4.7 TRANSPORTATION AND TRAFFIC

This transportation and traffic section is based on Associated Transportation Engineers' (ATE) "Traffic and Circulation Study for the 7400 Cathedral Oaks Road Project: City of Goleta, CA" (February 23, 2011) and ATE's memorandum "7400 Cathedral Oaks Road Project – Construction Impacts" (August 13, 2013), which are provided in Appendix E. The traffic analysis follows the City of Goleta's traffic study criteria and has been peer-reviewed and accepted by the City's Public Works Department.

4.7.1 Existing Setting

The project site is at 7400 Cathedral Oaks Road, on the north side of Cathedral Oaks Road, east of Northgate Drive, in the western part of the City. Currently the site is for storage of firewood and woodchips, with a single-family residence, a garage, and a barn on the site.

The project site is served by a network of highways, arterial streets, and collector streets as illustrated on Figure 4.7-1 and described further below. Immediate access to the project site is currently provided from Cathedral Oaks Road by a single driveway/private road.

4.7.1.1 Street System

The following roadway segments and intersections were selected for analysis in consultation with City Public Works Department staff in order to determine potential impacts related to the project. City Public Works Department staff identified the affected roadway segments and intersections to be included in the traffic analysis for the project.

Roadway Segments

- Cathedral Oaks Road west of Glen Annie Road
- Glen Annie Road north of U.S. Highway 101
- Storke Road south of U.S. Highway 101

Intersections

- Cathedral Oaks Road at Winchester Canyon Road
- U.S. Highway 101 northbound off-ramp at Calle Real / Winchester Canyon Road
- Cathedral Oaks Road at Northgate Drive / Evergreen Drive
- Cathedral Oaks Road at Alameda Avenue
- Cathedral Oaks Road at Glen Annie Road
- U.S. Highway 101 northbound ramps / Calle Real at Glen Annie Road / Storke Road
- U.S. Highway 101 southbound ramps at Glen Annie Road / Storke Road
- Hollister Avenue at Storke Road

Classifications

The City utilizes the roadway categories recognized by regional, state, and federal transportation agencies. There are four categories in the roadway hierarchy ranging from

freeways, with the highest capacity, to two-lane undivided roadways, with the lowest capacity. The roadway categories are summarized as follows:

- *Freeways* are limited-access and high-speed travelways included in the state and federal highway systems. Their purpose is to carry regional through-traffic. Access is provided by interchanges with typical spacing of 1 mile or greater. No local access is provided to adjacent land uses.
- *Arterial* roadways are major streets that primarily serve through-traffic and provide access to abutting properties as a secondary function. Arterials are generally designed with two to six travel lanes and their major intersections are signalized. This roadway type is divided into two categories: major and minor arterials. Major arterials are typically four-or-more-lane roadways and serve both local and regional through-traffic. Minor arterials are typically two-to-four-lane streets that service local and commuter traffic.
- *Collector* roadways are streets that provide access and traffic circulation within residential and non-residential (e.g., commercial and industrial) areas. Collector roadways connect local streets to arterials and are typically designed with two through-travel lanes (i.e., one through-travel lane in each direction) that may accommodate on-street parking. They may also provide access to abutting properties.
- *Local* roadways distribute traffic within a neighborhood, or similar adjacent neighborhoods, and are not intended for use as through-streets or as links between higher-capacity facilities such as collector or arterial roadways. Local streets are fronted by residential uses and do not typically serve commercial uses.

4.7.1.2 Regional Road System

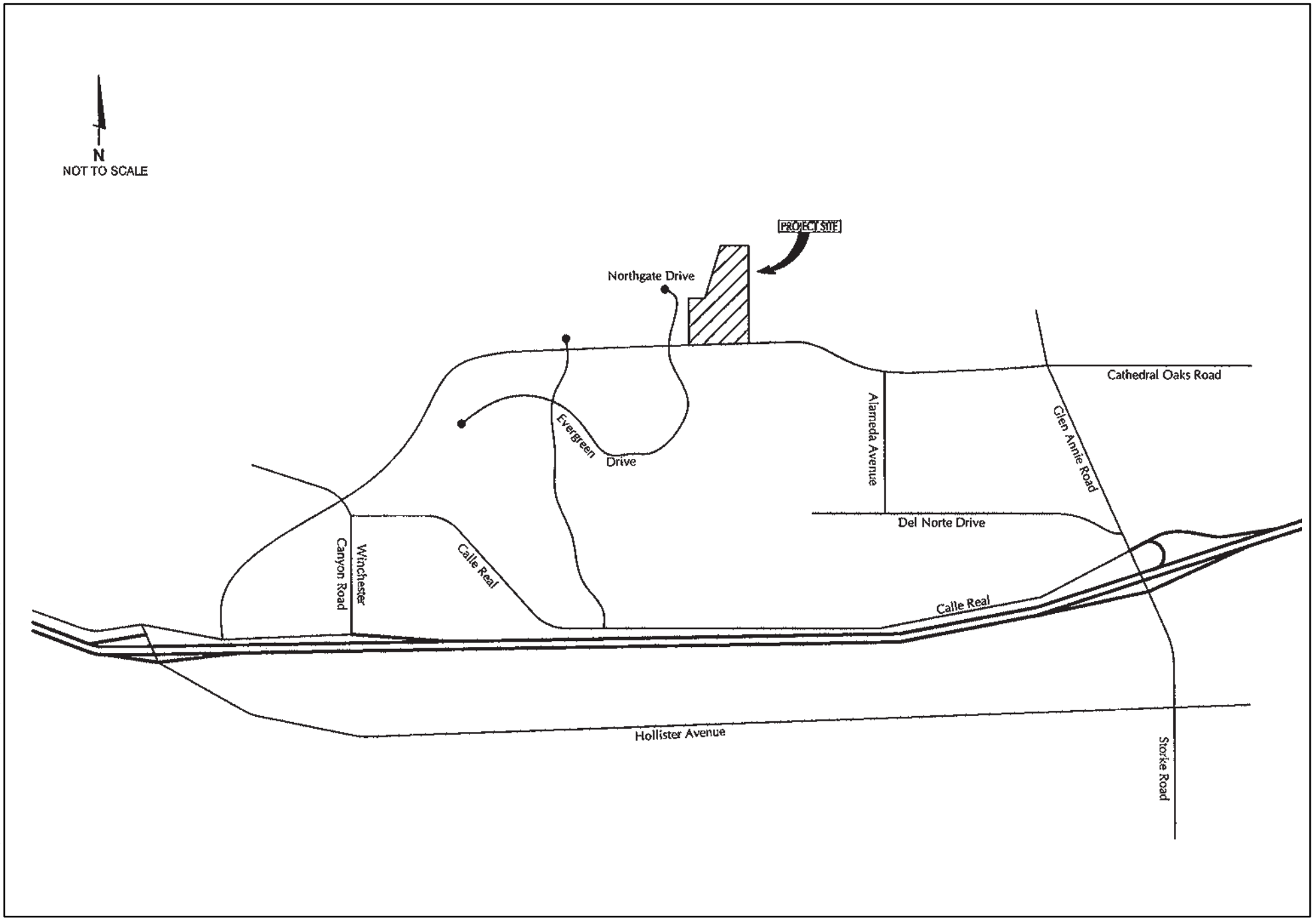
U.S. Highway 101 is a freeway located south of the project site that provides regional vehicular access to the subject property. This highway is a major north/south-oriented freeway connecting the Los Angeles metropolitan area to the San Francisco Bay Area. Locally, this highway connects the City of Goleta to Santa Barbara, Carpinteria, and San Buenaventura (Ventura) to the south and Buellton, Lompoc, and Santa Maria to the north. Access to the site is provided via the Glen Annie Road / Storke Road interchange (located east of the project site) and the Winchester Canyon Road / Hollister Avenue interchange (located west of the project site). In the study area, the highway generally contains two lanes in each direction.

