SECTION 4.13

Transportation and Traffic

4.13 TRANSPORTATION AND TRAFFIC

This section identifies the existing traffic conditions in the vicinity of the proposed Project and analyzes the potential impacts of the Project's development on transportation and traffic. Linscott, Law and Greenspan, Engineers (LLG) prepared a Traffic Impact Analysis (TIA) for the Project dated July 27, 2012 (Appendix H). The TIA was prepared in consultation with the City's Public Works and Planning and Environmental Review Departments and incorporates by reference the Transportation Section of the City's General Plan/Coastal Land Use Plan Final Supplemental EIR (GP/CLUP SFEIR, July 2009). The TIA was prepared pursuant to the City's traffic study procedures and is consistent with traffic impact assessment criteria set forth in the *2009 Santa Barbara County Congestion Management Program*[1]. The City's Public Works staff provided input on roadway segments, intersections to be analyzed, and specific traffic and circulation issues. The TIA is provided in Appendix J. A Supplemental Traffic Analysis was prepared by LLG, dated March 31, 2014 (Appendix J.1.), to re-evaluate cumulative traffic conditions at the Cortona Drive/Hollister Avenue intersection to reflect recent changes in existing conditions. These changes have been incorporated into the text and revisions in mitigation measures are reflected in this revised Section.

4.13.1 Existing Conditions

Street System

Immediate vehicular access to the Project site is from Los Carneros Road via two driveways: one located at the extension of Calle Koral and one located between Cremona and Castilian Drives. The Project would add a third access at Castilian Drive via a bridge extension of Cortona Drive over Tecolotito Creek as illustrated in the Project's site plan (see Figure 2-4, Site Plan, of the Project Description).

The industry standard for traffic engineering generally requires a project's study area to include intersections that are:

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

Pursuant to those standards the following 11 roadway segments and 20 intersections in the vicinity of the Project site were selected for analysis. In addition to the standard criteria cited, selection of study intersections was also based on forecasted new Project peak hour vehicle trip generation, anticipated distribution of Project vehicle trips, and existing intersection/corridor operations. The analysis locations and methodology were reviewed and approved by City Public Works staff and include the following:

Roadway Segments:

1. Storke Road south of the U.S. Highway 101 (U.S. 101) Southbound (SB) Ramps
2. Storke Road south of (s/o) Hollister Avenue

[1] *2009 Santa Barbara County Congestion Management Program*, Santa Barbara County Association of Governments, June 2009.

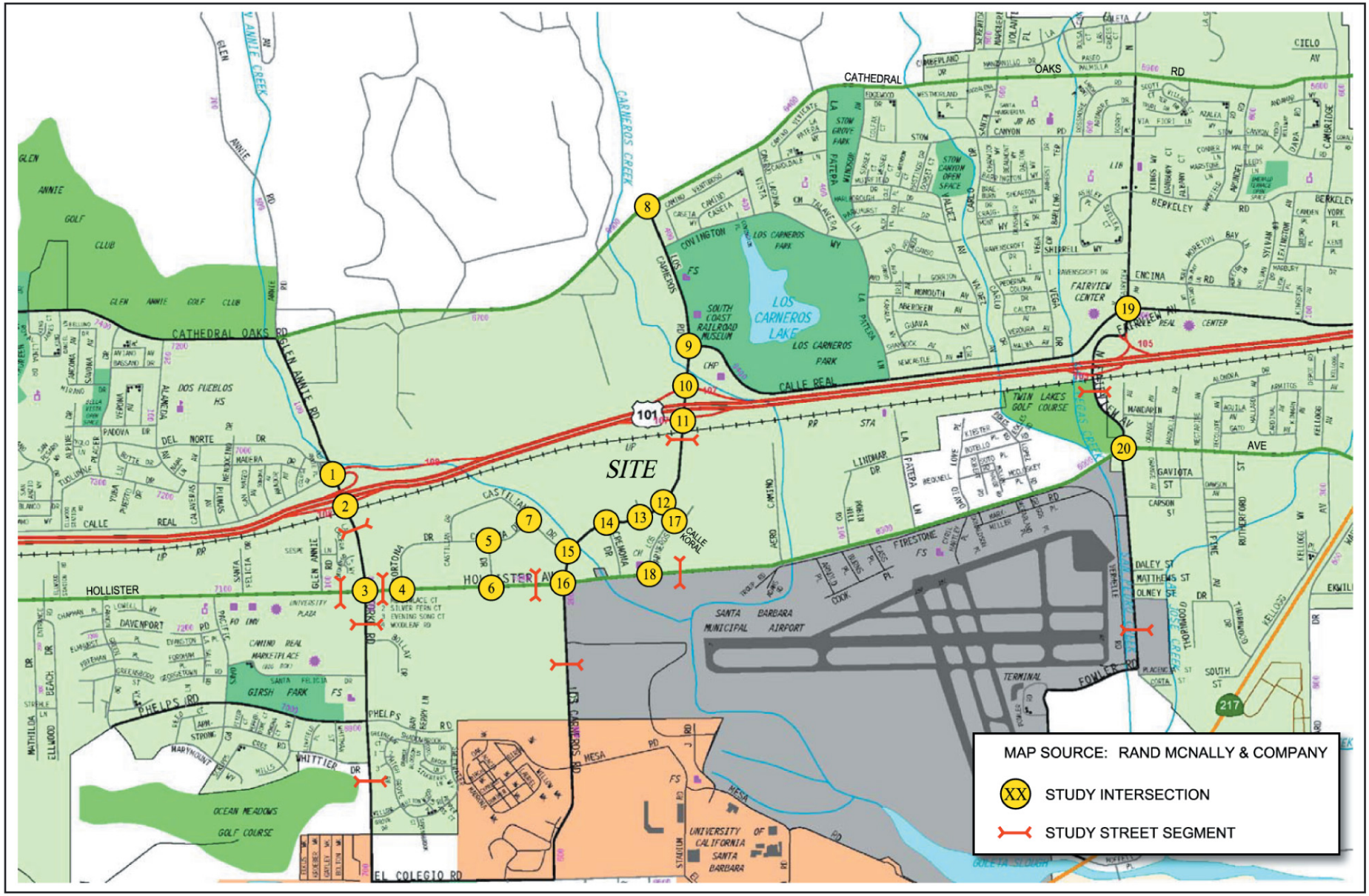
3. Storke Road s/o Whittier Drive (two-lane segment)
4. Hollister Avenue west of (w/o) Storke Road
5. Hollister Avenue east of (e/o) Storke Road
6. Hollister Avenue, west of Los Carneros Road
7. Hollister Avenue, east of Los Carneros Way
8. Los Carneros Road, south of US Highway 101 SB Ramps
9. Los Carneros Road, south of Hollister Avenue (two-lane segment)
10. Fairview Avenue, south of US Highway 101 SB Ramps
11. Fairview Avenue, north of Fowler Road (two-lane segment)
12.

