4	4	4	4	
No. Lanes	2		2		2		1	
Geometry Group	5		5		5		4b	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	1.0	0.0	1.0	0.0	0.7	0.0	0.1	
Prop. Right-Turns	0.0	0.2	0.0	0.2	0.0	1.0	0.4	
Prop. Heavy Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
hLT-adj	0.5	0.5	0.5	0.5	0.5	0.5	0.2	0.2
hRT-adj	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	0.6	-0.1	0.6	-0.0	0.4	-0.6	-0.1	

Departure Headway and Service Time

hd, initial value (s)	3.20	3.20	3.20	3.20	3.20	3.20	3.20	
x, initial	0.02	0.09	0.02	0.07	0.03	0.03	0.08	
hd, final value (s)	5.55	4.93	5.57	4.96	5.50	4.47	4.97	
x, final value	0.03	0.13	0.03	0.10	0.05	0.04	0.12	
Move-up time, m (s)	2.3		2.3		2.3		2.3	
Service Time, t_s (s)	3.3	2.6	3.3	2.7	3.2	2.2	2.7	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	269	348	267	324	282	282	340	
Delay (s/veh)	8.42	8.39	8.42	8.22	8.48	7.35	8.38	
LOS	A	A	A	A	A	A	A	
Approach: Delay (s/veh)	8.39		8.26		7.92		8.38	
LOS	A		A		A		A	
Intersection Delay (s/veh)	8.27							
Intersection LOS	A							

ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	MMF
Agency/Co.	ATE
Date Performed	1/13/2010
Analysis Time Period	A.M. PEAK HOUR

Site Information

Intersection	02_EX AM
Jurisdiction	GOLETA
Analysis Year	EXISTING

Project ID #10086 - 7400 CATHEDRAL OAKS RPROJECT

East/West Street: CALLE REAL/US 101 NB OFF RAMP

North/South Street: WINCHESTER CANYON

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	55	0	0	0	118	90
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	0	0	0	0	164
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L		T	R			R	
PHF	1.00		1.00	1.00			1.00	
Flow Rate (veh/h)	55		118	90			164	
% Heavy Vehicles	4		4	4			4	
No. Lanes	1		2		0		1	
Geometry Group	3a		5				1	
Duration, T	1.00							

Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Prop. Left-Turns	1.0		0.0	0.0			0.0	
Prop. Right-Turns	0.0		0.0	1.0			1.0	
Prop. Heavy Vehicle	0.0		0.0	0.0			0.0	
fLT-adj	0.2	0.2	0.5	0.5			0.2	0.2
fRT-adj	-0.6	-0.6	-0.7	-0.7			-0.6	-0.6
fHV-adj	1.7	1.7	1.7	1.7			1.7	1.7
fadj, computed	0.3		0.1	-0.6			-0.5	

Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
hd, initial value (s)	3.20		3.20	3.20			3.20	
, initial	0.05		0.10	0.08			0.15	
d, final value (s)	4.85		4.97	4.27			3.97	
x, final value	0.07		0.16	0.11			0.18	
Move-up time, m (s)	2.0		2.3				2.0	
Service Time, t_s (s)	2.9		2.7	2.0			2.0	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	305		368	340			414	
Delay (s/veh)	8.24		8.64	7.48			7.84	
LOS	A		A	A			A	
Approach: Delay (s/veh)	8.24		8.14				7.84	
LOS	A		A				A	
Intersection Delay (s/veh)	8.04							
Intersection LOS	A							

ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	MMF	Intersection	02_EX+PR_AM
Agency/Co.	ATE	Jurisdiction	GOLETA
Date Performed	1/13/2010	Analysis Year	EXISTING+PROJECT
Analysis Time Period	A.M. PEAK HOUR		

Project ID #10086 - 7400 CATHEDRAL OAKS PROJECT

East/West Street: CALLE REAL/US 101 NB OFF RAMP | North/South Street: WINCHESTER CANYON

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	55	0	0	0	118	91
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	0	0	0	0	164
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L		T	R			R	
PHF	1.00		1.00	1.00			1.00	
Flow Rate (veh/h)	55		118	91			164	
% Heavy Vehicles	4		4	4			4	
No. Lanes	1		2		0		1	
Geometry Group	3a		5				1	
Duration, T	1.00							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	1.0		0.0	0.0			0.0	
Prop. Right-Turns	0.0		0.0	1.0			1.0	
Prop. Heavy Vehicle	0.0		0.0	0.0			0.0	
hLT-adj	0.2	0.2	0.5	0.5			0.2	0.2
hRT-adj	-0.6	-0.6	-0.7	-0.7			-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7			1.7	1.7
hadj, computed	0.3		0.1	-0.6			-0.5	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20	3.20			3.20	
x, initial	0.05		0.10	0.08			0.15	
hd, final value (s)	4.85		4.97	4.27			3.97	
x, final value	0.07		0.16	0.11			0.18	
Move-up time, m (s)	2.0		2.3				2.0	
Service Time, t_s (s)	2.9		2.7	2.0			2.0	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	305		368	341			414	
Delay (s/veh)	8.24		8.64	7.49			7.84	
LOS	A		A	A			A	
Approach: Delay (s/veh)	8.24		8.14				7.84	
LOS	A		A				A	
Intersection Delay (s/veh)	8.04							
Intersection LOS	A							

ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	MMF	Intersection	02_EX_PM
Agency/Co.	ATE	Jurisdiction	GOLETA
Date Performed	1/13/2010	Analysis Year	EXISTING
Analysis Time Period	P.M. PEAK HOUR		

Project ID #10086 - 7400 CATHEDRAL OAKS PROJECT

East/West Street: CALLE REAL/US 101 NB OFF RAMP | North/South Street: WINCHESTER CANYON

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	53	0	0	0	144	201
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	0	0	0	0	125
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L		T	R			R	
PHF	1.00		1.00	1.00			1.00	
Flow Rate (veh/h)	53		144	201			125	
% Heavy Vehicles	4		4	4			4	
No. Lanes	1		2		0		1	
Geometry Group	3a		5				1	
Duration, T	1.00							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	1.0		0.0	0.0			0.0	
Prop. Right-Turns	0.0		0.0	1.0			1.0	
Prop. Heavy Vehicle	0.0		0.0	0.0			0.0	
hLT-adj	0.2	0.2	0.5	0.5			0.2	0.2
hRT-adj	-0.6	-0.6	-0.7	-0.7			-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7			1.7	1.7
hadj, computed	0.3		0.1	-0.6			-0.5	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20	3.20			3.20	
, initial	0.05		0.13	0.18			0.11	
d, final value (s)	4.89		4.90	4.20			4.20	
x, final value	0.07		0.20	0.23			0.15	
Move-up time, m (s)	2.0		2.3				2.0	
Service Time, t_s (s)	2.9		2.6	1.9			2.2	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	303		394	451			375	
Delay (s/veh)	8.27		8.80	8.19			7.92	
LOS	A		A	A			A	
Approach: Delay (s/veh)	8.27		8.44				7.92	
LOS	A		A				A	
Intersection Delay (s/veh)	8.30							
Intersection LOS	A							

ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	MMF
Agency/Co.	ATE
Date Performed	1/13/2010
Analysis Time Period	P.M. PEAK HOUR

Site Information

Intersection	02_EX+PR_PM
Jurisdiction	GOLETA
Analysis Year	EXISTING+PROJECT

Project ID #10086 - 7400 CATHEDRAL OAKS PROJECT

East/West Street: CALLE REAL/US 101 NB OFF RAMP | North/South Street: WINCHESTER CANYON

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	53	0	0	0	144	203
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	0	0	0	0	125
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L		T	R			R	
PHF	1.00		1.00	1.00			1.00	
Flow Rate (veh/h)	53		144	203			125	
% Heavy Vehicles	4		4	4			4	
No. Lanes	1		2		0		1	
Geometry Group	3a		5				1	
Duration, T	1.00							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	1.0		0.0	0.0			0.0	
Prop. Right-Turns	0.0		0.0	1.0			1.0	
Prop. Heavy Vehicle	0.0		0.0	0.0			0.0	
PLT-adj	0.2	0.2	0.5	0.5			0.2	0.2
PRT-adj	-0.6	-0.6	-0.7	-0.7			-0.6	-0.6
PHV-adj	1.7	1.7	1.7	1.7			1.7	1.7
Padj, computed	0.3		0.1	-0.6			-0.5	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20	3.20			3.20	
x, initial	0.05		0.13	0.18			0.11	
d, final value (s)	4.89		4.90	4.20			4.21	
x, final value	0.07		0.20	0.24			0.15	
Move-up time, m (s)	2.0		2.3				2.0	
Service Time, t_s (s)	2.9		2.6	1.9			2.2	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	303		394	453			375	
Delay (s/veh)	8.27		8.80	8.20			7.93	
LOS	A		A	A			A	
Approach: Delay (s/veh)	8.27		8.45				7.93	
LOS	A		A				A	
Intersection Delay (s/veh)	8.31							
Intersection LOS	A							

ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	MMF	Intersection	02_CU_AM
Agency/Co.	ATE	Jurisdiction	GOLETA
Date Performed	1/13/2010	Analysis Year	CUMULATIVE
Analysis Time Period	A.M. PEAK HOUR		

Project ID #10086 - 7400 CATHEDRAL OAKS RPROJECT

East/West Street: CALLE REAL/US 101 NB OFF RAMP | North/South Street: WINCHESTER CANYON

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	80	0	0	0	233	118
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	0	0	0	0	160
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L		T	R			R	
PHF	1.00		1.00	1.00			1.00	
Flow Rate (veh/h)	80		233	118			160	
% Heavy Vehicles	4		4	4			4	
No. Lanes	1		2		0		1	
Geometry Group	3a		5				1	
Duration, T	1.00							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	1.0		0.0	0.0			0.0	
Prop. Right-Turns	0.0		0.0	1.0			1.0	
Prop. Heavy Vehicle	0.0		0.0	0.0			0.0	
hLT-adj	0.2	0.2	0.5	0.5			0.2	0.2
hRT-adj	-0.6	-0.6	-0.7	-0.7			-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7			1.7	1.7
hadj, computed	0.3		0.1	-0.6			-0.5	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20	3.20			3.20	
, initial	0.07		0.21	0.10			0.14	
d, final value (s)	5.03		5.02	4.32			4.33	
x, final value	0.11		0.33	0.14			0.19	
Move-up time, m (s)	2.0		2.3				2.0	
Service Time, t_s (s)	3.0		2.7	2.0			2.3	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	330		483	368			410	
Delay (s/veh)	8.66		10.14	7.73			8.37	
LOS	A		B	A			A	
Approach: Delay (s/veh)	8.66		9.33				8.37	
LOS	A		A				A	
Intersection Delay (s/veh)	8.98							
Intersection LOS	A							

ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	*MMF*
Agency/Co.	*ATE*
Date Performed	*1/13/2010*
Analysis Time Period	*A.M. PEAK HOUR*

Site Information

Intersection	*02_CU+PR_AM*
Jurisdiction	*GOLETA*
Analysis Year	*CUMULATIVE+PROJECT*

Project ID *#10086 - 7400 CATHEDRAL OAKS RPROJECT*

East/West Street: *CALLE REAL/US 101 NB OFF RAMP* | North/South Street: *WINCHESTER CANYON*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	80	0	0	0	233	119
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	0	0	0	0	160
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L		T	R			R	
PHF	1.00		1.00	1.00			1.00	
Flow Rate (veh/h)	80		233	119			160	
% Heavy Vehicles	4		4	4			4	
No. Lanes	1		2		0		1	
Geometry Group	3a		5				1	
Duration, T	1.00							

Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
Prop. Left-Turns	1.0		0.0	0.0			0.0	
Prop. Right-Turns	0.0		0.0	1.0			1.0	
Prop. Heavy Vehicle	0.0		0.0	0.0			0.0	
hLT-adj	0.2	0.2	0.5	0.5			0.2	0.2
hRT-adj	-0.6	-0.6	-0.7	-0.7			-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7			1.7	1.7
hadj, computed	0.3		0.1	-0.6			-0.5	

Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
hd, initial value (s)	3.20		3.20	3.20			3.20	
x, initial	0.07		0.21	0.11			0.14	
hd, final value (s)	5.03		5.02	4.32			4.34	
x, final value	0.11		0.33	0.14			0.19	
Move-up time, m (s)	2.0		2.3				2.0	
Service Time, t_s (s)	3.0		2.7	2.0			2.3	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	330		483	369			410	
Delay (s/veh)	8.66		10.14	7.74			8.37	
LOS	A		B	A			A	
Approach: Delay (s/veh)	8.66		9.33				8.37	
LOS	A		A				A	
Intersection Delay (s/veh)	8.98							
Intersection LOS	A							

ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	*MMF*	Intersection	*02_CU_PM*
Agency/Co.	*ATE*	Jurisdiction	*GOLETA*
Date Performed	*1/13/2010*	Analysis Year	*CUMULATIVE*
Analysis Time Period	*P.M. PEAK HOUR*		

Project ID *#10086 - 7400 CATHEDRAL OAKS PROJECT*

East/West Street: *CALLE REAL/US 101 NB OFF RAMP* | North/South Street: *WINCHESTER CANYON*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	84	0	0	0	266	207
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	0	0	0	0	158
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L		T	R			R	
PHF	1.00		1.00	1.00			1.00	
Flow Rate (veh/h)	84		266	207			158	
% Heavy Vehicles	4		4	4			4	
No. Lanes	1		2		0		1	
Geometry Group	3a		5				1	
Duration, T	1.00							

Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Prop. Left-Turns	1.0		0.0	0.0			0.0	
Prop. Right-Turns	0.0		0.0	1.0			1.0	
Prop. Heavy Vehicle	0.0		0.0	0.0			0.0	
hLT-adj	0.2	0.2	0.5	0.5			0.2	0.2
hRT-adj	-0.6	-0.6	-0.7	-0.7			-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7			1.7	1.7
hadj, computed	0.3		0.1	-0.6			-0.5	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20	3.20			3.20	
x, initial	0.07		0.24	0.18			0.14	
hd, final value (s)	5.14		5.04	4.34			4.54	
x, final value	0.12		0.37	0.25			0.20	
Move-up time, m (s)	2.0		2.3				2.0	
Service Time, t_s (s)	3.1		2.7	2.0			2.5	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	334		516	457			408	
Delay (s/veh)	8.84		10.73	8.48			8.67	
LOS	A		B	A			A	
Approach: Delay (s/veh)	8.84		9.75				8.67	
LOS	A		A				A	
Intersection Delay (s/veh)	9.40							
Intersection LOS	A							

ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	MMF	Intersection	02_CU+PR_PM
Agency/Co.	ATE	Jurisdiction	GOLETA
Date Performed	1/13/2010	Analysis Year	CUMULATIVE+PROJECT
Analysis Time Period	P.M. PEAK HOUR		

Project ID #10086 - 7400 CATHEDRAL OAKS PROJECT

East/West Street: CALLE REAL/US 101 NB OFF RAMP | North/South Street: WINCHESTER CANYON

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	84	0	0	0	266	209
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	0	0	0	0	158
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L		T	R			R	
PHF	1.00		1.00	1.00			1.00	
Flow Rate (veh/h)	84		266	209			158	
% Heavy Vehicles	4		4	4			4	
No. Lanes	1		2		0		1	
Geometry Group	3a		5				1	
Duration, T	1.00							

Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
Prop. Left-Turns	1.0		0.0	0.0			0.0	
Prop. Right-Turns	0.0		0.0	1.0			1.0	
Prop. Heavy Vehicle	0.0		0.0	0.0			0.0	
hLT-adj	0.2	0.2	0.5	0.5			0.2	0.2
hRT-adj	-0.6	-0.6	-0.7	-0.7			-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7			1.7	1.7
hadj, computed	0.3		0.1	-0.6			-0.5	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20	3.20			3.20	
x, initial	0.07		0.24	0.19			0.14	
hd, final value (s)	5.14		5.04	4.34			4.54	
x, final value	0.12		0.37	0.25			0.20	
Move-up time, m (s)	2.0		2.3				2.0	
Service Time, t_s (s)	3.1		2.7	2.0			2.5	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	334		516	459			408	
Delay (s/veh)	8.84		10.73	8.50			8.68	
LOS	A		B	A			A	
Approach: Delay (s/veh)	8.84		9.75				8.68	
LOS	A		A				A	
Intersection Delay (s/veh)	9.41							
Intersection LOS	A							

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*MMF*	Intersection	*03_EX_AM*
Agency/Co.	*ATE*	Jurisdiction	*GOLETA*
Date Performed	*1/13/2011*	Analysis Year	*EXISTING*
Analysis Time Period	*A.M. PEAK HOUR*		

Project Description *#10086 - 7400 CATHEDRAL OAKS PROJECT*

East/West Street: *CATHEDRAL OAKS ROAD*	North/South Street: *NORTHGATE-EVERGREEN*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*3*	*345*	*5*	*19*	*142*	*7*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*3*	*345*	*5*	*19*	*142*	*7*
Percent Heavy Vehicles	*4*	--	--	*4*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*1*	*1*	*0*
Configuration	*L*		*TR*	*L*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*9*	*0*	*75*	*23*	*1*	*4*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*9*	*0*	*75*	*23*	*1*	*4*
Percent Heavy Vehicles	*4*	*4*	*4*	*4*	*4*	*4*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LTR*			*LTR*	
v (veh/h)	*3*	*19*		*84*			*28*	
C (m) (veh/h)	*1420*	*1198*		*651*			*411*	
v/c	*0.00*	*0.02*		*0.13*			*0.07*	
95% queue length	*0.01*	*0.05*		*0.44*			*0.22*	
Control Delay (s/veh)	*7.5*	*8.1*		*11.3*			*14.4*	
LOS	*A*	*A*		*B*			*B*	
Approach Delay (s/veh)	--	--	*11.3*			*14.4*		
Approach LOS	--	--	*B*			*B*		

AWD = 11.4 sec. / LOS B

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*MMF*	Intersection	*03_EX+PR_AM*
Agency/Co.	*ATE*	Jurisdiction	*GOLETA*
Date Performed	*1/13/2011*	Analysis Year	*EXISTING+PROJECT*
Analysis Time Period	*A.M. PEAK HOUR*		

Project Description	*#10086 - 7400 CATHEDRAL OAKS PROJECT*
East/West Street: *CATHEDRAL OAKS ROAD*	North/South Street: *NORTHGATE-EVERGREEN*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*3*	*346*	*5*	*19*	*145*	*7*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*3*	*346*	*5*	*19*	*145*	*7*
Percent Heavy Vehicles	*4*	--	--	*4*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*1*	*1*	*0*
Configuration	*L*		*TR*	*L*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*9*	*0*	*75*	*23*	*1*	*4*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*9*	*0*	*75*	*23*	*1*	*4*
Percent Heavy Vehicles	*4*	*4*	*4*	*4*	*4*	*4*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LTR*			*LTR*	
v (veh/h)	*3*	*19*		*84*			*28*	
C (m) (veh/h)	*1417*	*1197*		*651*			*409*	
v/c	*0.00*	*0.02*		*0.13*			*0.07*	
95% queue length	*0.01*	*0.05*		*0.44*			*0.22*	
Control Delay (s/veh)	*7.5*	*8.1*		*11.3*			*14.4*	
LOS	*A*	*A*		*B*			*B*	
Approach Delay (s/veh)	--	--	*11.3*			*14.4*		
Approach LOS	--	--	*B*			*B*		

AWD = 11.4 sec. / LOS B

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*MMF*	Intersection	*03_EX_AM*
Agency/Co.	*ATE*	Jurisdiction	*GOLETA*
Date Performed	*2/23/2011*	Analysis Year	*CUMULATIVE*
Analysis Time Period	*A.M. PEAK HOUR*		

Project Description *#10086 - 7400 CATHEDRAL OAKS PROJECT*

East/West Street: *CATHEDRAL OAKS ROAD* | North/South Street: *NORTHGATE-EVERGREEN*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*3*	*354*	*5*	*19*	*142*	*7*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*3*	*354*	*5*	*19*	*142*	*7*
Percent Heavy Vehicles	*4*	--	--	*4*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*1*	*1*	*0*
Configuration	*L*		*TR*	*L*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*9*	*0*	*75*	*23*	*1*	*4*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*9*	*0*	*75*	*23*	*1*	*4*
Percent Heavy Vehicles	*4*	*4*	*4*	*4*	*4*	*4*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LTR*			*LTR*	
v (veh/h)	*3*	*19*		*84*			*28*	
C (m) (veh/h)	*1420*	*1189*		*644*			*405*	
v/c	*0.00*	*0.02*		*0.13*			*0.07*	
95% queue length	*0.01*	*0.05*		*0.45*			*0.22*	
Control Delay (s/veh)	*7.5*	*8.1*		*11.4*			*14.5*	
LOS	*A*	*A*		*B*			*B*	
Approach Delay (s/veh)	--	--	*11.4*			*14.5*		
Approach LOS	--	--	*B*			*B*		

AWD = 11.5 SEC = LOS B

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*MMF*	Intersection	*03_EX_AM*
Agency/Co.	*ATE*	Jurisdiction	*GOLETA*
Date Performed	*2/23/2011*	Analysis Year	*CUMULATIVE+PROJECT*
Analysis Time Period	*A.M. PEAK HOUR*		

Project Description	*#10086 - 7400 CATHEDRAL OAKS PROJECT*
East/West Street: *CATHEDRAL OAKS ROAD*	North/South Street: *NORTHGATE-EVERGREEN*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*3*	*355*	*5*	*19*	*145*	*7*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*3*	*355*	*5*	*19*	*145*	*7*
Percent Heavy Vehicles	*4*	--	--	*4*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*1*	*1*	*0*
Configuration	*L*		*TR*	*L*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*9*	*0*	*75*	*23*	*1*	*4*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*9*	*0*	*75*	*23*	*1*	*4*
Percent Heavy Vehicles	*4*	*4*	*4*	*4*	*4*	*4*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LTR*			*LTR*	
v (veh/h)	*3*	*19*		*84*			*28*	
C (m) (veh/h)	*1417*	*1188*		*642*			*403*	
v/c	*0.00*	*0.02*		*0.13*			*0.07*	
95% queue length	*0.01*	*0.05*		*0.45*			*0.22*	
Control Delay (s/veh)	*7.5*	*8.1*		*11.4*			*14.6*	
LOS	*A*	*A*		*B*			*B*	
Approach Delay (s/veh)	--	--	*11.4*			*14.6*		
Approach LOS	--	--	*B*			*B*		

AWD = 11.5 sec = LOS B

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*MMF*	Intersection	*03_EX_PM*
Agency/Co.	*ATE*	Jurisdiction	*GOLETA*
Date Performed	*1/13/2011*	Analysis Year	*EXISTING*
Analysis Time Period	*P.M. PEAK HOUR*		

Project Description	*#10086 - 7400 CATHEDRAL OAKS PROJECT*
East/West Street: *CATHEDRAL OAKS ROAD*	North/South Street: *NORTHGATE-EVERGREEN*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*4*	*129*	*6*	*73*	*146*	*32*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*4*	*129*	*6*	*73*	*146*	*32*
Percent Heavy Vehicles	*4*	--	--	*4*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*1*	*1*	*0*
Configuration	*L*		*TR*	*L*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*1*	*0*	*47*	*16*	*3*	*1*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*1*	*0*	*47*	*16*	*3*	*1*
Percent Heavy Vehicles	*4*	*4*	*4*	*4*	*4*	*4*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LTR*			*LTR*	
v (veh/h)	*4*	*73*		*48*			*20*	
C (m) (veh/h)	*1386*	*1437*		*896*			*468*	
v/c	*0.00*	*0.05*		*0.05*			*0.04*	
95% queue length	*0.01*	*0.16*		*0.17*			*0.13*	
Control Delay (s/veh)	*7.6*	*7.6*		*9.2*			*13.0*	
LOS	*A*	*A*		*A*			*B*	
Approach Delay (s/veh)	--	--		*9.2*			*13.0*	
Approach LOS	--	--		*A*			*B*	

HCS+™ Version 5.4

Generated: 1/13/2011 1:26 PM

AWD=8.9 sec. / LOS A

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*MMF*	Intersection	*03_EX+PR_PM*
Agency/Co.	*ATE*	Jurisdiction	*GOLETA*
Date Performed	*1/13/2011*	Analysis Year	*EXISTING+PROJECT*
Analysis Time Period	*P.M. PEAK HOUR*		

Project Description	*#10086 - 7400 CATHEDRAL OAKS PROJECT*
East/West Street: *CATHEDRAL OAKS ROAD*	North/South Street: *NORTHGATE-EVERGREEN*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*4*	*133*	*6*	*73*	*148*	*32*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*4*	*133*	*6*	*73*	*148*	*32*
Percent Heavy Vehicles	*4*	--	--	*4*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*1*	*1*	*0*
Configuration	*L*		*TR*	*L*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*1*	*0*	*47*	*16*	*3*	*1*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*1*	*0*	*47*	*16*	*3*	*1*
Percent Heavy Vehicles	*4*	*4*	*4*	*4*	*4*	*4*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LTR*			*LTR*	
v (veh/h)	*4*	*73*		*48*			*20*	
C (m) (veh/h)	*1384*	*1432*		*891*			*463*	
v/c	*0.00*	*0.05*		*0.05*			*0.04*	
95% queue length	*0.01*	*0.16*		*0.17*			*0.14*	
Control Delay (s/veh)	*7.6*	*7.6*		*9.3*			*13.1*	
LOS	*A*	*A*		*A*			*B*	
Approach Delay (s/veh)	--	--		*9.3*			*13.1*	
Approach LOS	--	--		*A*			*B*	

AWD = 8.9 sec. / LOS A

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*MMF*	Intersection	*03_CU_PM*
Agency/Co.	*ATE*	Jurisdiction	*GOLETA*
Date Performed	*2/23/2011*	Analysis Year	*CUMULATIVE*
Analysis Time Period	*P.M. PEAK HOUR*		

Project Description *#10086 - 7400 CATHEDRAL OAKS PROJECT*

East/West Street: *CATHEDRAL OAKS ROAD* | North/South Street: *NORTHGATE-EVERGREEN*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*4*	*129*	*6*	*73*	*149*	*32*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*4*	*129*	*6*	*73*	*149*	*32*
Percent Heavy Vehicles	*4*	--	--	*4*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*1*	*1*	*0*
Configuration	*L*		*TR*	*L*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*1*	*0*	*47*	*16*	*3*	*3*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*1*	*0*	*47*	*16*	*3*	*3*
Percent Heavy Vehicles	*4*	*4*	*4*	*4*	*4*	*4*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LTR*			*LTR*	
v (veh/h)	*4*	*73*		*48*			*22*	
C (m) (veh/h)	*1382*	*1437*		*896*			*487*	
v/c	*0.00*	*0.05*		*0.05*			*0.05*	
95% queue length	*0.01*	*0.16*		*0.17*			*0.14*	
Control Delay (s/veh)	*7.6*	*7.6*		*9.2*			*12.7*	
LOS	*A*	*A*		*A*			*B*	
Approach Delay (s/veh)	--	--	*9.2*			*12.7*		
Approach LOS	--	--	*A*			*B*		