Roadway Descriptions

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

Glen Annie Road / Storke Road is east of the project site and is called Glen Annie Road north of U.S. Highway 101 and Storke Road south of the freeway. It extends between Cathedral Oaks Road on the north and El Colegio Road on the south. This roadway provides freeway access to the western portion of the Goleta Valley area via an interchange with U.S. Highway 101. North of the freeway, Glen Annie Road is two lanes; south of the freeway, Storke Road is four lanes, except near its southern terminus, where it narrows to two lanes.

Hollister Avenue is south of U.S. Highway 101 and is an east/west-oriented major arterial ranging from two to four lanes. This roadway begins as the continuation of State Street in Santa Barbara to the east and extends through the City of Goleta past the U.S. Highway 101



K:\Irvine\GIS\Projects\Goleta\00114_13_Shelby\mapdoc\EIR\Fig04_5_1

Source: Associated Transportation Engineers

Figure 4.7-1
Existing Roadway Network
Shelby Residential Project EIR

interchange at Hollister Road / Winchester Canyon Road to the entrance of the Bacara Resort. Hollister Avenue serves at the major alternative east-west travel route to U.S. Highway 101 in the Goleta Valley area.

Calle Real is south of the project site. Calle Real acts as a discontinuous frontage road on the north side of U.S. Highway 101 from West Pueblo Street in the city of Santa Barbara to just west of Eagle Canyon Road in Santa Barbara County west of Goleta. In the vicinity of the project site, it is an east/west-oriented arterial with two travel lanes between Glen Annie Road and Cathedral Oaks Road. Calle Real provides the northbound connections to U.S. Highway 101 at the Glen Annie Road / Storke Road and Winchester Canyon Road / Hollister Avenue interchanges.

Winchester Canyon Road is west of the project site and is a two-lane north/south-oriented minor arterial providing access between the U.S. Highway 101 northbound off-ramp (at Calle Real) and Cathedral Oaks Road.

Roadway Operations

Existing volumes on area roadway segments are identified in Table 4.7-1. Based on existing volumes, all project area roadway segments currently carry volumes within the City's acceptable capacity designations for arterial highways.

TABLE 4.7-1
EXISTING AVERAGE DAILY ROADWAY VOLUMES

Roadway Segment	Roadway Classification	Geometry	Acceptable Capacity	Existing Average Daily Trips
Cathedral Oaks west of Glen Annie Road	Major Arterial	2 lanes	14,300	9,500
Glen Annie Road north of U.S. Highway 101	Major Arterial	2 lanes	14,300	9,200
Storke Road south of U.S. Highway 101	Major Arterial	4 lanes	34,000	33,800

Intersection Operations

Traffic flow on urban arterials is most constrained at intersections. Intersection operations are rated using Levels of Service (LOS) A through F, with LOS A indicating free flow operations and LOS F indicating congested operations. The minimum acceptable operating level of service for intersections within the City is LOS C, with the exception of the Storke Road at Hollister Avenue intersection, where LOS D is considered acceptable. Table 4.7-2 lists the type of traffic controls and the LOS for the study-area intersections. As shown in the table, all study-area intersections operate at LOS C or better during the morning (AM) and evening (PM) peak hours, and are considered acceptable based on the City's LOS operating standards.