Intersections:

1. Glen Annie Road-Storke Road/Calle Real-U.S. 101 Northbound Ramps
2. Storke Road/U.S. 101 Southbound Ramps
3. Storke Road/Hollister Avenue
4. Cortona Drive/Hollister Avenue
5. Coromar Drive/Cortona Drive
6. Coromar Drive/Hollister Avenue
7. Castilian Drive/Cortona Drive
8. Los Carneros Road/Cathedral Oaks Road
9. Los Carneros Road/Calle Real
10. Los Carneros Road/U.S. 101 Northbound Ramps
11. Los Carneros Road/U.S. 101 Southbound Ramps
12. Los Carneros Road/Calle Koral
13. Raytheon Drive/Los Carneros Road
14. Cremona Drive/Los Carneros Road
15. Los Carneros Road/Castilian Drive
16. Los Carneros Road/Hollister Avenue
17. Los Carneros Way/Calle Koral (Camino Vista/Calle Koral for cumulative conditions)
18. Los Carneros Way/Hollister Avenue (for cumulative conditions)
19. Fairview Avenue/Calle Real
20. Fairview Avenue/Hollister Avenue

Thirteen of the 20 study intersections (numbered above as 1, 2, 3, 6, 10, 11, 12, 13, 15, 16, 18, 19 and 20) are presently controlled by traffic signals, six (numbered above as 4, 5, 7, 8, 14 and 17) are currently controlled by stop signs, and one (number 9 above) operates as a roundabout.[2] The Project site and vicinity roadway network are illustrated in **Figure 4.13-1**. The

[2] The traffic impact study prepared for this Project (Appendix H) dated July 27, 2012, reports the Coromar Drive/Hollister Avenue and Los Carneros Road/Calle Real intersections are controlled by stop-sign, and impacts have been evaluated based on that condition. The intersections have since been provided with a traffic signal and



Source: Linscott, Law & Greenspan Engineers, June 6, 2012. Map source: Rand McNally & Company.

Vicinity Map

Not to Scale

FIGURE 4.13-1

locations and lane configurations of the intersections serving the Project site are illustrated in **Figure 4.13-2.**

Roadway 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:

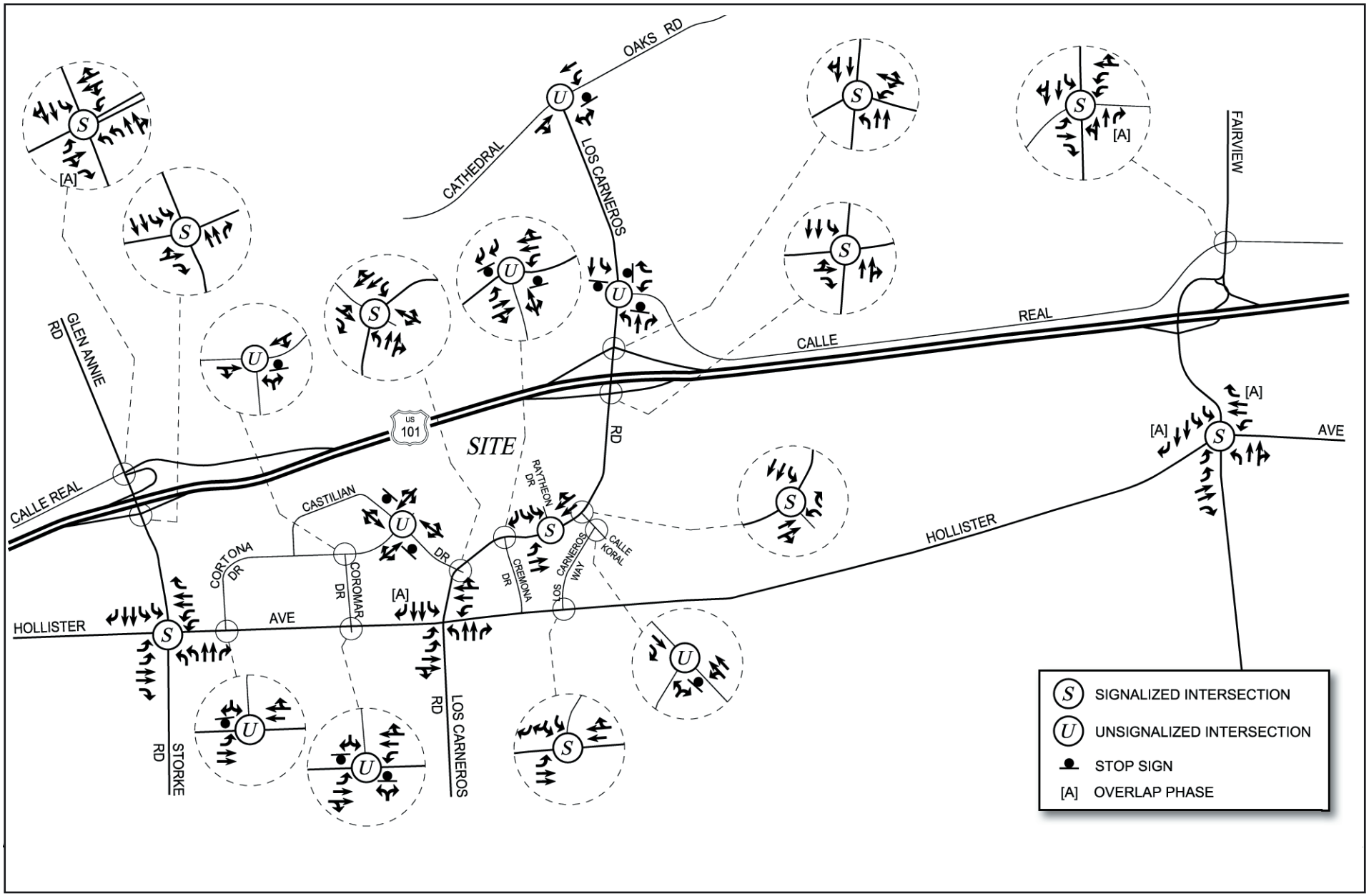
- Freeways are limited-access and high-speed travel ways included in the State and Federal highway systems. Their purpose is to carry regional through-traffic. Access is provided by interchanges with typical spacing of one mile or greater. No local access is provided to adjacent land uses.
- Arterial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

Regional Highway System

The U.S. 101 Freeway (U.S. 101) provides regional vehicular access to the Project site. The freeway is located immediately north of the Project site and is a major north-south oriented highway connecting the Los Angeles metropolitan area to the San Francisco Bay area. Proximate to the study area, the U.S. 101 freeway generally contains two mainline freeway lanes in each direction. Northbound and southbound ramp connections in the study area are located at Glen Annie Road/Storke Road, Los Carneros Road, and Fairview Avenue.

Roadway Descriptions

Los Carneros Road in the immediate vicinity of the Project site is variously a north/south and east/west oriented major arterial that wraps around the site's east and south frontages. Two through travel lanes are provided in each direction within the study area between Calle Real and Hollister Avenue. Exclusive left-turn lanes are provided at major intersections in the Project vicinity. Parking is not permitted along Los Carneros Road within the study area. The posted speed limit in the vicinity of the Project site is 45 miles per hour (MPH). Class II bike lanes are provided on both sides of Los Carneros Road from Cathedral Oaks Road to El Colegio Road and, a two-way Class I bike path is provided on the east side of street between Hollister Avenue and El Colegio Road.



Source: Linscott, Law & Greenspan Engineers, June 6, 2012.

Existing Lane Configurations

Not to Scale

FIGURE 4.13-2

Storke Road is a north/south oriented major arterial located west of the Project site. Within the study area two through travel lanes are generally provided in each direction. Exclusive left-turn lanes are generally provided at major intersections in the Project vicinity. Storke Road turns into Glen Annie Road north of the U.S. 101 Freeway. Parking is not permitted along Storke Road within the study area. The posted speed limit is 45 MPH in the vicinity of the Project site. Class II bike lanes are provided on both sides of Storke Road between Cathedral Oaks Road and El Colegio Road.