AWD = 8.9 sec = LOS A

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*MMF*	Intersection	*03_CU+PR_PM*
Agency/Co.	*ATE*	Jurisdiction	*GOLETA*
Date Performed	*2/23/2011*	Analysis Year	*CUMULATIVE+PROJECT*
Analysis Time Period	*P.M. PEAK HOUR*		

Project Description	*#10086 - 7400 CATHEDRAL OAKS PROJECT*
East/West Street: *CATHEDRAL OAKS ROAD*	North/South Street: *NORTHGATE-EVERGREEN*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*4*	*133*	*6*	*73*	*151*	*32*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*4*	*133*	*6*	*73*	*151*	*32*
Percent Heavy Vehicles	*4*	--	--	*4*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*1*	*1*	*0*
Configuration	*L*		*TR*	*L*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*1*	*0*	*47*	*16*	*3*	*3*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*1*	*0*	*47*	*16*	*3*	*3*
Percent Heavy Vehicles	*4*	*4*	*4*	*4*	*4*	*4*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LTR*			*LTR*	
v (veh/h)	*4*	*73*		*48*			*22*	
C (m) (veh/h)	*1380*	*1432*		*891*			*482*	
v/c	*0.00*	*0.05*		*0.05*			*0.05*	
95% queue length	*0.01*	*0.16*		*0.17*			*0.14*	
Control Delay (s/veh)	*7.6*	*7.6*		*9.3*			*12.8*	
LOS	*A*	*A*		*A*			*B*	
Approach Delay (s/veh)	--	--	*9.3*			*12.8*		
Approach LOS	--	--	*A*			*B*		

AWD = 8.9 SEC = LOS A

#10086 - 7400 CATHEDRAL OAKS BLVD. PROJECT **REF: 04AM**

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *JAN. 11, 2011*

TIME PERIOD: *A.M. PEAK HOUR*

N/S STREET: *ALAMEDA AVENUE*

E/W STREET: *CATHEDRAL OAKS ROAD*

CONTROL TYPE: *SIGNAL*

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	64	0	243	0	0	0	0	384	122	196	170	0
(B) PROJECT-ADDED	0	0	0	0	0	0	0	31	0	0	10	0
(C) CUMULATIVE	74	0	310	0	0	0	0	384	130	208	170	0

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	L R		T R	L T

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES(A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	1	1600	64	64	74	74	0.040 *	0.040 *	0.046 *	0.046 *
NBT	0	0	0	0	0	0	-	-	-	-
NBR *(a)*	1	1600	185	185	236	236	0.116	0.116	0.148	0.148
SBL	0	0	0	0	0	0	-	-	-	-
SBT	0	0	0	0	0	0	-	-	-	-
SBR	0	0	0	0	0	0	-	-	-	-
EBL	0	0	0	0	0	0	-	-	-	-
EBT	1	1600	384	415	384	415	0.240 *	0.259 *	0.240 *	0.259 *
EBR *(b)*	1	1600	82	82	87	87	0.051	0.051	0.054	0.054
WBL	1	1600	196	196	208	208	0.123 *	0.123 *	0.130 *	0.130 *
WBT	1	1600	170	180	170	180	0.106	0.113	0.106	0.113
WBR	0	0	0	0	0	0	-	-	-	-
					LOST TIME:		0.100 *	0.100 *	0.100 *	0.100 *
					TOTAL INTERSECTION CAPACITY UTILIZATION:		**0.503**	**0.522**	**0.516**	**0.535**
					SCENARIO LEVEL OF SERVICE:		A	A	A	A

NOTES:

RTOR: (a) 24% - RT NOT CRITICAL DUE TO RIGHT-TURN OVERLAP
(b) 33%

Printed: 02/23/11

#10086 - 7400 CATHEDRAL OAKS BLVD. PROJECT **REF: 04PM**

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *JAN. 11, 2011*

TIME PERIOD: *P.M. PEAK HOUR*

N/S STREET: *ALAMEDA AVENUE*

E/W STREET: *CATHEDRAL OAKS ROAD*

CONTROL TYPE: *SIGNAL*

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	26	0	68	0	0	0	0	175	10	86	283	0
(B) PROJECT-ADDED	0	0	0	0	0	0	0	20	0	0	35	0
(C) CUMULATIVE	26	0	71	0	0	0	0	175	11	111	284	0

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND L R	SOUTH BOUND	EAST BOUND T R	WEST BOUND L T

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES(A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	1	1600	26	26	26	26	0.016 *	0.016 *	0.016 *	0.016 *
NBT	0	0	0	0	0	0	-	-	-	-
NBR *(a)*	1	1600	20	20	21	21	0.013	0.013	0.013	0.013
SBL	0	0	0	0	0	0	-	-	-	-
SBT	0	0	0	0	0	0	-	-	-	-
SBR	0	0	0	0	0	0	-	-	-	-
EBL	0	0	0	0	0	0	-	-	-	-
EBT	1	1600	175	195	175	195	0.109	0.122	0.109	0.122
EBR *(b)*	1	1600	10	10	11	11	0.006	0.006	0.007	0.007
WBL	1	1600	86	86	111	111	0.054	0.054	0.069	0.069
WBT	1	1600	283	318	284	319	0.177 *	0.199 *	0.178 *	0.199 *
WBR	0	0	0	0	0	0	-	-	-	-
					LOST TIME:		0.100 *	0.100 *	0.100 *	0.100 *
					TOTAL INTERSECTION CAPACITY UTILIZATION:		**0.293**	**0.315**	**0.294**	**0.315**
					SCENARIO LEVEL OF SERVICE:		A	A	A	A

NOTES:

RTOR: (a) 71%
(b) 0%

Printed: 02/23/11

#10086 - 7400 CATHEDRAL OAKS BLVD. PROJECT **REF: 05AM**

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: ***OCT. 10, 2009***

TIME PERIOD: ***A.M. PEAK HOUR***

N/S STREET: ***GLEN ANNIE ROAD***

E/W STREET: ***CATHEDRAL OAKS ROAD***

CONTROL TYPE: ***SIGNAL***

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	295	30	100	9	18	2	6	427	349	55	355	13
(B) PROJECT-ADDED	9	0	0	0	0	0	0	4	27	0	1	0
(C) CUMULATIVE	290	41	100	14	29	2	10	435	343	79	355	31

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND L TR	SOUTH BOUND L TR	EAST BOUND L TR	WEST BOUND L TR

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES(A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	1	1600	295	304	290	299	0.184 *	0.190 *	0.181 *	0.187 *
NBT	1	1600	30	30	41	41	0.054	0.054	0.061	0.061
NBR *(a)*	0	0	56	56	56	56	-	-	-	-
SBL	1	1600	9	9	14	14	0.006	0.006	0.009	0.009
SBT	1	1600	18	18	29	29	0.012 *	0.012 *	0.019 *	0.019 *
SBR *(b)*	0	0	1	1	1	1	-	-	-	-
EBL	1	1600	6	6	10	10	0.004	0.004	0.006	0.006
EBT	1	1600	427	431	435	439	0.419 *	0.434 *	0.422 *	0.436 *
EBR *(c)*	0	0	244	263	240	259	-	-	-	-
WBL	1	1600	55	55	79	79	0.034 *	0.034 *	0.049 *	0.049 *
WBT	1	1600	355	356	355	356	0.228	0.228	0.235	0.236
WBR *(d)*	0	0	9	9	21	21	-	-	-	-
		LOST TIME:					0.100 *	0.100 *	0.100 *	0.100 *
		TOTAL INTERSECTION CAPACITY UTILIZATION:					0.749	0.770	0.771	0.791
		SCENARIO LEVEL OF SERVICE:					C	C	C	C

NOTES:

RTOR: *(a) 44%*
(b) 50%
(c) 30%
(d) 31%

Printed: 02/16/11

#10086 - 7400 CATHEDRAL OAKS BLVD. PROJECT REF: 05PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: ***OCT. 10, 2009***

TIME PERIOD: ***P.M. PEAK HOUR***

N/S STREET: ***GLEN ANNIE ROAD***

E/W STREET: ***CATHEDRAL OAKS ROAD***

CONTROL TYPE: ***SIGNAL***

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	NORTH BOUND T	NORTH BOUND R	SOUTH BOUND L	SOUTH BOUND T	SOUTH BOUND R	EAST BOUND L	EAST BOUND T	EAST BOUND R	WEST BOUND L	WEST BOUND T	WEST BOUND R
(A) EXISTING:	282	24	88	8	26	4	3	216	156	84	222	16
(B) PROJECT-ADDED	31	0	1	0	0	0	0	2	18	3	4	0
(C) CUMULATIVE	266	41	113	15	31	18	3	215	146	84	220	26

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND L TR	SOUTH BOUND L TR	EAST BOUND L TR	WEST BOUND L TR

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES(A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	1	1600	282	313	266	297	0.176 *	0.196 *	0.166 *	0.186 *
NBT	1	1600	24	24	41	41	0.048	0.048	0.068	0.068
NBR *(a)*	0	0	53	53	68	68	-	-	-	-
SBL	1	1600	8	8	15	15	0.005	0.005	0.009	0.009
SBT	1	1600	26	26	31	31	0.017 *	0.017 *	0.023 *	0.023 *
SBR *(b)*	0	0	1	1	5	5	-	-	-	-
EBL	1	1600	3	3	3	3	0.002	0.002	0.002	0.002
EBT	1	1600	216	218	215	217	0.201 *	0.209 *	0.196 *	0.204 *
EBR *(c)*	0	0	105	117	98	110	-	-	-	-
WBL	1	1600	84	87	84	87	0.053 *	0.054 *	0.053 *	0.054 *
WBT	1	1600	222	226	220	224	0.145	0.148	0.148	0.150
WBR *(d)*	0	0	10	10	16	16	-	-	-	-
					LOST TIME:		0.100 *	0.100 *	0.100 *	0.100 *
					TOTAL INTERSECTION CAPACITY UTILIZATION:		0.547	0.576	0.538	0.567
					SCENARIO LEVEL OF SERVICE:		A	A	A	A

NOTES:

RTOR: *(a) 40%*
(b) 75%
(c) 33%
(d) 38%

Printed: 02/16/11

#10086 - 7400 CATHEDRAL OAKS BLVD. PROJECT REF: 06AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: ***NOVEMBER 3, 2009***

TIME PERIOD: ***A.M. PEAK HOUR***

N/S STREET: ***GLEN ANNIE ROAD*** *SPLIT PHASED*

E/W STREET: ***U.S. 101 NB RAMPS-CALLE REAL***

CONTROL TYPE: ***SIGNAL***

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	NORTH BOUND T	NORTH BOUND R	SOUTH BOUND L	SOUTH BOUND T	SOUTH BOUND R	EAST BOUND L	EAST BOUND T	EAST BOUND R	WEST BOUND L	WEST BOUND T	WEST BOUND R
(A) EXISTING:	157	160	23	9	568	6	43	4	728	602	392	236
(B) PROJECT-ADDED	0	4	0	0	27	0	0	0	0	0	0	5
(C) CUMULATIVE	159	161	51	59	554	6	43	4	728	738	426	242

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	LL T TR	L T TR	L TR R	L LT TR

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES(A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	2	3200	157	157	159	159	0.049 *	0.049 *	0.050 *	0.050 *
NBT	2	3200	160	164	161	165	0.053	0.054	0.057	0.058
NBR *(a)*	0	0	9	9	20	20	-	-	-	-
SBL	1	1600	9	9	59	59	0.006	0.006	0.037	0.037
SBT	2	3200	568	595	554	581	0.179 *	0.187 *	0.174 *	0.183 *
SBR *(b)*	0	0	4	4	4	4	-	-	-	-
EBL	1	1600	43	43	43	43	0.027	0.027	0.027	0.027
EBT	2	3200	4	4	4	4	0.145 *	0.145 *	0.145 *	0.145 *
EBR *(c)*	0	0	459	459	459	459	-	-	-	-
WBL	0	0	602	602	738	738	-	-	-	-
WBT	3	4800	392	392	426	426	0.236 *	0.237 *	0.272 *	0.273 *
WBR *(d)*	0	0	139	142	143	146	-	-	-	-
					LOST TIME:		0.100 *	0.100 *	0.100 *	0.100 *
					TOTAL INTERSECTION CAPACITY UTILIZATION:		0.709	0.718	0.741	0.751
					SCENARIO LEVEL OF SERVICE:		C	C	C	C

NOTES:

RTOR: *(a) 61%*
(b) 33%
(c) 37%
(d) 41%

Printed: 02/16/11

#10086 - 7400 CATHEDRAL OAKS BLVD. PROJECT **REF: 06PM**

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: ***NOVEMBER 3, 2009***

TIME PERIOD: ***P.M. PEAK HOUR***

N/S STREET: ***GLEN ANNIE ROAD*** *SPLIT PHASED*

E/W STREET: ***U.S. 101 NB RAMPS-CALLE REAL***

CONTROL TYPE: ***SIGNAL***

TRAFFIC VOLUME SUMMARY

VOLUMES		NORTH BOUND L	NORTH BOUND T	NORTH BOUND R	SOUTH BOUND L	SOUTH BOUND T	SOUTH BOUND R	EAST BOUND L	EAST BOUND T	EAST BOUND R	WEST BOUND L	WEST BOUND T	WEST BOUND R
(A)	EXISTING:	299	232	160	22	308	12	11	2	331	1021	423	155
(B)	PROJECT-ADDED	0	13	0	0	18	0	0	0	0	0	0	18
(C)	CUMULATIVE	289	271	322	24	286	23	37	13	308	1236	485	168