TABLE 4.7-2
EXISTING INTERSECTIONS LEVELS OF SERVICE

Intersection	Control	AM Peak		PM Peak	
		ICU or delay (see note)	LOS	ICU or delay (see note)	LOS
Cathedral Oaks Road at Winchester Canyon Road	4-way stop (unsignalized)	8.9 seconds delay	A	8.2 seconds delay	A
U.S. 101 northbound ramp / Calle Real at Winchester Canyon Road	2-way stop (unsignalized)	8.0 seconds delay	A	8.7 seconds delay	A
Cathedral Oaks Road at Northgate Drive / Evergreen Drive	2-way stop (unsignalized)	11.4 seconds delay	B	8.9 seconds delay	A
Cathedral Oaks Road at Alameda Avenue	Signal	0.50 V/C ratio	A	0.28 V/C ratio	A
Cathedral Oaks Road at Glen Annie Road	Signal	0.75 V/C ratio	C	0.55 V/C ratio	A
U.S. 101 northbound ramps at Glen Annie Road / Storke Road	Signal	0.71 V/C ratio	C	0.69 V/C ratio	B
U.S. 101 southbound ramps at Glen Annie Road / Storke Road	Signal	0.78 V/C ratio	C	0.76 V/C ratio	C
Hollister Avenue at Storke Road	Signal	0.61 V/C ratio	B	0.74 V/C ratio	C

Note: Intersection Capacity Utilization (ICU) methodology was used to calculate LOS for signalized intersections, which generates a volume-to-capacity (V/C) ratio. Highway Capacity Manual methodology was used to calculate LOS for unsignalized intersections, based on average weighted delay in seconds per vehicle.

4.7.2 Regulatory Framework

4.7.2.1 Federal

There are no federal regulations applicable to this transportation and traffic impact analysis.

4.7.2.2 State

There are no state regulations applicable to this transportation and traffic impact analysis.

4.7.2.3 Local

GP/CLUP Policy TE 4.1 sets a standard of LOS C for City roadways and intersections; Policy TE 4.2 establishes a modified standard of LOS D (0.89 V/C) for the Storke Road at Hollister Avenue intersection.

4.7.3 Project Impacts and Mitigation

4.7.3.1 Thresholds of Significance

Based on both the City's Initial Study Checklist (CEQA Guidelines, Appendix G; Environmental Checklist Form) and the City's *Environmental Thresholds and Guidelines Manual* (Thresholds Manual), a significant transportation/traffic impact could occur if the project would:

a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

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

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

e. Result in inadequate emergency access.

f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

g. Increase the V/C ratio by the value provided below or send at least 5, 10, or 15 trips to intersections operating at LOS F, E, or D, respectively, with the addition of project traffic to an intersection.

LEVEL OF SERVICE (including the project)	**INCREASE IN V/C (greater than)**
A	0.20
B	0.15
C	0.10
	or the addition of:
D	15 trips
E	10 trips
F	5 trips

h. Require a driveway that would create an unsafe situation, a new traffic signal, or major revisions to an existing traffic signal as a result of project access to a major road or arterial.

i. Result in additional traffic to a roadway that has design features (e.g., narrow width, roadside ditches, sharp curves, poor sight distance, inadequate pavement structure) or receives use which would be incompatible with a substantial increase in traffic (e.g., rural roads with use by farm equipment, livestock, horseback riding, or residential roads with heavy pedestrian or recreational use) that would become potential safety problems with the addition of project or cumulative traffic.

j. Result in project traffic utilizing a substantial portion of an intersection's capacity where the intersection is currently operating at acceptable levels of service (A through C), but with cumulative traffic would degrade to or approach LOS D (V/C 0.81) or lower. Substantial is defined as a minimum change of 0.03 V/C for intersections that would operate from 0.80 to 0.85 V/C, a change of 0.02 V/C for intersections that would operate from 0.86 to 0.90 V/C, and 0.01 V/C for intersections operating at anything lower.

k. Increase traffic volumes by more than 1.0 percent (either project specific or project contribution to cumulative impacts) on a roadway currently exceeding the acceptable capacity.

Items a–f are from the Initial Study Checklist, and Items g–j are from the Thresholds Manual. Item k is the City's administrative practice.

It should be noted that the City's project-specific and cumulative impact thresholds for intersections are determined based on increases in V/C ratios. For purposes of determining project impacts at unsignalized intersections, the Intersection Capacity Utilization (ICU) methodology was utilized to quantify the volume to capacity (V/C) ratio increases over baseline conditions with the LOS determined through use of the Highway Capacity Manual (HCM) method of analysis.

Congestion Management Program Thresholds

The Congestion Management Program (CMP) impact thresholds are based on the Santa Barbara County Association of Governments' (SBCAG) traffic impact thresholds for assessing impacts of land use decisions made by local jurisdictions on regional transportation facilities located within the CMP roadway system. Significant project-generated traffic impacts on the regional CMP system would occur if:

a. For any roadway or intersection operating at LOS A or B, a decrease of two levels of service results from the addition of project-generated traffic.

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

c. For intersections within the CMP system with existing congestion, the following defined significant impacts result:

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

d. For freeway or highway segments with existing congestion, the following defined significant impacts result:

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

4.7.3.2 Project Impacts

Impact TRA-1. Long-term Traffic Impacts

Project Trip Generation

The project would construct a neighborhood of 60 single-family homes. Project-related traffic was estimated based on the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*

8th edition, Land Use Code 210 (Single-family Detached Housing). Table 4.7-3 shows the estimate trip generation for the project. As shown in the table, the project would generate 574 average daily trips, including 45 during the AM peak hour and 61 during the PM peak hour.

TABLE 4.7-3
PROJECT TRIP GENERATION

Land Use	Size	Average Daily		AM Peak Hour		PM 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)

Trip Distribution

Traffic distribution and assignment patterns for the traffic from the project were developed based on existing traffic flows and consideration of the retail, school, and employment centers in the surrounding area.