Fairview Avenue is a north/south oriented major arterial located east of the Project site. Two through travel lanes are generally provided in each direction between Calle Real and Hollister Avenue. Exclusive left-turn lanes are provided at major intersections in the Project vicinity. Parking is not permitted along Fairview Avenue between Calle Real and Hollister Avenue. The posted speed limit is 35 MPH between Calle Real and Hollister Avenue.

Los Carneros Way is a north/south oriented minor arterial located southeast of the Project site. One through travel lane is generally provided in each direction between Calle Koral and Hollister Avenue. An exclusive left-turn lane is provided on Los Carneros Way at Hollister Avenue. Parking is generally permitted within the study area. Class II bike lanes are provided on both sides of the street.

Castilian Drive is a north/south oriented local street located west of the Project site. One travel lane is provided in each direction and Cortona Drive. The posted speed limit is 25 MPH.

Cremona Drive is a north/south oriented local street between Los Carneros Road and Hollister Avenue, and is located south of the Project site. One travel lane is provided in each direction between Los Carneros Road and Hollister Avenue. Parking is permitted between Los Carneros Road and Hollister Avenue.

Coromar Drive is a north/south oriented local street between Cortona Drive and Hollister Avenue and is located southwest of the Project site. One travel lane is provided in each direction. Parking is permitted and the posted speed limit is 25 MPH.

Cortona Drive is an east-west oriented local street located southwest of the Project site. One through travel lane is provided in each direction within the study area. Parking is permitted within the study area. The posted speed limit is 25 MPH near the Project site.

Hollister Avenue is an east/west oriented major arterial located south of the Project site. Two through travel lanes are generally provided in each direction within the study area. Exclusive left-turn lanes are generally provided on Hollister Avenue at major intersections in the Project vicinity. Parking is not permitted along Hollister Avenue within the study area. The posted speed limit is 45 MPH in the vicinity of the Project site and Class II bike lanes are provided on both sides of the street.

Calle Real is an east/west oriented major arterial located north of the Project site. One through travel lane is provided in each direction between Los Carneros Road and Carlo Drive and two through travel lanes are provided in each direction between Carlo Drive and east of Fairview Avenue. Parking is not permitted along Calle Real within the study area. The posted speed limit is 45 MPH in the vicinity of the Project site. Class II bike lanes are provided on both sides of Calle Real from Los Carneros Road to east of Fairview Avenue.

Cathedral Oaks Road is an east/west oriented major arterial located north of the Project site. One through travel lane is provided in each direction within the study area and on-street parking is not permitted. The posted speed limit is 40 MPH east of Los Carneros Road and 50 MPH west of Los Carneros Road. Class II bike lanes are provided on both sides of Cathedral Oaks Road in the vicinity of the Project site.

Roadway Volumes

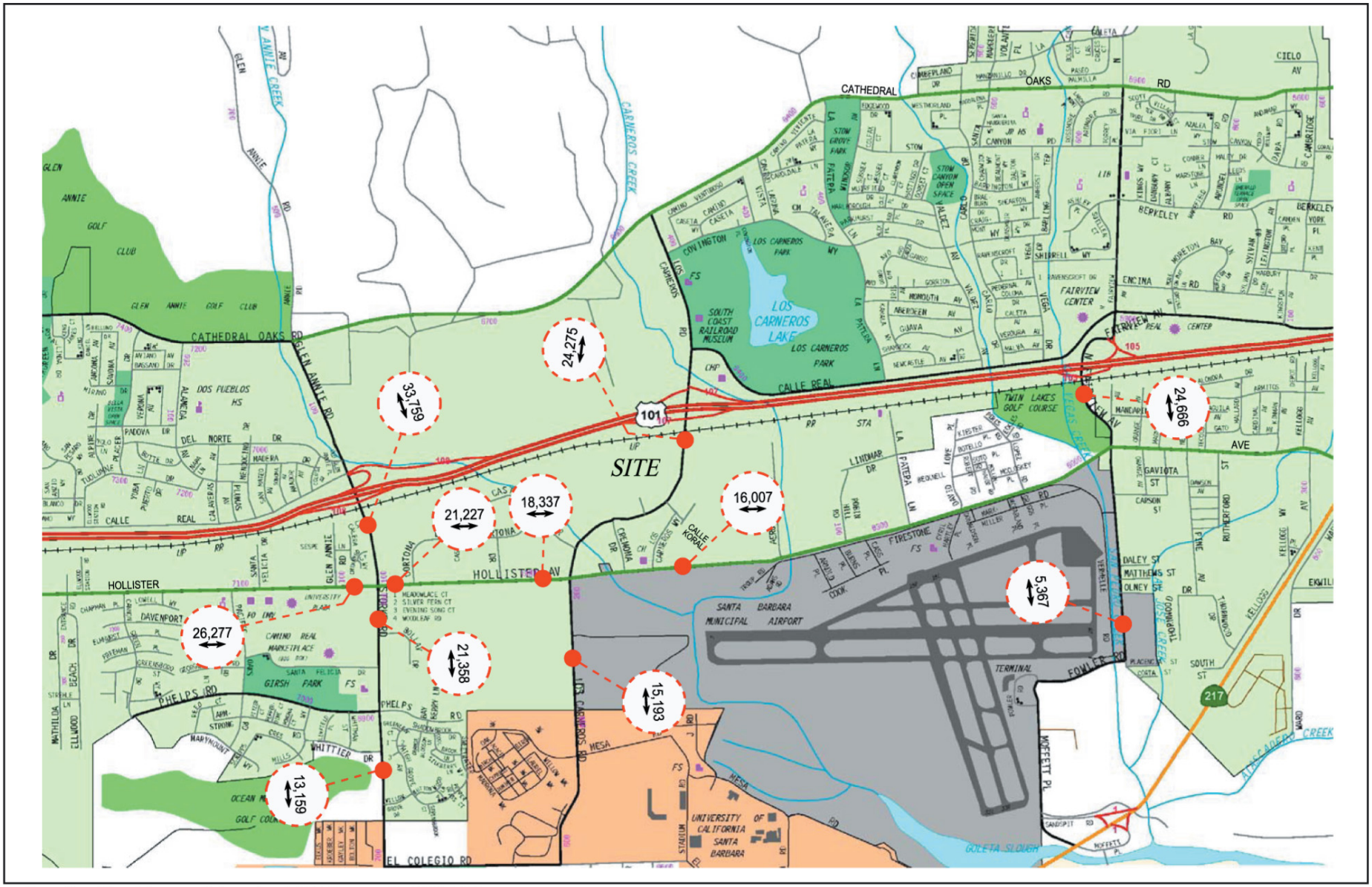
The volume data in **Table 4.13-1** shows that the roadway segments are operating within the their acceptable capacities, with the exception of Los Carneros Road s/o Hollister Avenue. Los Carneros Road s/o Hollister Avenue was widened to a 4-lane road with a capacity of 34,000 ADT subsequent to the preparation of the TIA; therefore, impacts identified in the TIA for this roadway segment would be improved as compared to what is reported in this table.