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	LL T TR	L T TR	L TR R	L LT TR

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES(A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	2	3200	299	299	289	289	0.093 *	0.093 *	0.090 *	0.090 *
NBT	2	3200	232	245	271	284	0.098	0.103	0.137	0.141
NBR (a)	0	0	83	83	167	167	-	-	-	-
SBL	1	1600	22	22	24	24	0.014	0.014	0.015	0.015
SBT	2	3200	308	326	286	304	0.099 *	0.105 *	0.095 *	0.101 *
SBR (b)	0	0	10	10	19	19	-	-	-	-
EBL	1	1600	11	11	37	37	0.007	0.007	0.023	0.023
EBT	2	3200	2	2	13	13	0.076 *	0.076 *	0.074 *	0.074 *
EBR (c)	0	0	242	242	225	225	-	-	-	-
WBL	0	0	1021	1021	1236	1236	-	-	-	-
WBT	3	4800	423	423	485	485	0.325 *	0.328 *	0.384 *	0.387 *
WBR (d)	0	0	115	128	124	138	-	-	-	-
			LOST TIME:				0.100 *	0.100 *	0.100 *	0.100 *
			TOTAL INTERSECTION CAPACITY UTILIZATION:				**0.693**	**0.702**	**0.743**	**0.752**
			SCENARIO LEVEL OF SERVICE:				**B**	**B**	**C**	**C**

NOTES:

RTOR: (a) 48%
(b) 17%
(c) 27%
(d) 26%

Printed: 02/16/11

#10086 - 7400 CATHEDRAL OAKS BLVD. PROJECT **REF: 07AM**

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: ***NOVEMBER 3, 2009***

TIME PERIOD: ***A.M. PEAK HOUR***

N/S STREET: ***STORKE ROAD***

E/W STREET: ***U.S. SB 101 RAMPS***

CONTROL TYPE: ***SIGNAL***

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	0	326	811	831	1067	0	15	2	168	0	0	0
(B) PROJECT-ADDED	0	4	0	16	11	0	0	0	0	0	0	0
(C) CUMULATIVE	0	349	1029	914	1106	0	22	3	289	0	0	0

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	TT R	LL TT	LT R	

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES(A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	0	0	0	0	0	0	-	-	-	-
NBT	2	3200	326	330	349	353	0.102	0.103	0.109	0.110
NBR *(a)*	1	1600	633	633	803	803	0.396 *	0.396 *	0.502 *	0.502 *
SBL	2	3200	831	847	914	930	0.260 *	0.265 *	0.286 *	0.291 *
SBT	2	3200	1067	1078	1106	1117	0.333	0.337	0.346	0.349
SBR	0	0	0	0	0	0	-	-	-	-
EBL	0	0	15	15	22	22	-	-	-	-
EBT	1	1600	2	2	3	3	0.011	0.011	0.016	0.016
EBR *(b)*	1	1600	44	44	75	75	0.028 *	0.028 *	0.047 *	0.047 *
WBL	0	0	0	0	0	0	-	-	-	-
WBT	0	0	0	0	0	0	-	-	-	-
WBR	0	0	0	0	0	0	-	-	-	-
			LOST TIME:				0.100 *	0.100 *	0.100 *	0.100 *
			TOTAL INTERSECTION CAPACITY UTILIZATION:				**0.784**	**0.789**	**0.935**	**0.940**
			SCENARIO LEVEL OF SERVICE:				C	C	E	E

NOTES:

RTOR: (a) 22%
(b) 74%

Printed: 02/16/11

#10086 - 7400 CATHEDRAL OAKS BLVD. PROJECT **REF: 07PM**

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: ***NOVEMBER 3, 2009***

TIME PERIOD: ***P.M. PEAK HOUR***

N/S STREET: ***STORKE ROAD***

E/W STREET: ***U.S. SB 101 RAMPS***

CONTROL TYPE: ***SIGNAL***

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	NORTH BOUND T	NORTH BOUND R	SOUTH BOUND L	SOUTH BOUND T	SOUTH BOUND R	EAST BOUND L	EAST BOUND T	EAST BOUND R	WEST BOUND L	WEST BOUND T	WEST BOUND R
(A) EXISTING:	0	678	1070	321	1338	0	13	0	43	0	0	0
(B) PROJECT-ADDED	0	13	0	11	7	0	0	0	0	0	0	0
(C) CUMULATIVE	0	849	1310	316	1515	0	32	0	144	0	0	0

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	TT R	LL TT	LT R	

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES(A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	0	0	0	0	0	0	-	-	-	-
NBT	2	3200	678	691	849	862	0.212	0.216	0.265	0.269
NBR *(a)*	1	1600	877	877	1074	1074	0.548 *	0.548 *	0.671 *	0.671 *
SBL	2	3200	321	332	316	327	0.100 *	0.104 *	0.099 *	0.102 *
SBT	2	3200	1338	1345	1515	1522	0.418	0.420	0.473	0.476
SBR	0	0	0	0	0	0	-	-	-	-
EBL	0	0	13	13	32	32	-	-	-	-
EBT	1	1600	0	0	0	0	0.008 *	0.008 *	0.020 *	0.020 *
EBR *(b)*	1	1600	10	10	33	33	0.006	0.006	0.021	0.021
WBL	0	0	0	0	0	0	-	-	-	-
WBT	0	0	0	0	0	0	-	-	-	-
WBR	0	0	0	0	0	0	-	-	-	-
					LOST TIME:		0.100 *	0.100 *	0.100 *	0.100 *
					TOTAL INTERSECTION CAPACITY UTILIZATION:		0.756	0.760	0.890	0.893
					SCENARIO LEVEL OF SERVICE:		C	C	D	D

NOTES:

RTOR: (a) 18%
(b) 77%

Printed: 02/24/11

#10086 - 7400 CATHEDRAL OAKS BLVD. PROJECT REF: 08AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *NOVEMBER 3, 2009*

TIME PERIOD: *A.M. PEAK HOUR*

N/S STREET: *STORKE ROAD*

E/W STREET: *HOLLISTER AVENUE*

CONTROL TYPE: *SIGNAL*

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	NORTH BOUND T	NORTH BOUND R	SOUTH BOUND L	SOUTH BOUND T	SOUTH BOUND R	EAST BOUND L	EAST BOUND T	EAST BOUND R	WEST BOUND L	WEST BOUND T	WEST BOUND R
(A) EXISTING:	32	498	158	415	490	372	573	395	62	103	131	66
(B) PROJECT-ADDED	0	2	0	3	5	3	1	0	0	0	0	1
(C) CUMULATIVE	44	635	234	543	604	502	654	660	70	142	196	88

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND LL TT R	SOUTH BOUND LL TT R	EAST BOUND LL TT R	WEST BOUND LL TT R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES(A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	2	3200	32	32	44	44	0.010	0.010	0.014	0.014
NBT	2	3200	498	500	635	637	0.156 *	0.156 *	0.198 *	0.199 *
NBR *(a)*	1	1600	52	52	77	77	0.033	0.033	0.048	0.048
SBL	2	3200	415	418	543	546	0.130 *	0.131 *	0.170 *	0.171 *
SBT	2	3200	490	495	604	609	0.153	0.155	0.189	0.190
SBR *(b)*	1	1600	164	165	221	222	0.103	0.103	0.138	0.139
EBL	2	3200	573	574	654	655	0.179 *	0.179 *	0.204 *	0.205 *
EBT	2	3200	395	395	660	660	0.123	0.123	0.206	0.206
EBR *(c)*	1	1600	24	24	27	27	0.015	0.015	0.017	0.017
WBL	2	3200	103	103	142	142	0.032	0.032	0.044	0.044
WBT	2	3200	131	131	196	196	0.041 *	0.041 *	0.061 *	0.061 *
WBR *(d)*	1	1600	21	21	28	28	0.013	0.013	0.018	0.018
					LOST TIME:		0.100 *	0.100 *	0.100 *	0.100 *
					TOTAL INTERSECTION CAPACITY UTILIZATION:		0.606	0.607	0.733	0.736
					SCENARIO LEVEL OF SERVICE:		B	B	C	C

NOTES:

RTOR: *(a) 67%*
(b) 56%
(c) 61%
(d) 68%

Printed: 02/16/11

#10086 - 7400 CATHEDRAL OAKS BLVD. PROJECT **REF:** 08PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: ***NOVEMBER 3, 2009***

TIME PERIOD: ***P.M. PEAK HOUR***

N/S STREET: ***STORKE ROAD***

E/W STREET: ***HOLLISTER AVENUE***

CONTROL TYPE: ***SIGNAL***

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	NORTH BOUND T	NORTH BOUND R	SOUTH BOUND L	SOUTH BOUND T	SOUTH BOUND R	EAST BOUND L	EAST BOUND T	EAST BOUND R	WEST BOUND L	WEST BOUND T	WEST BOUND R
(A) EXISTING:	76	625	144	139	531	759	659	340	58	226	484	464
(B) PROJECT-ADDED	0	5	0	2	3	2	4	0	0	0	0	4
(C) CUMULATIVE	147	904	253	196	632	769	704	441	111	570	816	551

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND LL TT R	SOUTH BOUND LL TT R	EAST BOUND LL TT R	WEST BOUND LL TT R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES(A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	2	3200	76	76	147	147	0.024	0.024	0.046	0.046
NBT	2	3200	625	630	904	909	0.195 *	0.197 *	0.283 *	0.284 *
NBR *(a)*	1	1600	52	52	91	91	0.033	0.033	0.057	0.057
SBL	2	3200	139	141	196	198	0.043 *	0.044 *	0.061 *	0.062 *
SBT	2	3200	531	534	632	635	0.166	0.167	0.198	0.198
SBR *(b)*	1	1600	311	312	315	316	0.194	0.195	0.197	0.198
EBL	2	3200	659	663	704	708	0.206 *	0.207 *	0.220 *	0.221 *
EBT	2	3200	340	340	441	441	0.106	0.106	0.138	0.138
EBR *(c)*	1	1600	20	20	38	38	0.013	0.013	0.024	0.024
WBL	2	3200	226	226	570	570	0.071	0.071	0.178	0.178
WBT	2	3200	484	484	816	816	0.151	0.151	0.255 *	0.255 *
WBR *(d)*	1	1600	311	314	369	372	0.194 *	0.196 *	0.231	0.233
			LOST TIME:				0.100 *	0.100 *	0.100 *	0.100 *
			TOTAL INTERSECTION CAPACITY UTILIZATION:				0.738	0.744	0.919	0.922
			SCENARIO LEVEL OF SERVICE:				C	C	E	E

NOTES:

RTOR: *(a) 64%*
(b) 59%
(c) 66%
(d) 33%

Printed: 02/16/11

#10086 - 7400 CATHEDRAL OAKS BLVD. PROJECT **REF:** A_AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE:

TIME PERIOD: ***A.M. PEAK HOUR***

N/S STREET: ***CATHEDRAL OAKS*** With Modified Cathedral Oaks-Hollister Avenue Interchange

E/W STREET: ***CALLE REAL***

CONTROL TYPE: ***SIGNAL***

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) CUMULATIVE:	72	112	80	2	163	42	50	24	96	263	74	2
(B) PROJECT-ADDED	0	0	0	0	1	2	0	0	0	0	0	0

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	L TR	LTR	LTR	L TR

TRAFFIC SCENARIOS

SCENARIO 1 = CUMULATIVE VOLUMES (A)

SCENARIO 2 = CUMULATIVE + PROJECT VOLUMES(A+B)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	1	1600	72	72			0.045 *	0.045 *		
NBT	1	1600	112	112			0.120	0.120		
NBR *(a)*	0	0	80	80			-	-		
SBL	0	0	2	2			-	-		
SBT	1	1600	163	164			0.129 *	0.131 *		
SBR *(b)*	0	0	42	44			-	-		
EBL	0	0	50	50			-	-		
EBT	1	1600	24	24			0.106 *	0.106 *		
EBR *(c)*	0	0	96	96			-	-		
WBL	1	1600	263	263			0.164 *	0.164 *		
WBT	1	1600	74	74			0.048	0.048		
WBR *(d)*	0	0	2	2			-	-		
				LOST TIME:			0.100 *	0.100 *		
				TOTAL INTERSECTION CAPACITY UTILIZATION:			0.544	0.546		
				SCENARIO LEVEL OF SERVICE:			A	A		

NOTES:

Printed: 02/16/11

#10086 - 7400 CATHEDRAL OAKS BLVD. PROJECT **REF:** A_PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE:

TIME PERIOD: ***P.M. PEAK HOUR***

N/S STREET: ***CATHEDRAL OAKS*** With Modified Cathedral Oaks-Hollister Avenue Interchange

E/W STREET: ***CALLE REAL***

CONTROL TYPE: ***SIGNAL***

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	NORTH BOUND T	NORTH BOUND R	SOUTH BOUND L	SOUTH BOUND T	SOUTH BOUND R	EAST BOUND L	EAST BOUND T	EAST BOUND R	WEST BOUND L	WEST BOUND T	WEST BOUND R
(A) CUMULATIVE:	241	91	85	1	91	47	8	9	43	261	91	0
(B) PROJECT-ADDED	0	2	0	0	1	1	0	0	0	0	0	0

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	L TR	LTR	LTR	L TR

TRAFFIC SCENARIOS

SCENARIO 1 = CUMULATIVE VOLUMES (A)