Figure 4.7-2 shows the project's trip distribution. In general, the project traffic was distributed to the local roadway system as follows:

- 5% on westbound U.S. Highway 101 via Hollister Avenue / Winchester Canyon Road interchange
- 5% on eastbound U.S. Highway 101 via Hollister Avenue / Winchester Canyon Road interchange
- 45% on eastbound U.S. Highway 101 via Glen Annie Road / Storke Road interchange
- 10% on eastbound Cathedral Oaks Road
- 15% on Hollister Avenue east of Storke Road
- 10% on Hollister Avenue west of Storke Road
- 10% on Storke Road south of Hollister Avenue

Roadway Segment Impacts

Table 4.7-4 shows the existing and existing-plus-project roadway volumes for project area road segments. As indicated in the table, 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 the project. The volume on the segment of Storke Road south of U.S. Highway 101 would slightly exceed the acceptable capacity. However, the increase in traffic attributable to the project would be less than 1% of the existing volume and therefore below the threshold of significance for such impacts.

TABLE 4.7-4
ROADWAY VOLUMES WITH PROPOSED PROJECT

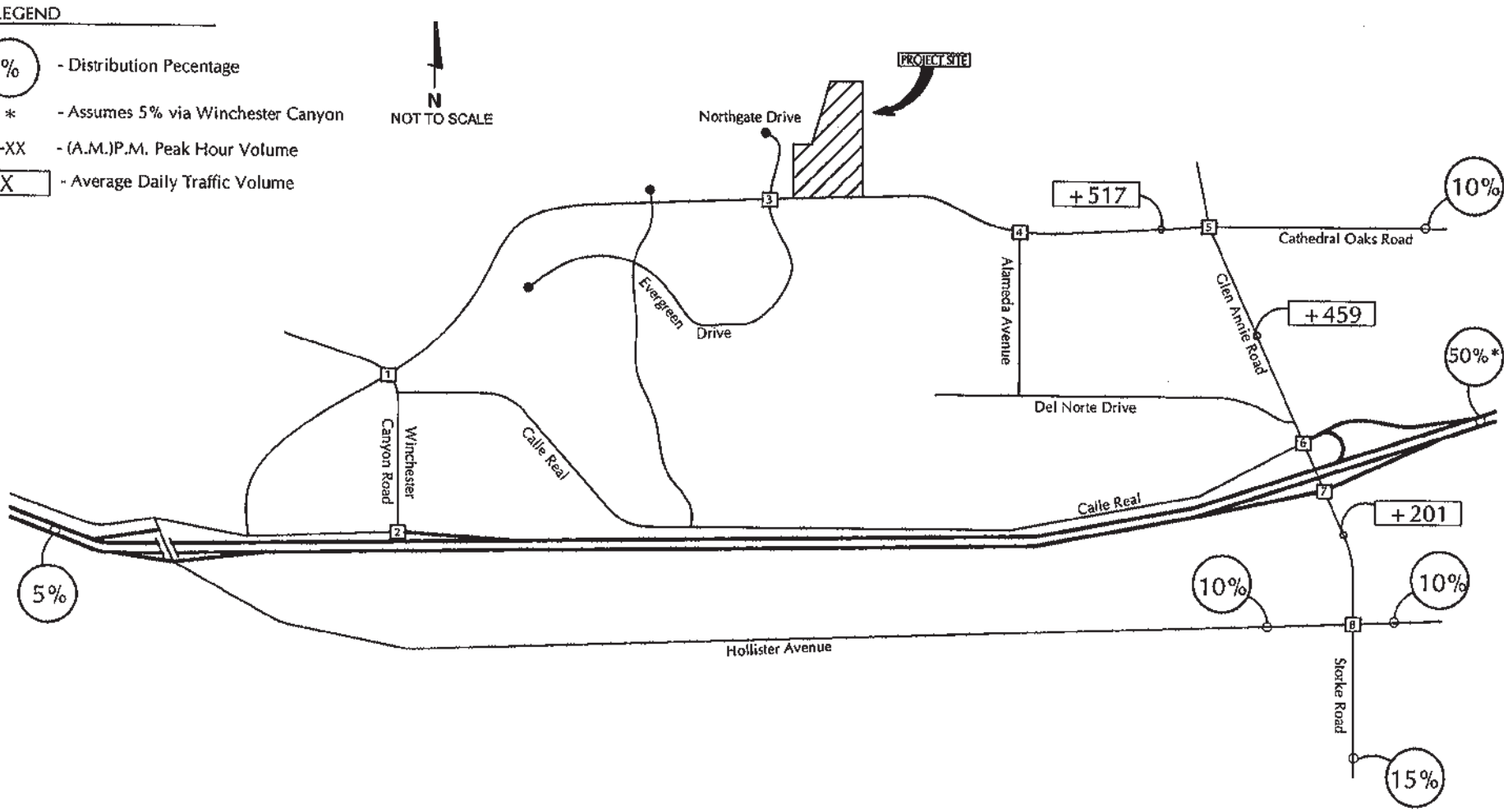
Road Segment	Acceptable Capacity	Existing Average Daily Trips	Existing Plus Project Volume	Change	Exceeds Threshold?
Cathedral Oaks west of Glen Annie Road	14,300	9,500	10,017	+ 5.4%	**No**
Glen Annie Road north of U.S. Highway 101	14,300	9,200	9,659	+ 5.0%	**No**
Storke Road south of U.S. Highway 101	34,000	33,800	34,001	+ 0.6%	**No**

Intersection Impacts

Table 4.7-5 shows the existing and existing-plus-project AM and PM peak hour LOS at study area intersections. Potential project impacts on these intersections were evaluated by considering the existing conditions, the estimated new project trips that would move through these intersections, and whether this net increase in project-generated peak hour trips would result in a significant impact based on City thresholds. The data presented in the table show that the project would not significantly impact the study-area intersections.