Table 4.13-1
Existing Average Daily Roadways Volumes

Roadway Segment	Roadway Classification[a]	Geometry	Acceptable Capacity[b]	Existing ADT[c]
1. Storke Road s/o US Highway 101 SB Ramps	Major Arterial	4-Lane	34,000	33,759
2. Storke Road s/o Hollister Avenue	Major Arterial	4-Lane	34,000	21,358
3. Storke Road s/o Whittier Drive	Major Arterial	2-Lane	14,300	13,159
4. Hollister Avenue w/o Storke Road	Major Arterial	4-Lane	34,000	26,277
5. Hollister Avenue e/o Storke Road	Major Arterial	4-lane	34,000	21,227
6. Hollister Avenue w/o Los Carneros Road	Major Arterial	4-Lane	34,000	18,337
7. Hollister Avenue e/o Los Carneros Way	Major Arterial	4-lane	34,000	16,007
8. Los Carneros Road s/o US Highway 101 SB Ramps	Major Arterial	4-Lane	34,000	24,275
9. Los Carneros Road s/o Hollister Avenue	Major Arterial	2-lane	14,300[d]	15,193
10. Fairview Avenue s/o US Highway 101 SB Ramps	Major Arterial	4-Lane	34,000	24,666
11. Fairview Avenue n/o Fowler Road (Two-Lane segment)	Major Arterial	2-Lane	14,300	5,367

[a] Functional street classification based on Figure 7-2 of the Goleta General Plan/Coastal Land Use Plan, 2009.
[b] Acceptable capacity based on Table 3.13-8 of the Goleta General Plan/Coastal Land Use Plan Final Supplemental EIR, 2009. Reported value represents LOS C Average Daily Traffic (ADT) thresholds.
[c] Existing ADT volumes based on traffic counts conducted by Wiltec in April 2011. Copies of the summary data worksheets of the 24-hour traffic counts are provided in Appendix H.
d Los Carneros Road south of Hollister Avenue was widened to a 4-lane road with a capacity of 34,000 ADT subsequent to the preparation of the TIA (see page 45 of the TIA).

The existing 24-hour average daily traffic (ADT) volumes at the study street segments are presented in **Figure 4.13-3 (Existing Street Segment ADT Volumes)**.



Source: Linscott, Law & Greenspan Engineers, June 6, 2012. Map source: Rand McNally & Company.

Existing Street Segment ADT Volumes

Not to Scale

FIGURE 4.13-3

Intersection Operations

An intersection capacity analysis was conducted as part of the TIA to determine the operating conditions of critical intersections in the study area during peak commuter travel periods. Traffic data was collected through manual counts at each intersection. The Intersection Capacity Utilization (ICU) and Highway Capacity Manual (HCM) methods were used to determine Volume-to-Capacity (*v/c*) ratios (or Delay Values) and corresponding Levels of Service (LOS) for the study intersections. In addition, intersections that are part of the Santa Barbara County Congestion Management Program (CMP) located within the study area were identified with an associated LOS.

Manual traffic counts of vehicular turning movements were conducted in February 2012 at 13 of the 20 study intersections during the weekday morning from 7:00 to 9:00 AM and weekday afternoon from 4:00 to 6:00 P.M. peak commuter periods, when school was in session, to determine the peak hour traffic volumes. The existing intersection traffic volumes for the A.M. peak hour and P.M. peak hour are provided in **Figures 4.13-4** (Existing Traffic Volumes Weekday A.M.) and **4.13-5** (Existing Traffic Volumes Weekday P.M.), respectively.

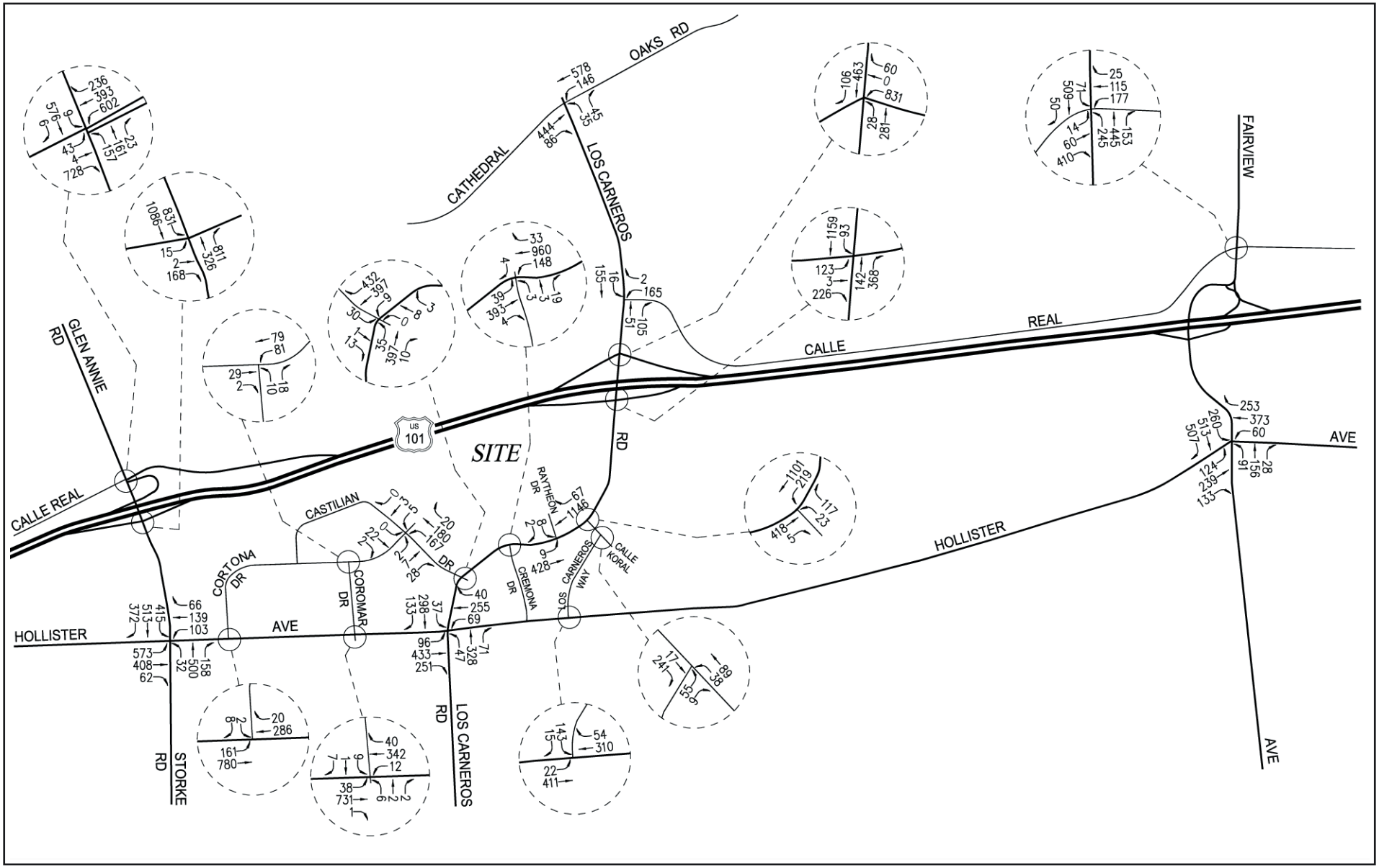
Other data considered in the TIA included year 2012 manual counts of vehicular turning movements conducted by other consultants for other related projects in the area and prior intersection count data available from the City of Goleta. This combination of data was used to establish the existing baseline traffic conditions.