SCENARIO 2 = CUMULATIVE + PROJECT VOLUMES(A+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	1	1600	241	241			0.151 *	0.151 *		
NBT	1	1600	91	93			0.110	0.111		
NBR *(a)*	0	0	85	85			-	-		
SBL	0	0	1	1			-	-		
SBT	1	1600	91	92			0.087 *	0.088 *		
SBR *(b)*	0	0	47	48			-	-		
EBL	0	0	8	8			-	-		
EBT	1	1600	9	9			0.038 *	0.038 *		
EBR *(c)*	0	0	43	43			-	-		
WBL	1	1600	261	261			0.163 *	0.163 *		
WBT	1	1600	91	91			0.057	0.057		
WBR *(d)*	0	0	0	0			-	-		
						LOST TIME:	0.100 *	0.100 *		
						TOTAL INTERSECTION CAPACITY UTILIZATION:	**0.539**	**0.540**		
						SCENARIO LEVEL OF SERVICE:	A	A		

NOTES:

Printed: 02/16/11

#10086 - 7400 CATHEDRAL OAKS BLVD. PROJECT **REF:** B_AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE:

TIME PERIOD: ***A.M. PEAK HOUR*** With Modified Cathedral Oaks-Hollister Avenue Interchange

N/S STREET: ***CATHEDRAL OAKS***

E/W STREET: ***U.S. 101 SB RAMPS***

CONTROL TYPE: ***SIGNAL***

TRAFFIC VOLUME SUMMARY

VOLUMES		NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A)	CUMULATIVE:	0	198	197	259	261	0	66	1	185	0	0	0
(B)	PROJECT-ADDED	0	0	0	1	0	0	0	0	0	0	0	0

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	TR	L T	L TR	

TRAFFIC SCENARIOS

SCENARIO 1 = CUMULATIVE VOLUMES (A)

SCENARIO 2 = CUMULATIVE + PROJECT VOLUMES(A+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	0	0	0	0			-	-		
NBT	1	1600	198	198			0.247 *	0.247 *		
NBR (a)	0	0	197	197			-	-		
SBL	1	1600	259	260			0.162 *	0.163 *		
SBT	1	1600	261	261			0.163	0.163		
SBR (b)	0	0	0	0			-	-		
EBL	1	1600	66	66			0.041	0.041		
EBT	1	1600	1	1			0.116 *	0.116 *		
EBR (c)	0	0	185	185			-	-		
WBL	0	0	0	0			-	-		
WBT	0	0	0	0			-	-		
WBR (d)	0	0	0	0			-	-		
						LOST TIME:	0.100 *	0.100 *		
						TOTAL INTERSECTION CAPACITY UTILIZATION:	0.625	0.626		
						SCENARIO LEVEL OF SERVICE:	B	B		

NOTES:

Printed: 02/16/11

#10086 - 7400 CATHEDRAL OAKS BLVD. PROJECT REF: B_PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE:

TIME PERIOD: ***P.M. PEAK HOUR*** **With Modified Cathedral Oaks-Hollister Avenue Interchange**

N/S STREET: ***CATHEDRAL OAKS***

E/W STREET: ***U.S. 101 SB RAMPS***

CONTROL TYPE: ***SIGNAL***

TRAFFIC VOLUME SUMMARY

VOLUMES		NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A)	CUMULATIVE:	0	328	263	88	307	0	27	3	92	0	0	0
(B)	PROJECT-ADDED	0	0	0	1	0	0	2	0	0	0	0	0

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	TR	L T	L TR	

TRAFFIC SCENARIOS

SCENARIO 1 = CUMULATIVE VOLUMES (A)

SCENARIO 2 = CUMULATIVE + PROJECT VOLUMES(A+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS		# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL		0	0	0	0			-	-		
NBT		1	1600	328	328			0.369 *	0.369 *		
NBR	*(a)*	0	0	263	263			-	-		
SBL		1	1600	88	89			0.055 *	0.056 *		
SBT		1	1600	307	307			0.192	0.192		
SBR	*(b)*	0	0	0	0			-	-		
EBL		1	1600	27	29			0.017	0.018		
EBT		1	1600	3	3			0.059 *	0.059 *		
EBR	*(c)*	0	0	92	92			-	-		
WBL		0	0	0	0			-	-		
WBT		0	0	0	0			-	-		
WBR	*(d)*	0	0	0	0			-	-		
					LOST TIME:			0.100 *	0.100 *		
					TOTAL INTERSECTION CAPACITY UTILIZATION:			**0.583**	**0.584**		
					SCENARIO LEVEL OF SERVICE:			A	A		

NOTES:

Printed: 02/16/11

#10086 - 7400 CATHEDRAL OAKS BLVD. PROJECT REF: C_AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE:

TIME PERIOD: ***A.M. PEAK HOUR*** With Modified Cathedral Oaks-Hollister Avenue Interchange

N/S STREET: ***CATHEDRAL OAKS***

E/W STREET: ***HOLLISTER AVENUE***

CONTROL TYPE: ***SIGNAL***

TRAFFIC VOLUME SUMMARY

VOLUMES		NORTH BOUND L	NORTH BOUND T	NORTH BOUND R	SOUTH BOUND L	SOUTH BOUND T	SOUTH BOUND R	EAST BOUND L	EAST BOUND T	EAST BOUND R	WEST BOUND L	WEST BOUND T	WEST BOUND R
(A)	CUMULATIVE:	0	0	0	388	0	44	19	11	0	0	17	370
(B)	PROJECT-ADDED	0	0	0	0	0	0	0	0	0	0	0	0

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
		L R	LT	T R

TRAFFIC SCENARIOS

SCENARIO 1 = CUMULATIVE VOLUMES (A)

SCENARIO 2 = CUMULATIVE + PROJECT VOLUMES(A+B)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS		# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL		0	0	0	0			-	-		
NBT		0	0	0	0			-	-		
NBR	*(a)*	0	0	0	0			-	-		
SBL		1	1600	388	388			0.243 *	0.243 *		
SBT		0	0	0	0			-	-		
SBR	*(b)*	1	1600	44	44			0.028	0.028		
EBL		0	0	19	19			-	-		
EBT		1	1600	11	11			0.019	0.019		
EBR	*(c)*	0	0	0	0			-	-		
WBL		0	0	0	0			-	-		
WBT		1	1600	17	17			0.011	0.011		
WBR	*(d)*	1	1600	370	370			0.231 *	0.231 *		
							LOST TIME:	0.100 *	0.100 *		
							TOTAL INTERSECTION CAPACITY UTILIZATION:	**0.574**	**0.574**		
							SCENARIO LEVEL OF SERVICE:	A	A		

NOTES:

Printed: 02/18/11

#10086 - 7400 CATHEDRAL OAKS BLVD. PROJECT REF: C_PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE:

TIME PERIOD: ***P.M. PEAK HOUR*** **With Modified Cathedral Oaks-Hollister Avenue Interchange**

N/S STREET: ***CATHEDRAL OAKS***

E/W STREET: ***HOLLISTER AVENUE***

CONTROL TYPE: ***SIGNAL***

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) CUMULATIVE:	0	0	0	370	0	16	40	39	0	0	22	536
(B) PROJECT-ADDED	0	0	0	0	0	0	0	0	0	0	0	0

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
		L R	LT	T R

TRAFFIC SCENARIOS

SCENARIO 1 = CUMULATIVE VOLUMES (A)

SCENARIO 2 = CUMULATIVE + PROJECT VOLUMES(A+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	0	0	0	0			-	-		
NBT	0	0	0	0			-	-		
NBR *(a)*	0	0	0	0			-	-		
SBL	1	1600	370	370			0.231 *	0.231 *		
SBT	0	0	0	0			-	-		
SBR *(b)*	1	1600	16	16			0.010	0.010		
EBL	0	0	40	40			-	-		
EBT	1	1600	39	39			0.049	0.049		
EBR *(c)*	0	0	0	0			-	-		
WBL	0	0	0	0			-	-		
WBT	1	1600	22	22			0.014	0.014		
WBR *(d)*	1	1600	536	536			0.335 *	0.335 *		
						LOST TIME:	0.100 *	0.100 *		
						TOTAL INTERSECTION CAPACITY UTILIZATION:	0.666	0.666		
						SCENARIO LEVEL OF SERVICE:	B	B		

NOTES:

Printed: 02/18/11

DRIVEWAY LEVEL OF SERVICE CALCULATION WORKSHEETS

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*DLD*	Intersection	*CATHEDRAL OAKS/EAST DRIVEWAY*
Agency/Co.	*ATE*	Jurisdiction	*GOLETA*
Date Performed	*2/23/2011*	Analysis Year	*CUMULATIVE+PROJECT*
Analysis Time Period	*AM PEAK*		

Project Description	
East/West Street: *CATHEDRAL OAKS*	North/South Street: *EAST DRIVEWAY*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*0*	*467*			*172*	*5*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*467*	*0*	*0*	*172*	*5*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*0*	*1*	*0*
Configuration	*L*	*T*				*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*16*		*1*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*16*	*0*	*1*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*						*LR*	
v (veh/h)	*0*						*17*	
C (m) (veh/h)	*1411*						*455*	
v/c	*0.00*						*0.04*	
95% queue length	*0.00*						*0.12*	
Control Delay (s/veh)	*7.6*						*13.2*	
LOS	*A*						*B*	
Approach Delay (s/veh)	--	--					*13.2*	
Approach LOS	--	--					*B*	

AWD = 13.2 = LOS B

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*DLD*	Intersection	*CATHEDRAL OAKS/EAST DRIVEWAY*
Agency/Co.	*ATE*	Jurisdiction	*GOLETA*
Date Performed	*2/23/2011*	Analysis Year	*CUMULATIVE+PROJECT*
Analysis Time Period	*PM PEAK*		

Project Description	
East/West Street: *CATHEDRAL OAKS*	North/South Street: *EAST DRIVEWAY*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*2*	*202*			*271*	*18*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*2*	*202*	*0*	*0*	*271*	*18*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*0*	*1*	*0*
Configuration	*L*	*T*				*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*10*		*1*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*10*	*0*	*1*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*						*LR*	
v (veh/h)	*2*						*11*	
C (m) (veh/h)	*1284*						*558*	
v/c	*0.00*						*0.02*	
95% queue length	*0.00*						*0.06*	
Control Delay (s/veh)	*7.8*						*11.6*	
LOS	*A*						*B*	
Approach Delay (s/veh)	--	--				*11.6*		
Approach LOS	--	--				*B*		

AWD = 11.0 = LOS B

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*DLD*	Intersection	*CATHEDRAL OAKS/WEST DRIVEWAY*
Agency/Co.	*ATE*	Jurisdiction	*GOLETA*
Date Performed	*2/23/2011*	Analysis Year	*CUMULATIVE+PROJECT*
Analysis Time Period	*AM PEAK*		

Project Description	
East/West Street: *CATHEDRAL OAKS*	North/South Street: *WEST DRIVEWAY*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*1*	*452*			*168*	*5*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*1*	*452*	*0*	*0*	*168*	*5*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*0*	*1*	*1*
Configuration	*L*	*T*			*T*	*R*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*15*		*2*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*15*	*0*	*2*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*						*LR*	
v (veh/h)	*1*						*17*	
C (m) (veh/h)	*1416*						*481*	
v/c	*0.00*						*0.04*	
95% queue length	*0.00*						*0.11*	
Control Delay (s/veh)	*7.5*						*12.8*	
LOS	*A*						*B*	
Approach Delay (s/veh)	--	--					*12.8*	
Approach LOS	--	--					*B*	

AWD = 12.5 = LOS B

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*DLD*	Intersection	*CATHEDRAL OAKS/WEST DRIVEWAY*
Agency/Co.	*ATE*	Jurisdiction	*GOLETA*
Date Performed	*2/23/2011*	Analysis Year	*CUMULATIVE+PROJECT*
Analysis Time Period	*PM PEAK*		

Project Description	
East/West Street: *CATHEDRAL OAKS*	North/South Street: *WEST DRIVEWAY*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*2*	*194*			*255*	*17*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*2*	*194*	*0*	*0*	*255*	*17*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*0*	*1*	*0*
Configuration	*L*	*T*				*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*10*		*1*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*10*	*0*	*1*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

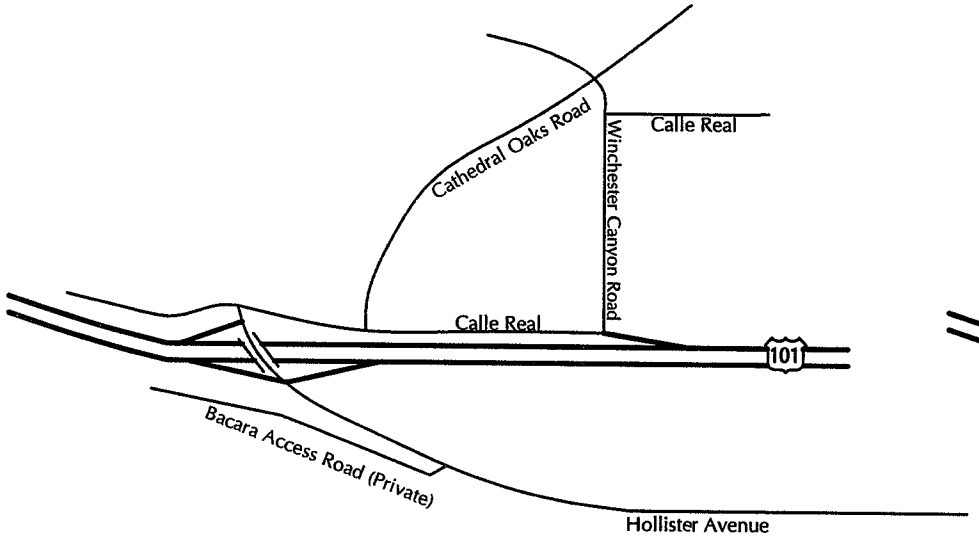
Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*						*LR*	
v (veh/h)	*2*						*11*	
C (m) (veh/h)	*1303*						*576*	
v/c	*0.00*						*0.02*	
95% queue length	*0.00*						*0.06*	
Control Delay (s/veh)	*7.8*						*11.4*	
LOS	*A*						*B*	
Approach Delay (s/veh)	--	--					*11.4*	
Approach LOS	--	--					*B*	