TABLE 4.7-5
INTERSECTION LEVELS OF SERVICE WITH PROPOSED PROJECT

Intersection	Existing		Existing + Project		Project-Added Trips	Change % (see note)	Impact?
	ICU or delay	LOS	ICU or delay	LOS			
AM Peak Hour							
Cathedral Oaks Road at Winchester Canyon Road	8.9 seconds	A	8.9 seconds	A	4	0.008	No
U.S. 101 northbound ramp / Calle Real at Winchester Canyon Road	8.0 seconds	A	8.0 seconds	A	1	0.002	No
Cathedral Oaks Road at Northgate Drive / Evergreen Drive	11.4 seconds	B	11.4 seconds	B	4	0.006	No
Cathedral Oaks Road at Alameda Avenue	0.50 V/C	A	0.52 V/C	A	41	0.018	No
Cathedral Oaks Road at Glen Annie Road	0.75 V/C	C	0.77 V/C	C	41	0.021	No
U.S. 101 northbound ramps at Glen Annie Road / Storke Road	0.71 V/C	C	0.72 V/C	C	36	0.009	No
U.S. 101 southbound ramps at Glen Annie Road / Storke Road	0.78 V/C	C	0.79 V/C	C	31	0.005	No
Hollister Avenue at Storke Road	0.61 V/C	B	0.61 V/C	B	15	0.001	No



K:\Irvine\GIS\Projects\Goleta\00114_13_Shelby\mapdoc\EIR\Fig04_5_1

Source: Associated Transportation Engineers

Figure 4.7-2
Project Trip Distribution and Assignment
Shelby Residential Project EIR

Intersection	Existing		Existing + Project		Project-Added Trips	Change % (see note)	Impact?
	ICU or delay	LOS	ICU or delay	LOS			
PM Peak Hour							
Cathedral Oaks Road at Winchester Canyon Road	8.2 seconds	A	8.2 seconds	A	6	0.018	No
U.S. 101 northbound ramp / Calle Real at Winchester Canyon Road	8.3 seconds	A	8.3 seconds	A	2	0.004	No
Cathedral Oaks Road at Northgate Drive / Evergreen Drive	8.9 seconds	A	8.9 seconds	A	6	0.013	No
Cathedral Oaks Road at Alameda Avenue	0.29 V/C	A	0.32 V/C	A	55	0.022	No
Cathedral Oaks Road at Glen Annie Road	0.55 V/C	A	0.58 V/C	A	55	0.029	No
U.S. 101 northbound ramps at Glen Annie Road / Storke Road	0.69 V/C	B	0.70 V/C	B	49	0.009	No
U.S. 101 southbound ramps at Glen Annie Road / Storke Road	0.76 V/C	C	0.76 V/C	C	31	0.004	No
Hollister Avenue at Storke Road	0.74 V/C	C	0.74 V/C	C	20	0.006	No
Note: Value shown for unsignalized intersections (first three entries) correlates to % change in entering traffic volumes							

Impact TRA-2. Airport

The project's new development lies outside of the Santa Barbara Municipal Airport Approach Zone and Clear Zone and would not impact air traffic patterns.

Impact TRA-3. Public Transit/Alternative Modes of Transportation

There is no public transit service directly adjacent to the project site. The nearest Santa Barbara Metropolitan Transit District routes are Route 10 (Cathedral Oaks) and Route 23 (Winchester Canyon). Route 10's closest stop to the project site is at Cathedral Oaks Road and Alameda Avenue, approximately 0.25 mile east of the project site. Route 23's closest stop is at Brandon Drive and Evergreen Drive, approximately 0.25 mile southwest of the project site. The project would not affect any existing transit facility.

There is a Class II bicycle route on Cathedral Oaks Road, with striped bike lanes on both sides of the roadway. The proposed project would include two roadway connections to Cathedral Oaks Road, aligning with existing residential roadways on the south side of Cathedral Oaks (Royal Linda Drive and King Daniel Drive). These intersections would be controlled by two-way stop signs for the new roadways. The geometry of these intersections would provide clear visibility. No changes to the bike lanes would occur with the project. Therefore, impacts of the project on bicycle transportation would be less than significant.

There are sidewalks on both sides of Cathedral Oaks Road in the vicinity of the project except for on the north side of the road directly adjacent to the project site. The project would construct the missing sidewalk, providing greater connectivity for pedestrians in the area. This would represent a beneficial impact of the project on non-vehicular transportation.

Impact TRA-4. Access and Circulation

Access and site circulation for the project would be provided via a looped roadway that would connect to Cathedral Oaks Road at two locations. The roadway connections would align with the existing residential roadways on the south side of Cathedral Oaks Road. The new intersections would be controlled by stop signs on the side-street approaches. Table 4.7-6 shows the delay times and LOS for the most critical traffic movements at these driveways: inbound left turns and outbound left and right turns. As shown in the table, the two driveways would operate sufficiently considering the volumes forecast for the project and adjacent segment of Cathedral Oaks Road.

TABLE 4.7-6
PROPOSED PROJECT DRIVEWAYS LEVELS OF SERVICE

Intersection	AM Delay	AM LOS	PM Delay	PM LOS
West Driveway/Cathedral Oaks Road Inbound left turns	7.5 seconds	A	7.8 seconds	A
West Driveway/Cathedral Oaks Road Outbound left and right turns	12.8 seconds	B	11.4 seconds	B
Eastbound Driveway/Cathedral Oaks Road Inbound left turns	7.6 seconds	A	7.8 seconds	A
Eastbound Driveway/Cathedral Oaks Road Outbound left and right turns	13.2 seconds	B	11.6 seconds	B

Impact TRA-5. Short-term Construction Traffic

The project would develop the project site that is presently nearly vacant. Access to the project site would be provided via two new roadway connections to Cathedral Oaks Road: one near the existing driveway on the west side of the site, and one near the east side, aligning with King Daniel Lane south of Cathedral Oaks Road. A new loop road would be constructed to provide internal circulation throughout the site.

The construction period is estimated to be 12 to 14 months. The site would be cleared in the first phase (demolition, excavation, and grading) and then site development would commence. During the peak period of construction activities, a workforce of 55 workers would be required. Construction workers are anticipated to work in one shift, beginning at 7:00 AM and ending at 4:00 PM.