Pursuant to the City's GP/CLUP Policy TE 4.4 requirement, the 12 signalized study intersections were evaluated using the Intersection Capacity Utilization (ICU) method of analysis. The ICU method is designed for signalized intersection analysis and determines the volume-to-capacity (*v/c*) ratios on a critical lane basis (i.e., based on the individual *v/c* ratios for key conflicting traffic movements). The ICU numerical value represents the percent signal (green) time, and thus the capacity required by existing and/or future traffic. The ICU methodology assumes uniform traffic distribution per intersection approach lane and optimal signal timing. The overall intersection *v/c* ratio is subsequently assigned a level of service (LOS) value to describe intersection operations. The levels of service vary from LOS A (free flowing) to LOS F (heavily congested) condition.

The eight un-signalized study intersections analyzed by the TIA were assessed using the Highway Capacity Manual (HCM) methodology. This methodology estimates the average control delay for each of the subject movements and determines the LOS for each constrained movement. Average control delay for any particular movement is a function of the capacity of the approach and the degree of saturation. The overall average control delay is measured in seconds per vehicle.

The minimum acceptable operating level for intersections within the City is LOS C, with the exception of the Storke Road/Hollister Avenue intersection, which has an acceptable LOS D (GP/CLUP, 2006; Transportation Element, Table 7-1).

As indicated in **Table 4.13-2**, all 20 of the study area intersections analyzed in the TIA are currently operating at an acceptable LOS C or better during both the A.M. and P.M. peak commuter hours. The calculation worksheets can be found in Appendix J.



Source: Linscott, Law & Greenspan Engineers, June 6, 2012.

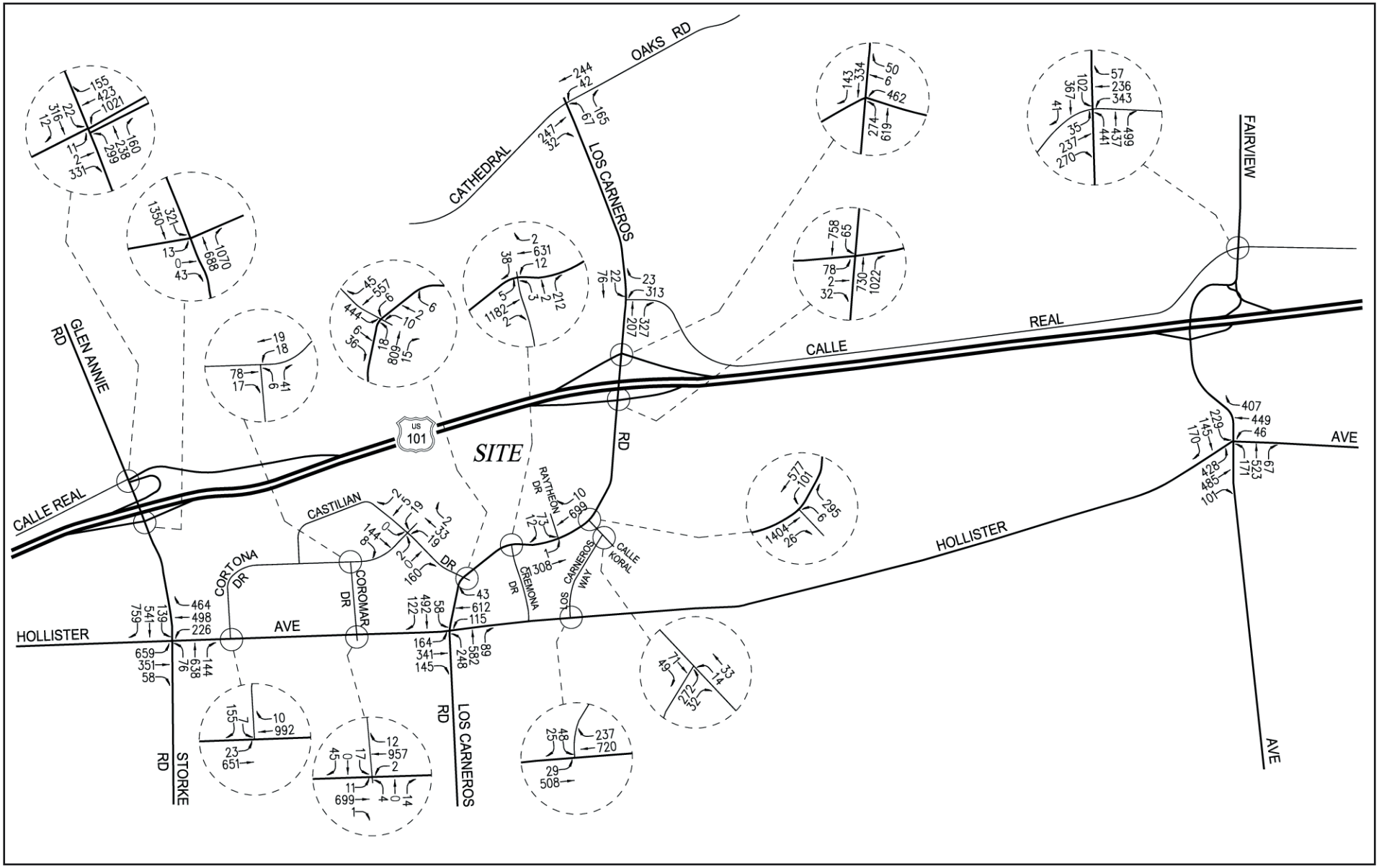
VILLAGE AT LOS CARNEROS PROJECT

ENVICOM CORPORATION

Existing Traffic Volumes – Weekday AM Peak Hour

Not to Scale

FIGURE 4.13-4



Source: Linscott, Law & Greenspan Engineers, June 6, 2012.

VILLAGE AT LOS CARNEROS PROJECT

ENVICOM CORPORATION

Existing Traffic Volumes – Weekday PM Peak Hour

Not to Scale

FIGURE 4.13-5

Table 4.13-2
Existing Intersection Levels of Service

Intersection	Control	A.M. Peak Hour		P.M. Peak Hour	
		ICU/Delay	LOS	ICU/Delay	LOS
Glen Annie Road-Storke Road/Calle Real – US Highway 101 NB Ramps	Signal	0.69	B	0.65	B
Storke Road/US Highway 101 SB Ramps	Signal	0.78	C	0.76	C
Storke Road/Hollister Avenue	Signal	0.61	B	0.74	C
Cortona Drive/Hollister Avenue	Stop-Sign	8.5	A	15.2	C
Coromar Drive/Cortona Drive	Stop-Sign	7.9	A	8.6	A
Coromar Drive/Hollister Avenue[a]	Stop-Sign	12.0	B	20.0	C
Castilian Drive/Cortona Drive	Stop-Sign	8.2	A	10.0	A
Los Carneros Road/Cathedral Oaks Road	Stop-Sign	15.5	C	12.9	B
Los Carneros Road/Calle Real	Stop-Sign	8.82	A	11.83	B
Los Carneros Road/US Highway 101 NB Ramps	Signal	0.55	A	0.56	A
Los Carneros Road/US Highway 101 SB Ramps	Signal	0.54	A	0.78	C
Los Carneros Road/Calle Koral	Signal	0.46	A	0.66	B
Raytheon Drive/Los Carneros Road	Signal	0.49	A	0.53	A
Cremona Drive/Los Carneros Road	Stop-Sign	10.3	B	18.9	C
Los Carneros Road/Castilian Drive	Signal	0.40	A	0.65	B
Los Carneros Road/Hollister Avenue	Signal	0.45	A	0.66	B
Los Carneros Way/Calle Koral	Stop-Sign	8.9	A	11.1	B
Los Carneros Way/Hollister Avenue	Signal	0.27	A	0.42	A
Fairview Avenue/Calle Real	Signal	0.66	B	0.76	C
Fairview Avenue/Hollister Avenue	Signal	0.52	A	0.63	B

[a] Coromar Drive/Hollister Avenue intersection has been signalized since the TIA was completed and therefore, existing conditions at this intersection have improved relative to what is reported in this table. Impacts identified in the TIA (Appendix H) would be reduced (see page 48 of the TIA).