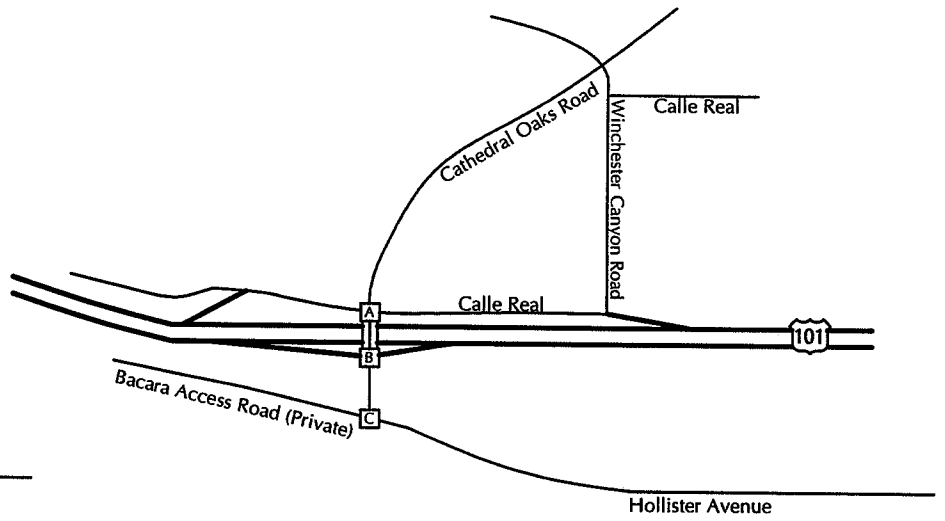
AWD = 10.8 = LOS B

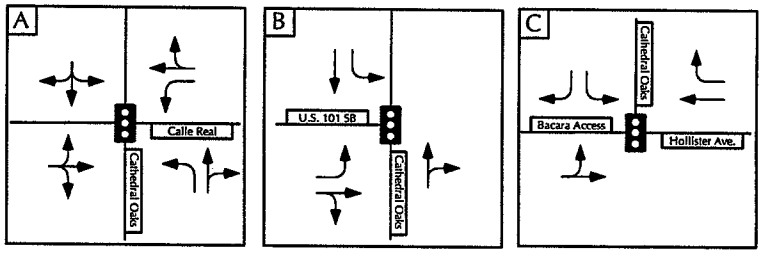
TRAFFIC CONTROL AND LANE GEOMETRIES - CATHEDRAL OAKS INTERCHANGE

EXISTING CONFIGURATION



MODIFIED CONFIGURATION





N
NOT TO SCALE

LEGEND

- Signalized Intersection
- Lane Geometry

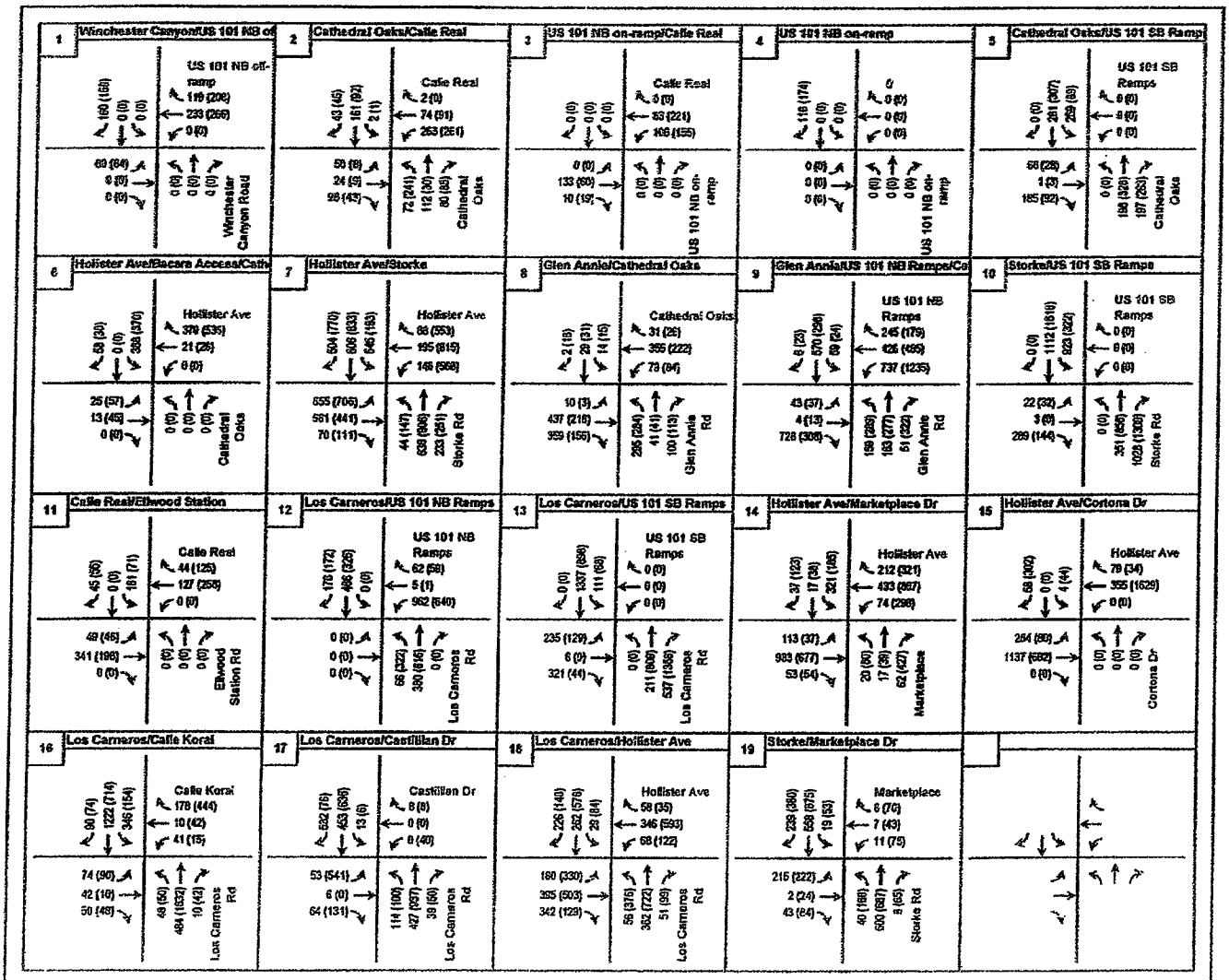
ASSOCIATED TRANSPORTATION ENGINEERS

CATHEDRAL OAKS ROAD OVERPASS - TRAFFIC CONTROL AND LANE GEOMETRIES

FIGURE A

MMF - #10086

CITY OF GOLETA TRAFFIC MODEL FORECASTS



Key

31 (27) = AM(PM)

= Movement Volume

File information

CS

Excel File = volmaps.xls

Turns (AM) = am.csv

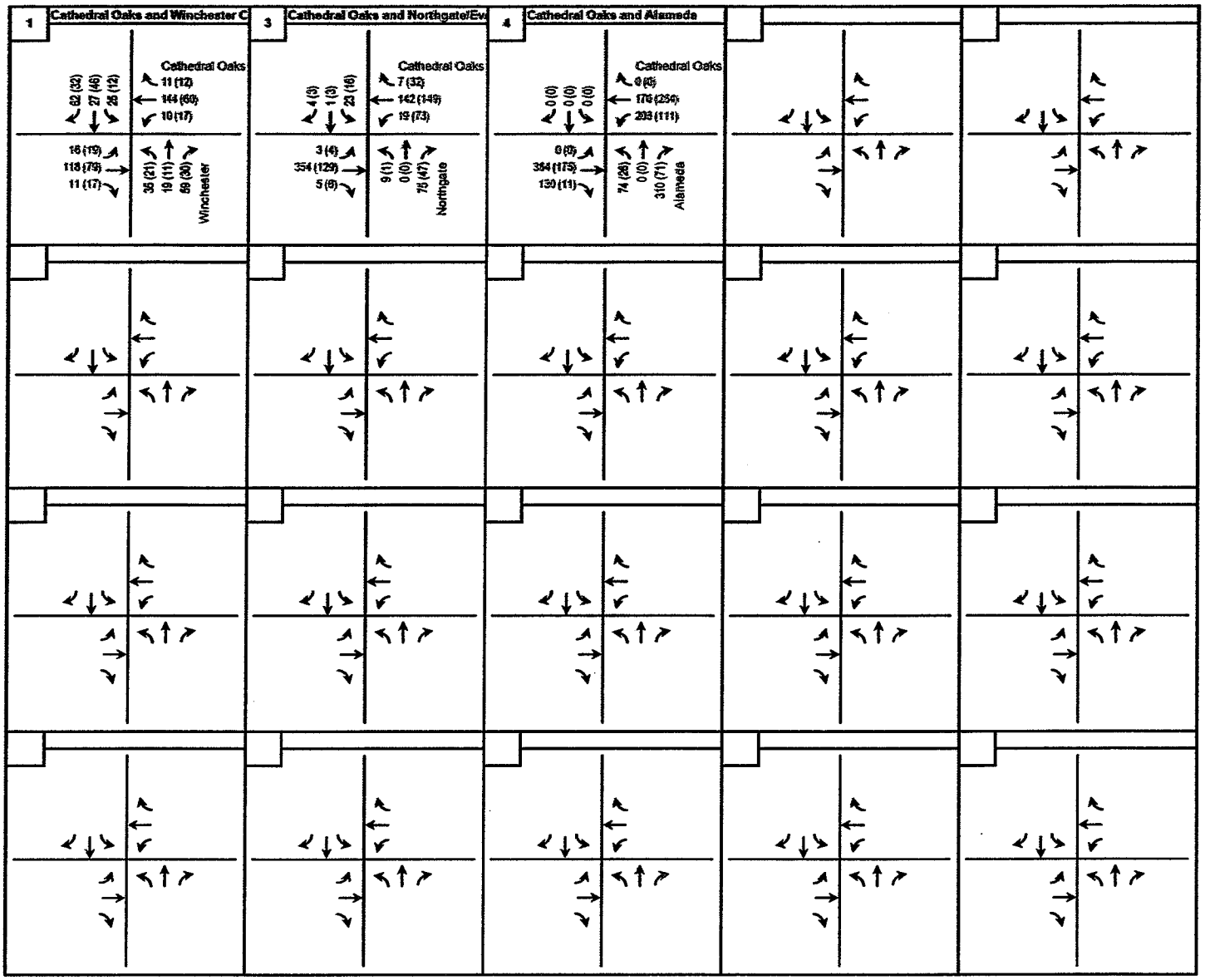
Turns (PM) = pm.csv

1/5/2010 10:40

Dowling Associates, Inc.
ATE Modeling Support - Westar Projects

Intersections 1 - 19
2030 Cumulative Plus Project *

* Model Assumes 34 DU OD 7400 Cathedral Oaks Road Site



Key

31 (27) = AM(PM)

↙ = Movement Volume

File Information

CS

Excel File = Volumes Graphic.xls

Turns (AM) = am.csv

Turns (PM) = pm.csv

2/23/2011 10:20

Dowling Associates, Inc. **7400 Cathedral Oaks**	**Intersections 1 - 4** **2030 Cumulative No Project**

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Richard L. Pool, P.E.
Scott A. Schell, AICP, PTP

February 15, 2011

MEMORANDUM

To: Steve Wagner, Jim Biega, Marti Schultz
City of Goleta

From: Matthew Farrington
Associated Transportation Engineers

Subject: 7400 Cathedral Oaks Road Project - Adjusted Cumulative Volumes

---

The following memo reviews the methodologies that will be used to adjust the cumulative volumes for the traffic study being prepared for the 7400 Cathedral Oaks Road Project. The adjusted volumes reflect the changes in the project descriptions between the cumulative project list prepared in September 2010 and the current list developed in February 2011 for the Village at Los Carneros Project, the Goleta Marriott Inn Project, and the Camino Real Hotel Project. The change in trip generation and the distribution model for each project is outlined below.

Village at Los Carneros Project

The February 2011 cumulative list shows the project to include 465 total residential units, which is an increase of 37 units when compared to the list prepared in September 2010. Based on the current project description, provided by Alan Hanson at the City of Goleta, the change in units is based on an increase in the number of condominium units. Table 1 presents the change in trip generation for the Village at Los Carneros Project.

Table 1
Trip Generation Comparison - Village at Los Carneros Project

Scenario	Size	ADT		A.M. Peak Hour		P.M. Peak Hour	
		Rate	Trips	Rate	Trips	Rate	Trips
September 2010	228 Units (a)	5.81	1,325	0.44	100	0.52	119
February 2011	265 Units (a)	5.81	1,540	0.44	117	0.52	138
Net Change	+37 Units		+215		+17		+19

(a) Unit change in Condominium/Town home component of Project.