The number of construction worker vehicles was estimated based on occupancy of 1.25 persons per vehicle. Thus, it is estimated that up to 44 inbound trips would occur during the AM peak hour and 44 outbound trips would occur during the PM peak hour on a daily basis during the peak construction period. These trips are slightly less than the long-term project trips during the peak hours discussed above in Impact TRA-1. All of the study-area roadways and intersections would operate at LOS C or better during the AM and PM peak hours with existing plus project traffic, which would meet the City's LOS C operating standard. It can therefore be concluded that the additional traffic generated by construction traffic would have a less-than-significant impact on 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 project site. Therefore, construction-related vehicles would not affect parking and traffic operations on the streets in the immediate vicinity of the site, and impacts would be less than significant.

4.7.4 Cumulative Impacts

Cumulative traffic analysis used the City's traffic model and assumed traffic generated by approved and pending projects proposed within the Goleta area, the University of California Santa Barbara Long Range Development Plan, the Santa Barbara Airport Specific Plan and terminal expansion, and regional growth in the Goleta-Santa Barbara area. The City's traffic model also assumes key roadway improvements that are planned in the Goleta area, including a new freeway overcrossing to be built approximately midway between the Glen Annie Road / Storke Road and Winchester Canyon Road / Hollister Avenue interchanges and improvements to the Winchester Canyon Road / Hollister Avenue interchange.

Impact TRA-6. Cumulative Roadway Segment Impacts

Table 4.7-7 shows the cumulative and cumulative plus project roadway volumes for project area road segments. As shown in the table, the segments of Cathedral Oaks Road west of Glen Annie Road and Glen Annie Road north of U.S. Highway 101 would carry volumes within acceptable capacity. The segment of Storke Road south of U.S. Highway 101 is forecast to carry volumes that will exceed the acceptable capacity without the project. The project traffic's contribution to this cumulative impact would be less than significant because it would represent less than 1% of the change in roadway volume.

TABLE 4.7-7
CUMULATIVE ROADWAY SEGMENT VOLUMES

Road Segment	Acceptable Capacity	Cumulative Average Daily Trips (without project)	Cumulative Plus Project Average Daily Trips	Change due to project	Impact?
Cathedral Oaks west of Glen Annie Road	14,300	9,400	9,917	5.5%	No
Glen Annie Road north of U.S. Highway 101	14,300	9,900	10,359	4.6%	No
Storke Road south of U.S. Highway 101	34,000	40,500	40,701	0.5%	No

Impact TRA-7. Cumulative Intersection Impacts

Table 4.7-8 shows the cumulative and cumulative plus project roadway volumes for project area intersections. As shown in the table, the proposed project traffic's contribution to this cumulative impact at study-areas intersection would be less than significant because it would represent less than 1% of the change in intersection V/C ratio or delay.

TABLE 4.7-8
CUMULATIVE INTERSECTION LEVELS OF SERVICE

Intersection	Cumulative without project		Cumulative + Project		Project change (delay or V/C)	Impact?
	ICU or delay	LOS	ICU or delay	LOS		
AM Peak Hour						
Cathedral Oaks Road at Winchester Canyon Road	9.1 seconds	A	9.1 seconds	A	0.009%	No
U.S. 101 northbound ramp / Calle Real at Winchester Canyon Road	9.0 seconds	A	9.0 seconds	A	0.002%	No
Cathedral Oaks Road at Northgate Drive / Evergreen Drive	11.5 seconds	B	11.6 seconds	B	0.006%	No
Cathedral Oaks Road at Alameda Avenue	0.52 V/C	A	0.54 V/C	A	0.19%	No
Cathedral Oaks Road at Glen Annie Road	0.77 V/C	C	0.79 V/C	C	0.02%	No
U.S. 101 northbound ramps at Glen Annie Road / Storke Road	0.74 V/C	C	0.75 V/C	C	0.01%	No
U.S. 101 southbound ramps at Glen Annie Road / Storke Road	0.94 V/C	E	0.94 V/C	E	0.005%	No
Hollister Avenue at Storke Road	0.73 V/C	C	0.74 V/C	C	0.003%	No
Cathedral Oaks Road at Calle Real	0.54 V/C	A	0.55 V/C	A	0.002%	No
US 101 southbound ramps at Cathedral Oaks Road	0.63 V/C	B	0.63 V/C	B	0.001%	No
Cathedral Oaks Road at Hollister Avenue	0.57 V/C	A	0.57 V/C	A	0.000%	No
PM Peak Hour						
Cathedral Oaks Road at Winchester Canyon Road	8.3 seconds	A	8.3 seconds	A	0.017%	No
U.S. 101 northbound ramp / Calle Real at Winchester Canyon Road	9.4 seconds	A	9.4 seconds	A	0.003%	No
Cathedral Oaks Road at Northgate Drive / Evergreen Drive	8.9 seconds	A	8.9 seconds	A	0.013%	No
Cathedral Oaks Road at Alameda Avenue	0.29 V/C	A	0.32 V/C	A	0.21%	No
Cathedral Oaks Road at Glen Annie Road	0.54 V/C	A	0.57 V/C	A	0.03%	No
U.S. 101 northbound ramps at Glen Annie Road / Storke Road	0.74 V/C	C	0.75 V/C	C	0.009%	No
U.S. 101 southbound ramps at Glen Annie Road / Storke Road	0.89 V/C	D	0.89 V/C	D	0.003%	No
Hollister Avenue at Storke Road	0.92 V/C	E	0.92 V/C	E	0.003%	No

Intersection	Cumulative without project		Cumulative + Project		Project change (delay or V/C)	Impact?
	ICU or delay	LOS	ICU or delay	LOS		
Cathedral Oaks Road at Calle Real	0.54 V/C	A	0.54 V/C	A	0.001%	No
US 101 southbound ramps at Cathedral Oaks Road	0.58 V/C	A	0.58 V/C	A	0.001%	No
Cathedral Oaks Road at Hollister Avenue	0.67 V/C	B	0.67 V/C	B	0.000%	No

Impact TRA-8. SBCAG Congestion Management Program (CMP) Impacts

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

- U.S. Highway 101 northbound ramps at Glen Annie Road / Storke Road
- U.S. Highway 101 southbound ramps at Glen Annie Road / Storke Road
- Storke Road at Hollister Avenue

The CMP intersections would operate at LOS C or better under existing-plus-project conditions (see Table 4.7-5). Therefore, the project would not generate significant project-specific impacts on the CMP network based on the CMP impact criteria.