Local Public Transit Services

The Santa Barbara Metropolitan Transit District (MTD), Clean Air Express, and Ventura Intercity Service Transit Authority (VISTA) provide local public transit service in the vicinity of the Project. The existing public transit routes in the Project vicinity are illustrated in **Figure 4.13-6.**

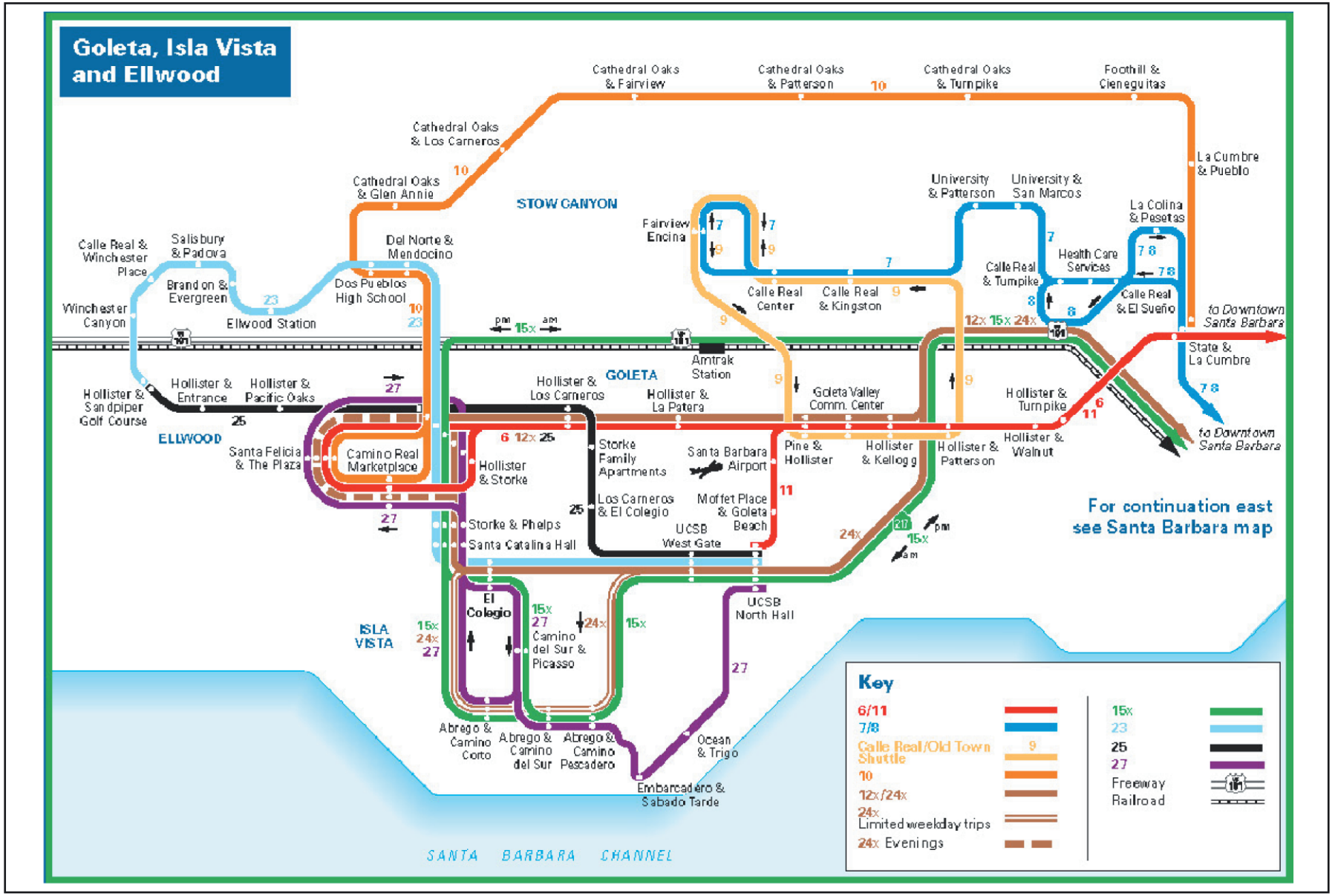
Regulatory Setting

Federal

There are no applicable Federal regulations pertaining to Transportation and Traffic.

State

California Department of Transportation (Caltrans) has primary jurisdiction over improvements to U.S. 101, which is within the Project study area and is part of the roadway network that would provide access to the Project.



Source: Linscott, Law & Greenspan Engineers, June 6, 2012. Map source: Santa Barbara Metropolitan Transit District (MTD) website.

Local

City of Goleta General Plan – Transportation Element

The City's General Plan Transportation Element includes goals, policies, and actions intended to guide the continued development and improvement of the transportation system to support land uses planned in the Land Use Element.

TE 1.1 Alternative Modes. [GP/CP] The City's intent shall be to achieve a realistic and cost-effective balance between travel modes, including bikeways, pedestrian circulation, and bus transit. The City shall encourage the use of alternative modes of transportation, such as bus transit, bicycling, and walking, which have the additional beneficial effect of reducing consumption of non-renewable energy sources.

TE 4.1 General Level of Service Standard. [GP] A traffic LOS standard C shall apply citywide to major arterials, minor arterials, and collector roadways and signalized and un-signalized intersections, except as provided in TE 4.2. The standard shall apply to daily traffic volumes and both AM and PM peak hours for intersections, and to average daily traffic volumes (ADT) for roadway segments. Table 7-3 provides descriptions of the LOS categories.

TE 10.4 Pedestrian Facilities in New Development. [GP] Proposals for new development or substantial alterations of existing development shall be required to include pedestrian linkages and standard frontage improvements. These improvements may include construction of sidewalks and other pedestrian paths, provision of benches, public art, informational signage, appropriate landscaping, and lighting. In planning new subdivisions or large-scale development, pedestrian connections should be provided through subdivisions and cul-de-sacs to interconnect with adjacent areas. Dedications of public access easements shall be required where appropriate.

TE 13.1 Traffic Studies for Development Proposals. [GP] Future development in Goleta will cause added burdens on the transportation system. Traffic analyses and reports shall be required for development proposals which the City Engineer and Planning Director determine may have effects on the local street system, including but not limited to possible degradation of service levels, potential creation of safety hazards, potential adverse effects on local neighborhood streets, or other substantial transportation concerns. When required by the City, a qualified transportation engineer shall perform traffic studies under a contract to the City. The costs of the traffic study, including costs of City staff time, shall be the responsibility of the project applicant.