The data presented in Table 1 indicate that the project is forecast to generate a net increase in 215 average daily trips, 17 A.M. peak hour trips, and 19 P.M. peak hour trips. The net trips will be assigned to the study street network based on the distribution pattern previously developed for the project EIR[1], which is shown on Figure 1 (attached).

Goleta Marriott Project

The February 2011 cumulative list shows the project to include 118 hotel rooms, which is a decrease of 15 rooms when compared to the list prepared in September 2010. Table 2 presents the change in trip generation for the Goleta Marriott Project.

Table 2
Trip Generation Comparison - Goleta Marriott Project

Scenario	Size	ADT		A.M. Peak Hour		P.M. Peak Hour	
		Rate	Trips	Rate	Trips	Rate	Trips
September 2010	133 Rooms	8.17	1,087	0.56	74	0.59	78
February 2011	118 Rooms	8.17	964	0.56	66	0.59	70
Net Change	-15 Rooms		-123		-8		-8

The data presented in Table 2 indicate that the project is forecast to generate a net decrease of 123 average daily trips, 8 A.M. peak hour trips, and 8 P.M. peak hour trips. The net decrease in trips will be assigned to the study street network based on the distribution pattern developed for the project MND [2], which is shown on Figure 2 (attached).

[1] The Village at Los Carneros - Proposed Final EIR, Envicom Corporation, November 2007.

[2] Marriott Residence Inn and Hollister Business Center - Final MND, City of Goleta, 2008.

Camino Real Hotel Project

The February 2011 cumulative list shows the project to include 106 hotel rooms, which is an increase of 7 rooms when compared to the list prepared in September 2010. Table 3 presents the change in trip generation for the Goleta Marriott Project.

Table 3
Trip Generation Comparison - Camino Real Hotel Project

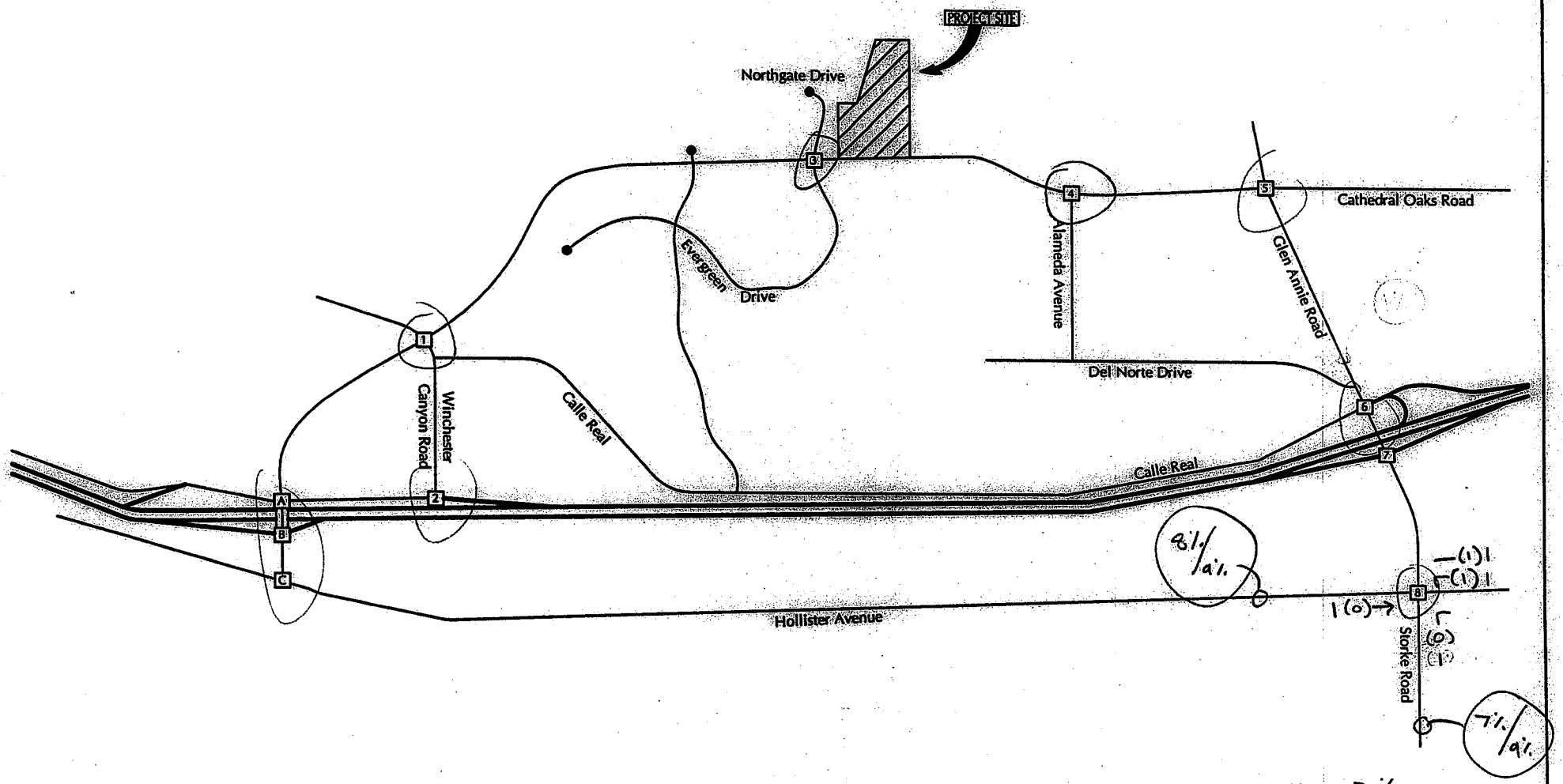
Scenario	Size	ADT		A.M. Peak Hour		P.M. Peak Hour	
		Rate	Trips	Rate	Trips	Rate	Trips
September 2010	99 Rooms	8.17	809	0.56	55	0.59	58
February 2011	106 Rooms	8.17	866	0.56	59	0.59	63
Net Change	+7 Rooms		+57		+4		+5

The data presented in Table 3 indicate that the project is forecast to generate a net increase of 57 average daily trips, 4 A.M. peak hour trips, and 5 P.M. peak hour trips. The net new trips will be assigned to the study street network based on the distribution pattern contained in the traffic study prepared for the project[3], as shown on Figure 3 (attached).

[3] Camino Real Hotel Project - Revised Traffic, Circulation, and Parking Study, ATE, January 31, 2008.

	IN	OUT
A.M.	3	14
P.M.	13	6

N
NOT TO SCALE



VILLAGE @ LOS CARNEROS - ADDED

ASSOCIATED TRANSPORTATION ENGINEERS

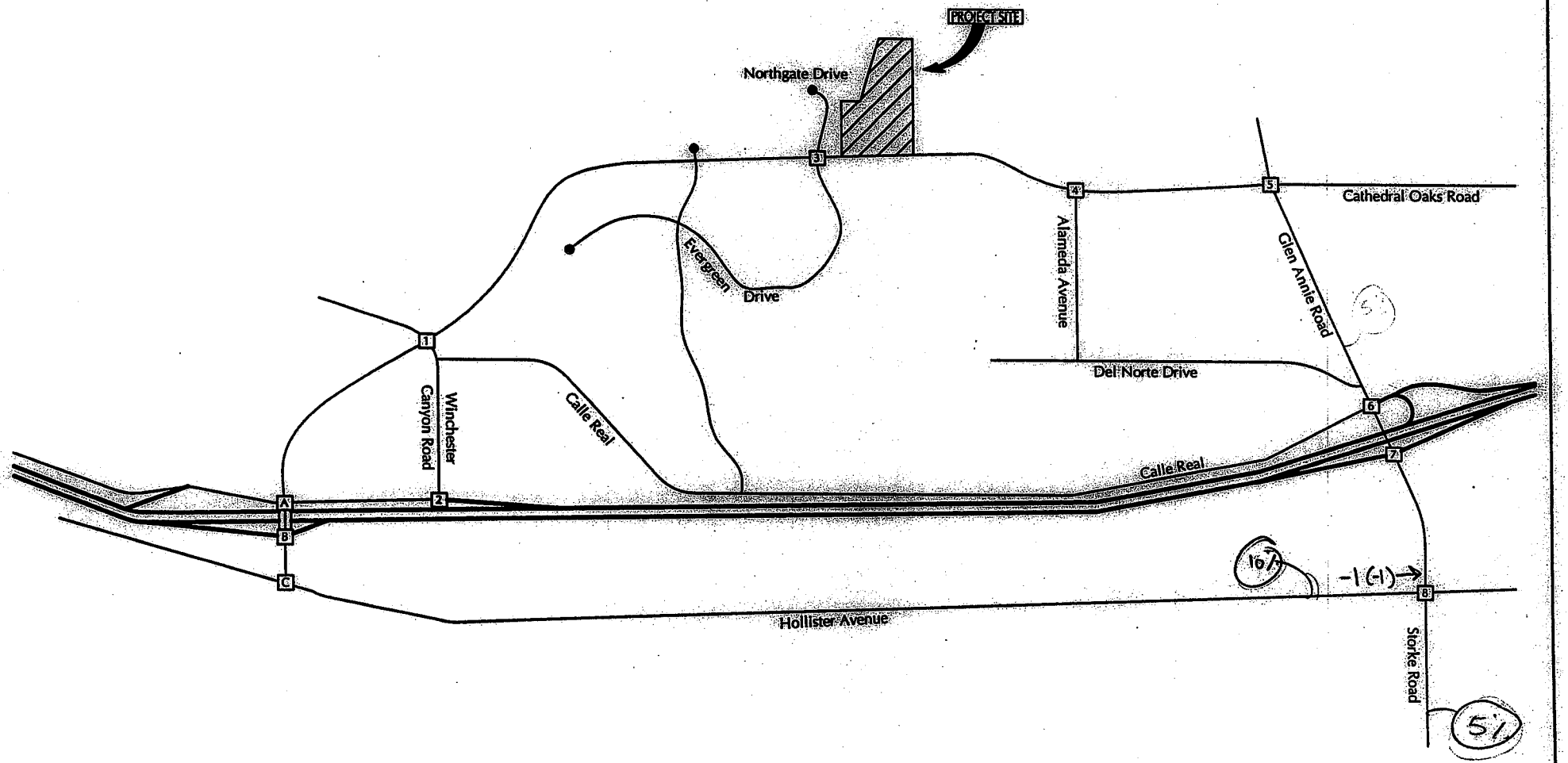
EXISTING STREET NETWORK AND PROJECT LOCATION