As shown in Table 4.7-8, under cumulative-plus-project conditions, the U.S. Highway 101 southbound ramps at Glen Annie Road / Storke Road intersection is forecast to operate at LOS E during the AM peak hour and LOS D during the PM peak hour. The Storke Road at Hollister Avenue intersection is forecast to operate at LOS E during the PM peak hour. The project is forecast to add 20 or more trips to these two locations, which would be a significant contribution to a cumulative impact, based on the CMP criteria.

The CMP requires that deficiency plans be prepared when an intersection reaches LOS E. The City has adopted LOS D as the acceptable operating standard for the Storke Road at Hollister Avenue intersection. The Goleta Transportation Improvement Program (GTIP) was established to collect funds to implement future identified improvements within the City (City of Goleta 2004). The GTIP includes programmed improvements for the Storke Road corridor, which would return service levels to LOS D for the Storke Road at Hollister Avenue intersection. Additional improvements not included within the GTIP would be necessary to return service levels to LOS C at the U.S. Highway 101 southbound ramps at Glen Annie Road / Storke Road intersection. These improvements would thereby allow the two intersections to meet City standards and provide consistency with the CMP. The specific improvements necessary to mitigate the CMP impacts to a less-than-significant level are included as mitigation in Section 4.7.5.

According to the CMP, the segment of U.S. Highway 101 between Storke Road / Glen Annie Road and Los Carneros Road operates at LOS B during the AM peak hour and LOS C during the PM peak hour. The project would add 26 AM peak-hour trips and 29 PM peak-hour trips to this freeway segment. 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 criteria, the project would result in a less-than-significant impact on U.S. Highway 101.

4.7.5 Mitigation Measures

Recommended MM TRA-5a. Prepare Construction Transportation Plan

The permittee must prepare a Construction Transportation Plan that designates truck routes, schedules, and the need for any special flag persons to direct traffic during peak volume periods. Truck trips must be scheduled outside peak travel periods to the extent feasible (including, without limitation, peak periods for Dos Pueblos High School). On-site areas must be designated for storage of construction equipment and materials. On-site parking areas must be designated for construction worker vehicles. Traffic control plans will be developed to address any traffic disruption on Cathedral Oaks Road. An on-site construction manager must be designated, and the construction manager's contact information (telephone number, email, website, etc.) must be prominently posted at site entrances, so that the public can contact the construction manager to address any construction traffic issues.

Plan Requirements and Timing: The Construction Transportation Plan will be reviewed and approved by the Public Works Director, or designee, before commencement of any grading or construction activities.

Monitoring: The Planning and Environmental Review Director, or designee, and the Public Works Director, or designee, must perform site inspections periodically to ensure compliance with the Construction Transportation Plan.

Recommended MM TRA-5b. Distribute the Construction Activity Schedule and Construction Routes

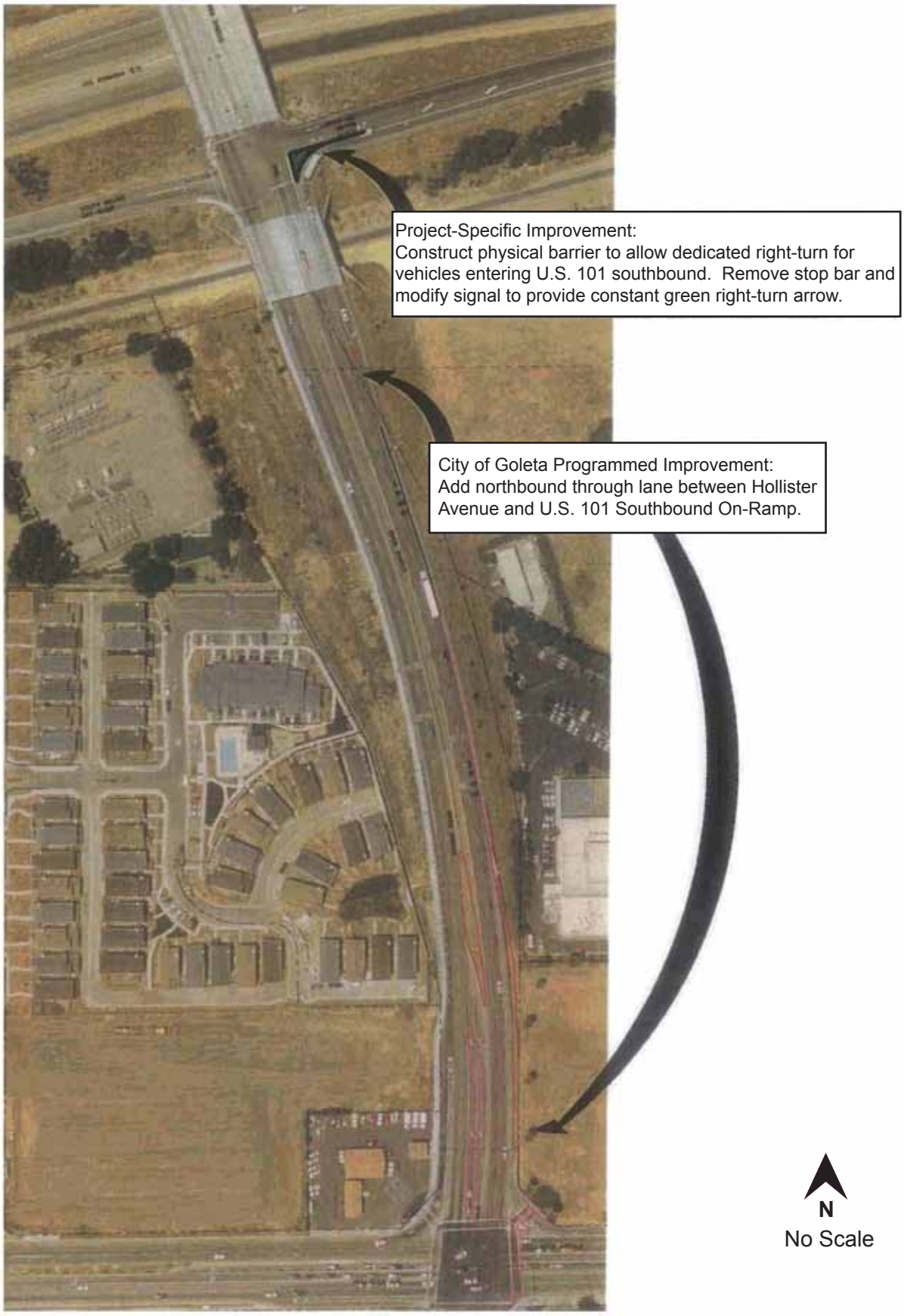
The permittee must provide all adjacent property owners and the principal of Dos Pueblos High School with a construction activity schedule and construction routes as well as the name and telephone number of a contact person responsible for the construction schedule at least 14 days before commencement of construction activities. Any alterations or additions must require a minimum 7-day notification.