TE 13.3 Maintenance of LOS Standards. [GP] New development shall only be allowed when and where such development can be adequately (as defined by the LOS standards in Policy TE 4) served by existing and/or planned transportation facilities. Transportation facilities are considered adequate if, at the time of development:

a. Existing transportation facilities serving the development, including those to be constructed by the developer as part of the project, will result in meeting the adopted LOS standards set in Policy TE 4; or
b. A binding financial commitment and agreement is in place to complete the necessary transportation system improvements (except for the planned new grade-separated freeway crossings), or to implement other strategies which will mitigate the project-specific impacts to an acceptable level, within 6 or fewer years; and

c. Any additional offsite traffic mitigation measures are incorporated into the impact fee system for addressing cumulative transportation impacts of future development.

TE 14.1 Traffic Impact Fees. [GP] The City shall adopt a citywide traffic impact fee in accordance with the requirements of Assembly Bill1600 to fund transportation improvements to mitigate the traffic impacts of new development. The impact fee study shall identify and be based on the estimated costs of construction of all transportation system improvements needed to ensure adequate levels of service system wide. Each new development project shall be charged a fee that represents its proportionate share of potential need for and impacts on the facilities included in the fee system. The impact fee system may incorporate improvements made and fees collected by the City since its incorporation in 2002.

4.13.2 Thresholds of Significance

The significance of the Project's potential traffic impacts at each study intersection were identified using criteria set forth in the *City GP/CLUP Final Supplemental EIR*, Section 3.13, Transportation and Circulation (July 2009). According to the City's threshold criteria, a significant adverse traffic impact occurs when:

1) The addition of Project traffic to an intersection increases the volume to capacity (*v/c*) ratio by the value provided below or sends a minimum of 5, 10, or 15 trips to intersections operating at LOS F, E, or D, respectively.

Table 4.13-3
Determining The Significance of LOS Impacts

LEVEL OF SERVICE (Including the project)	INCREASE IN V/C OR ADDITIONAL TRIPS (Greater than)
A	0.20
B	0.15
C	0.10
	OR THE ADDITION OF
D	15 trips
E	10 trips
F	5 trips

2) Project access to a major road or arterial road would require a driveway that would create an unsafe situation, a new traffic signal, or major revisions to an existing traffic signal.

3) Project adds 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 substantial increases in traffic (e.g., rural roads with use by farm equipment, livestock, horseback riding, or residential roads with heavy pedestrian or recreational use) that will become potential safety problems with the addition of project or cumulative traffic. Exceedance of the roadway's designated Transportation Element Capacity may indicate the potential for the occurrence of the above impacts.

4) Project traffic would utilize a substantial portion of an intersection's capacity where the intersection is currently operating at acceptable LOS (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* and 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.

5) A significant impact would occur when a project increases the traffic volumes by more than 1.0 percent (either project specific or project contribution to cumulative impacts) on roadways where plus project traffic would exceed the Acceptable Capacity or are forecast to exceed the Acceptable Capacity under cumulative conditions.

The City's project impact thresholds for LOS A, B and C conditions are determined based on increases in *v/c* ratios while project impact thresholds for LOS D, E and F conditions are determined based on increases trips generated by or related to the Village at Los Carneros Project. The City's cumulative impact thresholds are determined based on increases in *v/c* ratios for LOS D, E and F conditions. As directed by City staff, the ICU methodology was utilized to quantify the *v/c* ratio increases over baseline conditions, with the LOS determined using the HCM method of analysis to determine Project level and cumulative impacts for un-signalized study intersections.

The Congestion Management Program (CMP) impact thresholds are based on the Santa Barbara County Association of Governments' (SBCAG) traffic impact thresholds used to assess the impacts of land use decisions made by local jurisdictions on regional transportation facilities located within the CMP roadway system.[3] Significant Project-generated traffic impacts on the regional CMP system would occur if:

1) For any roadway or intersection operating at LOS A or B, an increase of two levels of service results from the addition of Project-generated traffic.
2) For any roadway or intersection operating at LOS C, Project-generated traffic results in LOS D or worse.
3) For intersections within the CMP system with existing congestion (LOS D-F), the following table defines significant impacts:

Table 4.13-4
CMP Intersection Significance Thresholds

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

[3] SBCAG, 2009 Santa Barbara County Congestion Management Program, Chapter 5, Land Use Element, Page 47.

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

Table 4.13-5
CMP Highway Segment Significance Thresholds

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

4.13.3 Project Impacts

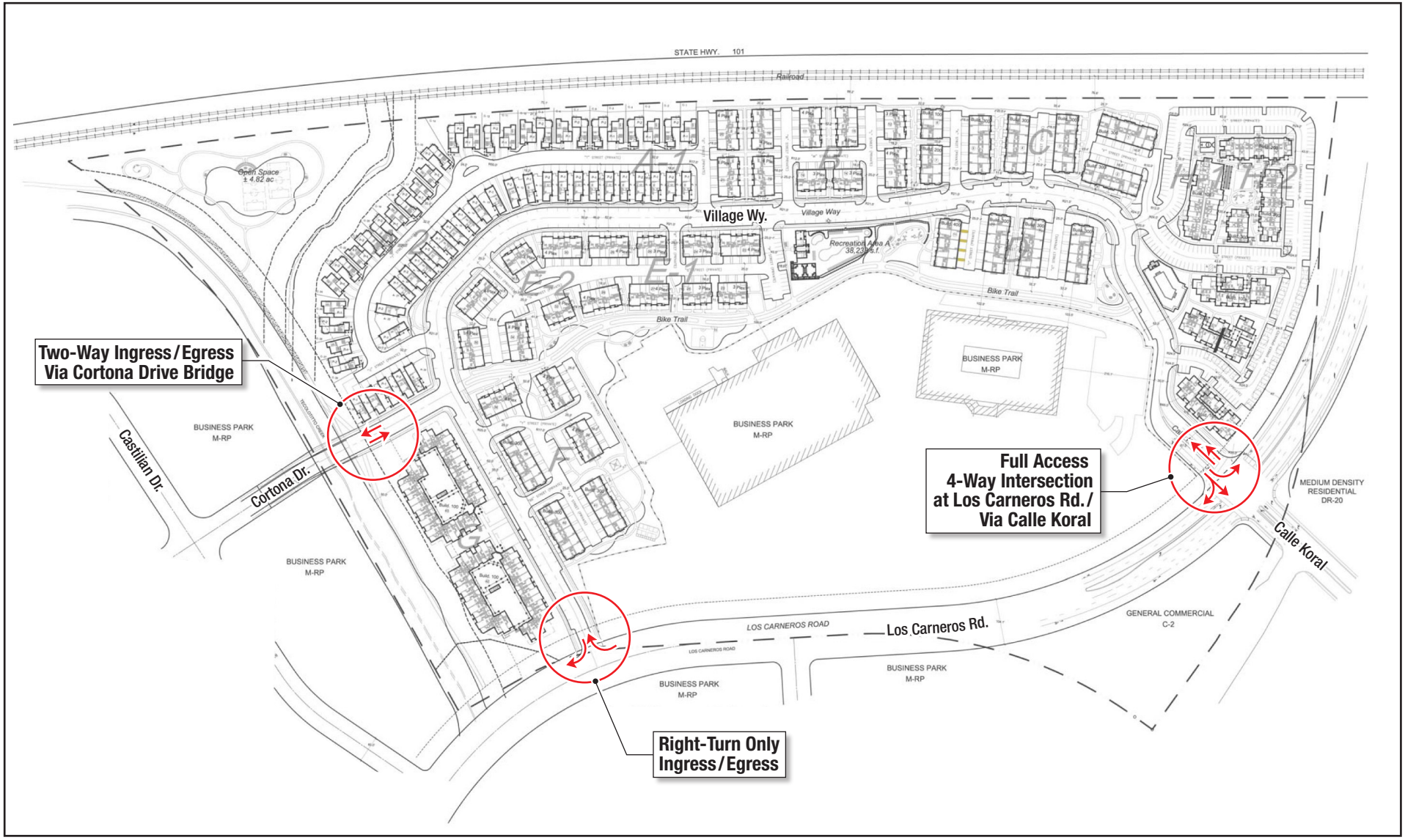
For purposes of this traffic analysis the Project is defined as consisting of the construction of 465 residential dwelling units and related amenities on the 43.13- acre Village at Los Carneros site (i.e., Component 1). Other components of the Project, such as the rezoning and modification of lot lines between small segments of the residential project component area and the adjacent business park have no, or a de minimis, impact on traffic generation. For this reason, this analysis focuses solely on the impacts associated with the Village at Los Carneros residential component as described. As categorized for vehicle trip generation purposes, the residential housing units will include 56 single-family homes, 265 condominiums/townhomes, and 144 apartment units.