FIGURE 1

MMF - #10086

	IN	OUT
A.M.	-5	-3
P.M.	-5	-3

N
NOT TO SCALE



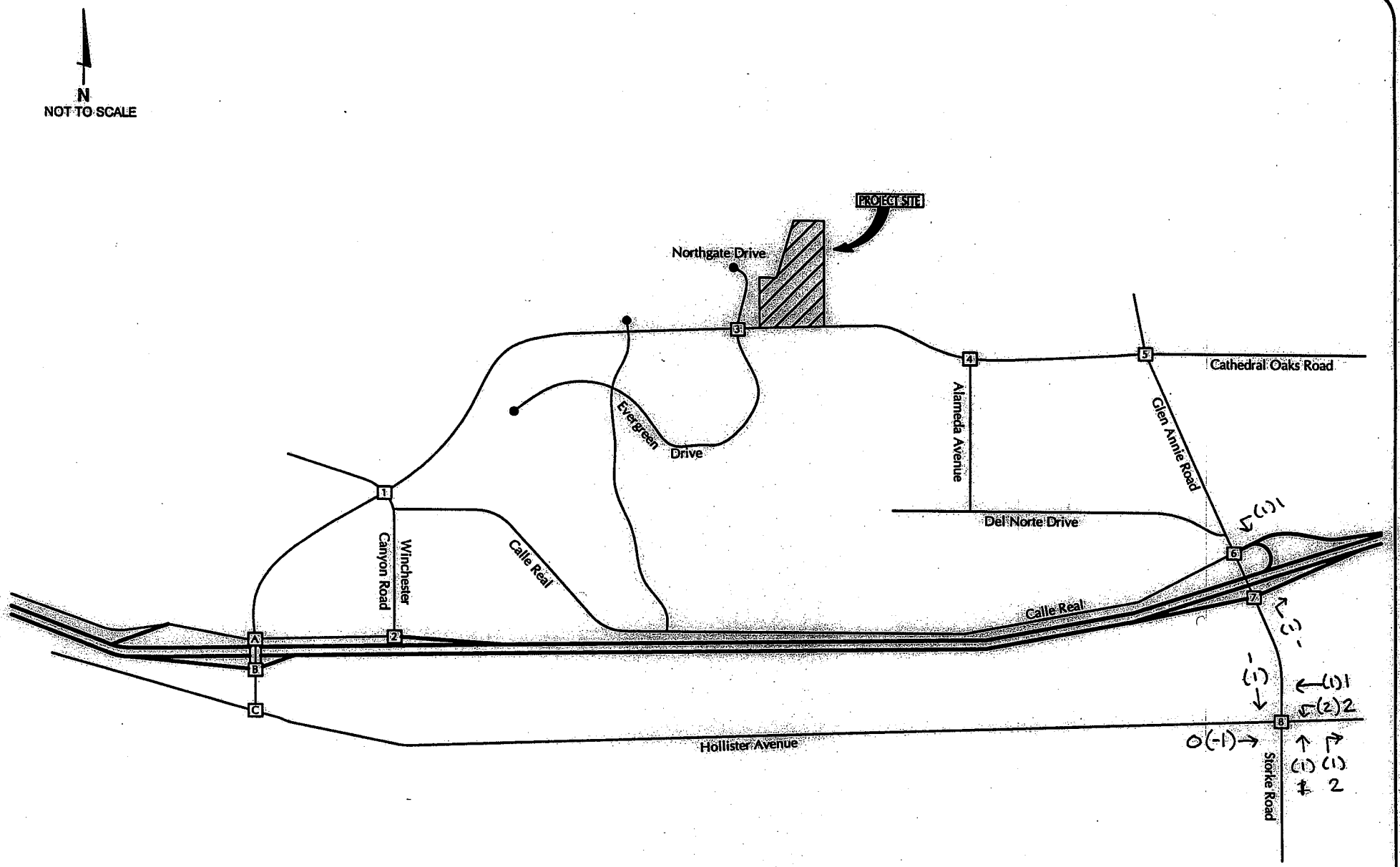
Goleta Marriott Added

Associated Transportation Engineers

EXISTING STREET NETWORK AND PROJECT LOCATION

FIGURE 1

MMF - #10086



TOTAL CUMULATIVE ADJUSTMENTS

Associated Transportation Engineers

EXISTING STREET NETWORK AND PROJECT LOCATION

FIGURE 1

MMF - #10086

CITY OF GOLETA CUMULATIVE PROJECT LIST

CITY OF GOLETA
PLANNING AND ENVIRONMENTAL SERVICES
CUMULATIVE DEVELOPMENT PROJECTS LIST
(MAJOR PROJECTS)
FEBRUARY 2011

PLANNER	PROJECT	LOCATION	APN	DESCRIPTION	STATUS
PENDING PROJECTS					
Hanson (OT)	Fairview Commercial Center; 01-SB-DP; CUP	151 S. Fairview Avenue	073-080-019	16,885 SF mixed use building (9,250 SF retail space, 6,110 SF office space) 2 units	Pending
Kolwitz	Islamic Society of Santa Barbara 03-051-DP; CUP	NEC Los Carneros and Calle Real	077-160-035	6,183 SF building for Islamic Center 1 caretaker unit	Pending
Hanson (OT)	Meyer-Thrifty 64-SB-DP	5971 Placencia Street	071-182-007	1,682 SF car rental agency office	Pending
Kolwitz	Taylor Parcel Map 03-053-PM	590 N. Kellogg Avenue	069-100-003	3 new parcels	Pending
Dudek	Bacara Completion Phase 05-034-GP, -DP, -TM	8301 Hollister Avenue	079-200-013	189,217 SF (55 suites)	Pending
Hanson	Rancho Mobile Home Park Subdivision (Guggenheim) 05-140-TM	7465 Hollister Avenue	079-210-058	Subdivision of a 17.84 acre rental mobile home park property (150 existing mobile homes).	Pending - California Coastal Commission

PLANNER	PROJECT	LOCATION	APN	DESCRIPTION	STATUS
Kolwitz	Sturgeon Building 06-180-DP	SEC Los Carneros and Calle Real	077-160-040	6,046 SF retail/medical office	Pending
Hanson	Mariposa at Ellwood Shores 07-217-DP et al	7760 Hollister Avenue	079-210-057	70,510 SF assisted living facility (99 residents)	Pending
Vlk (OT)	Schwan Self Storage 07-229-DP	10 S. Kellogg Avenue	071-090-082	111,730 SF self-storage facility	Pending
Hanson	Shelby Trust 05-154-GP, -RZ et al	7400 Cathedral Oaks Road	077-530-019	60 residential units	Pending
Hanson (OT – East Wing)	Jordano's Master Plan 08-109-GPA, RZN, OA, LLA, FDP	5305 and 5324 Ekwill/550 S Patterson	065-090-029, -034, -036	Existing Jordano's facility, plus: 52,080 SF warehouse net new 4,640 SF office net new 1,600 SF new truck wash area	Pending
Campbell	Willow Springs II 08-128-GPA, -SPA, -VTM, -DP, -CUP, -Lot Merger, -DRB	Camino Vista e/o Los Carneros Road	073-060-044, -045, -046, -047, -048	100 residential units	Pending
Hanson	Village at Los Carneros I and II 10-044-GPA,-VTM, -DP, -DRB; 10-043	Adj. to 71 South Los Carneros Road	073-330-024, -026, -027, -028, -029	465 residential units	Pending
Kolwitz Ling	Westar 08-143-GPA et al	Hollister Avenue n/w of Glen Annie Road	073-030-020 073-030-021	279 residential units 90,054 SF retail	Pending
Ling Saley	Montecito Bank and Trust 08-196-GPA, -RZ, -LLA, -DP	6900 Hollister Avenue	073-140-006	3,713 SF bank w/drive-up window 2,176 SF office	Pending

PLANNER	PROJECT	LOCATION	APN	DESCRIPTION	STATUS
Campbell (OT – West Wing)	Marriott Residence Inn 09-075-TPM, -DP; 09-079-DP AM	6300 Hollister Avenue	073-050-020	80,989 SF hotel (118 rooms)	Pending
Ling	Rincon Palms Hotel and Restaurant 09-106-DP RV	6868/6878 Hollister Avenue	073-140-004	75,580 SF hotel (102 rooms) 6,000 SF restaurant	Pending
Hanson	Cortona Apts 09-140-DP	6830 Cortona Drive	073-140-016	171 residential units	Pending
Vlk	Kenwood Village 08-205-GPA	Calle Real w/o Calaveras Avenue	077-130-006, 077-130-019, 077-141-049	60 residential units	Pending
Hanson (OT)	Concrete Recycling Facility 09-133-DP	903 South Kellogg Avenue	071-190-034	18,400 SF operations 30,500 SF storage	Pending
Hanson	McDonalds, USA 10-085-CUP, DPAM	6900 Marketplace Drive	073-440-024	add drive-thru window	Pending
Kolwitz	Camino Real Hotel 11-005-SPA, -DP RV	401 Storke Road	073-440-019	73,828 SF hotel (106 rooms)	Pending
APPROVED PROJECTS					
Kolwitz	Camino Real Marketplace – Skating Facilities 95-DP-026	Santa Felicia Drive	073-440-022	46,000 SF ice rink 17,000 SF roller rink	Approved
Kolwitz	Robinson LLA-related lots	Baker, Violet and Daffodil Lanes	077-141-053, 077-141-070 et al	13 residential units (4 approved and 9 under construction)	Approved

PLANNER	PROJECT	LOCATION	APN	DESCRIPTION	STATUS
Moore	Cabrillo Business Park 37-SB-DP et al	6767 Hollister Avenue	073-450-005	Business Park with new structures totaling 707,100 SF (R&D, self storage, onsite service related uses)	Approved
Hanson	Village at Los Carneros 03-050-TM, -DP, et al	S. Los Carneros Road Cortona/Castilian Drives	073-330-024, 073-330-027	275 residential units	Approved (on hold; substitute application; see 10-044-DP)
Miller	Rincon Palms Hotel and Restaurant 07-020-RZ, -DP	6868/6878 Hollister Avenue	073-140-004	59,600 SF hotel (112 rooms) 6,000 SF restaurant	Approved (on hold; revised application pending)
Kolwitz	Camino Real Hotel 07-208-DP et al	401 Storke Road	073-440-019	73,828 SF hotel (99 rooms)	Approved (on hold; revised application pending)
Vlk	Renco Encoders 07-103-DP	26 Coromar Drive	073-150-013	Existing M-RP Bldg (33,600 SF) add 8800 SF manu.space add 10,400 SF office	Approved
Moore	Citrus Village 04-226-DP; TM	7388 Calle Real	077-490-043	10 residential units	Approved
Moore	Haskell's Landing 07-102-GP, -TM, -DP	Hollister Avenue w/o Las Armas Road	079-210-049	101 residential units	Approved
Hanson	AMR Deployment Center 10-106-CUP	7200 Hollister Avenue	073-020-018	occupy 8300 SF in an existing M-RP building; no new square footage	Approved
Ling (OT)	Dawson Contractor Storage 09-171-LUP	5750 Dawson Avenue	071-121-006	1440 SF office; contractor storage	Approved
Moore (OT – East Wing)	GVCH Medical Office Building Reconstruction 08-185-DP	5333 Hollister Ave	065-090-023	Medical Office Building 41,224 SF existing (demo) 52,000 SF proposed 10,776 SF net new	Approved

PLANNER	PROJECT	LOCATION	APN	DESCRIPTION	STATUS
Vlk	Winchester Commons HOA 08-029-TPM, -DP RV	7960 Winchester Circle	079-730-039	1 SFD (conversion of day care center)	Approved
PROJECTS UNDER CONSTRUCTION/OCCUPIED					
Hanson	Quixote Fund 00-DP-030	275 Mathilda Drive	079-554-009	2 residential units	Under Construction
Kolwitz	Robinson LLA-related lots	Baker, Violet and Daffodil Lanes	077-141-053, 077-141-070 and others	13 residential units (SFDs; 4 approved and 9 under construction)	Occupied
Hanson	Comstock Homes 67-SB-TM	7800 block of Hollister Avenue	079-210-067	62 residential units (SFDs)	Under Construction/Occupied
Kolwitz (OT)	Fairview Corporate Center 74-SB-DP	420 S. Fairview Avenue	071-130-057, -061, -062	73,203 SF M-RP building	Occupied
Moore (OT)	Sumida Gardens 07-052-DP et al 08-065-LUP	5501 Overpass Road	071-330-012	200 residential units	Occupied
Moore (OT)	Stokes Industrial Building 02-084-DP	East side of Technology Drive	071-170-085	5,000 SF industrial building	Occupied
Moore (OT – East Wing)	Goleta Valley Cottage Hospital 07-171-OA, -DP, -DRB	351 S. Patterson SE Corner of Patterson/Hollister	065-090-022 065-090-028	Hospital: 93,090 SF existing 152,658 SF proposed 59,568 SF net new	Under Construction
Kolwitz	Camino Real Marketplace Best Buy Expansion 08-075-DP AM	7090 Marketplace Drive	073-440-013	7,770 SF retail expansion	Occupied

PLANNER	PROJECT	LOCATION	APN	DESCRIPTION	STATUS
Kolwitz	Fairview Gardens 08-111-CUP	598 N. Fairview Avenue	069-090-052	5 units for farm-worker housing; 2 accessory yurts	Occupied
Kolwitz (OT)	Towbes/ATK 08-157-OA, -DP RV	600 Pine Avenue	071-130-040	23,276 SF addition to an existing research park building	Occupied
Moore (OT)	Housing Authority Braddock House 05-059-PM; DP AM02	5575 Armitos Avenue	071-090-084	Division of 2.43 acres into two parcels of 2.19 and 0.24 acres; addition of 1 new assisted living unit (4 rooms; Braddock House 2,755 SF); Miller Community Center 1,536 SF	Under Construction

	Residential Units	Commercial/Industrial SF
Pending	1,041	840,213
Approved	391	940,944
Under Construction/Occupied	279	170,353
TOTAL	**1,711**	**1,951,510**

NOTE:

1. OT = Old Town
2. Wireless and Energy projects are not included in this table.

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Since 1978

Richard L. Pool, P.E.
Scott A. Schell, AICP, PTP

MEMORANDUM

August 13, 2013 10086M02.WP

To: Mark Lloyd, Land Consultants

From: Scott A. Schell, AICP, PTP
Associated Transportation Engineers

Subject: 7400 Cathedral Oaks Road Project - Construction Impacts

Pursuant to your request, ATE is providing the following information related to potential construction impacts that would be generated by the 7400 Cathedral Oaks Road Project. The project is proposing to develop a vacant site, located at 7400 Cathedral Oaks Road, with 60 single family dwelling units. Access to the project site would be provided via two new roadway connections to Cathedral Oaks Road. A new loop road would be constructed to provide internal circulation throughout the site.

The construction period is estimated at 12-14 months. The site would be cleared in the first phase (demolition, excavation and grading) and then building construction would commence. During the peak period of construction activities, a workforce of 55 workers would be required. It is assumed that workers would begin at 7 A.M. and end by 4:00 P.M. Construction workers are anticipated to work in 1 overall shift.

The number of construction worker vehicles was estimated based on an occupancy of 1.25 persons per vehicle. Thus, it is estimated that up to 44 inbound trips would occur during the A.M. peak period and 44 outbound trips would occur during the P.M. peak hour on a daily basis during the peak construction period. The traffic study prepared for the project estimated that the proposed project would generate 45 A.M. peak hour trips and 61 P.M. peak hour trips, which is slightly more peak hour trips than the construction phase. The traffic study prepared for the project found that all of the study-area roadways and intersections would operate at LOS C or better during the A.M. and P.M. peak hours with existing + project traffic, which meet the City's LOS C operating standard. It can therefore be concluded that the additional traffic generated by construction traffic would not significantly impact the area roadways and intersections.

Truck trips would be required for the first phase (demolition, excavation and grading) as well as for delivery of construction equipment and material during the course of the construction phase. The site access and circulation system has been designed to accommodate truck traffic. Equipment staging and storage would occur on the site. Also, construction worker parking would be accommodated on the site. Therefore, construction related vehicles would not affect parking and traffic operations on the streets in the immediate vicinity of the site.

While the construction phase of the project would not generate significant impacts, the following measures are recommended to minimize traffic and parking impacts during the construction phase.

- Work with City of Goleta to develop a truck routing plan.
- Schedule truck trips during non-peak travel periods to the extent possible.
- Designate on-site areas for storage of construction equipment and materials.
- Designate on-site parking areas for construction worker vehicles.
- Develop traffic control plans for work that disrupts traffic on Cathedral Oaks Road.
- Designate an on-site construction manager and post information (telephone number, email, web site, etc.) for the public to contact the construction manager to address any construction issues.