Plan Requirements and Timing: The permittee must submit a copy of the schedule and mailing list to the Planning and Environmental Review Director, or designee, at least 14 days before commencement of any grading activity.

Monitoring: The Planning and Environmental Review Director, or designee, and the Public Works Director, or designee, must perform periodic site inspections to verify compliance with activity schedules.

MM TRA-8a. Improvements to U.S. Highway 101 / Storke Road Southbound On-Ramp Intersection

Unless previously constructed by either City or in accordance with City direction, the permittee must modify the northbound right-turn lane channelization island for vehicles turning right from Storke Road onto the U.S. Highway 101 southbound on-ramp (see Figure 4.7-3). The improvements are to be designed and constructed to achieve by an LOS C operating condition during the PM peak hour, thereby providing consistency with the SBCAG Congestion Management Program (CMP). The improvements must include, without limitation, the following:



K:\Irvine\GIS\Projects\Goleta\00114_13_Shelby\mapdoc\EIR\Fig04_7_2_TrafficMitigation

Source: Associated Transportation Engineers

Figure 4.7-3
Traffic Mitigation for Storke Road and U.S. 101 Southbound Ramps
Shelby Residential Project EIR

- Upgrades to the traffic signal to provide a constant green arrow for northbound right-turn traffic, thereby creating a free right-turn lane;

- Evaluation of the need for, and, if needed, the installation of, ramp meters; and

- Other improvements required to ensure safe bicycle passage through the modified intersection.

The permittee must enter into a subdivision improvement agreement for the construction of the additional northbound through-lane improvements, in a form approved by the City Attorney, and post a performance security deemed adequate by the Public Works Director, or designee, to secure the cost of constructing such improvements before recording the Final Map. The permittee must construct these improvements before the City issues any certificate of occupancy. Should these improvements be previously constructed, the permittee must pay its "fair share" of the construction costs per applicable law.

Plan Requirements and Timing: Before recording the Final Map, the permittee must submit the preliminary design of the intersection improvement described above for review and approval by the Public Works Director, or designee, in consultation with California Department of Transportation representatives; execute a subdivision improvement agreement, in a form approved by the City Attorney; and post a performance security deemed adequate by the Public Works Director, or designee. Before the City issues any certificate of occupancy, the permittee must obtain all necessary permits and construct said improvements.

Monitoring: The Public Works Director, or designee, in consultation with California Department of Transportation representatives, must verify approval of the preliminary intersection design before the permittee can record a Final Map. The Public Works Director, or designee, must verify that adequate performance securities are provided, necessary construction permits were obtained, and construction of improvements were completed in accordance with approved plans before the City issues any certificate of occupancy.

MM TRA-8b. Contribute Fees to Goleta Transportation Improvement Program (GTIP)

The project must pay Development Impact Fees (DIFs) adopted for the purpose of requiring projects to pay a fair share of transportation improvements associated with cumulative development. Fees must be paid before the City issues certificates of occupancy. As a result of payment of these fees, the project's contribution to cumulative impacts at the Hollister Avenue / Storke Road intersection would be less than cumulatively considerable and would be considered less than significant.

The Goleta Transportation Improvement Program (GTIP) was established in 2004 to collect funds to implement future identified improvements within the City. Two improvements to the Hollister Avenue / Storke Road intersection are included in the GTIP: 1) the addition of a free southbound right-turn lane on Hollister Avenue at the intersection; and 2) the restriping of the intersection to accommodate an additional northbound through lane. These improvements will mitigate the project's cumulative CMP impacts at this intersection by returning service levels to LOS D. The permittee must contribute fees to the GTIP fund.

Plan Requirements and Timing: Before the City issues certificates of occupancy, the permittee must pay the City's traffic impact fee (GTIP fee) pursuant to the GTIP ordinance.

Monitoring: The Public Works Director, or designee, must verify that payment of this fee has been made before the City issues certificates of occupancy.

4.7.6 Residual Impacts

With implementation of mitigation measures MM TRA-5a, MM TRA-5b, MM TRA-8a, and MM TRA-8b, significant project-specific impacts and project contributions to significant cumulative impacts would be reduced to less-than-significant levels (Class II).