Vehicular Site Access and Internal Circulation

As noted above, vehicular access to the Project site will be provided at three locations illustrated in **Figure 4.13-7**, with primary vehicular access provided via two new driveway connections to Los Carneros Road: one at the east boundary of the Project site and one at the site's southwest boundary. The eastern connection is an extension of Calle Koral into the Project site, creating a signalized 4-way intersection at Los Carneros Road and Calle Koral, which is currently a 3-way T intersection. When Calle Koral extends into the Project site the roadway segment will narrow to two lanes and intersect with Village Way, the primary private roadway internal to the Project site. Village Way will have one lane in each direction. Where on-street parking is permitted, Village Way will be paved 46-feet wide within a 62-foot right-of-way.

At the southwestern end of the Project site, Village Way will form the north leg of a T-intersection with the east-west trending segment of Los Carneros Road, located between the existing intersections of Cremona Drive to the east and Castilian Drive to the west. The Village Way connection to this segment of Los Carneros Road will be restricted to right-turn in and out movements only.

Secondary vehicular access to the Project site will be provided via an east-west extension of Cortona Drive achieved by building a bridge over Tecolotito Creek. Cortona Drive will intersect with Village Way, forming a T-intersection where Village Way trends in a north-south alignment along the west side of the Project site. West of the bridge, Cortona Drive forms a four-way intersection with Castilian Drive, which then intersects with Los Carneros Road to the south and west of the Project's planned Village Way entrance.



Source: William Hezmalhalch Architects, Inc., 2012.

VILLAGE AT LOS CARNEROS PROJECT

ENVICOM CORPORATION

Project Access

FEET 0 160 320

FIGURE 4.13-7

Line of Sight Safety Impact

TR 1: Would the Project's access to a major road or arterial require a driveway that would create an unsafe situation?

Significance Before Mitigation: Potentially Significant

Village Way/Los Carneros Road Line-of-Sight

The Project's Village Way T-intersection with Los Carneros Road near the southwest corner of the Project site was evaluated for potential sight-distance issues due to the curvature of Los Carneros Road near this location, as well as the prevailing vehicle speeds on Los Carneros Road. The Village Way access would be limited to right-turn in and right-turn out only due to the presence of an existing raised median, which will remain. The sight distance analysis is included in the Project's TIA to determine the adequacy of the lines of sight associated with the subject driveway, focusing on both westbound approach on Los Carneros Road (stopping sight distance) and on vehicles exiting the site turning right onto Los Carneros Road (intersection sight distance). Stopping sight distance is the distance that a driver of a vehicle, traveling at a certain speed, needs to be able to bring the vehicle to a stop after an object on the road becomes visible. Sight distance is also a critical consideration for intersections and driveways where the drivers of stopped vehicles need a sufficient view of the intersecting roadway in order to decide when it is safe to enter or cross the intersecting roadway. If available sight distance for an entering or crossing vehicle is at least equal to the appropriate stopping sight distance for the major roadway, then drivers have sufficient sight distance to anticipate and avoid collisions. The sight distance analysis is based on the criteria provided in the American Association of State Highway and Transportation Officials' (AASHTO) *A Policy on Geometric Design of Highways and Streets*.

The design of the Village Way/Los Carneros Road intersection must accommodate line-of-sight requirements. The maximum speed limit of Los Carneros Road at this location is 45 MPH. The sight distance analysis assumed a conceptual roadway design that would be adequate for a speed limit of 50 MPH. At that speed the minimum stopping sight distance is 425 feet and the intersection sight distance is 480 feet for passenger cars.[4] The study found that a minimum line-of-sight distance of 480 feet is required for a motorist attempting to make a right turn onto Los Carneros Road when stopped at 18 feet behind the curb-line, assuming a vehicle approaching the intersection on Los Carneros traveling at 50 MPH. The conceptual line-of-sight provided in the TIA crosses directly over the landscaped parkway at the easterly corner of the intersection (See Figure A-1 of the TIA Appendix A) within the Los Carneros Road right-of-way. The Project does not include any permanent structures on this corner that could block the line-of-sight. However, the right-of-way on the east corner of this intersection would contain landscaping. To avoid a conflict, and preserve the needed line of sight, landscaping at this location must be limited to plant materials that will not exceed 36 inches in height when fully mature and mounding in this area must be prohibited. A mitigation measure limiting landscaping at this location to ground cover and low growing dwarf shrubs for the distance specified would reduce this potential impact to a less than significant level (**Class II**).

[4] AASHTO, *A Policy on Geometric Design of Highways and Streets*, Table 9-8 (Design Intersection Sight Distance-Case B2 - Right Turn from Stop).

Internal Circulation

Village Way is a private drive that would provide the Project's backbone internal circulation. As previously noted, it would be improved with one lane in each direction with provision for on street parking at various locations. As described, Village Way will intersect with Calle Koral at Los Carneros Road near the east end of the Project site, with Los Carneros Road at the Project's right-turn in/right-turn out only driveway, and with the Cortona Drive bridge across Tecolotito Creek on the west. Internally, full vehicular access (i.e., both left and right-turn ingress and egress) will be accommodated at the driveways intersecting with the Village Way backbone street.

Based on a review of the Project's internal traffic volume forecasts, Village Way would have adequate capacity to accommodate the Project's internal traffic. The recommended speed limit on Village Way would be 15 miles per hour for pedestrian safety, although the Vehicle Code would allow a prima facie 25 MPH. A mitigation measure will require limiting internal speed to 15 MPH, the posting of signage and painting of the speed limit on the paved street and, if necessary, the installation of speed bumps to ensure that vehicles do not exceed the internal speed limit. The mitigation measure will also require lane striping, internal stop signs at intersecting driveways, convex mirrors if needed to insure adequate line of site at ganged driveways, and the striping of pedestrian and handicapped crosswalks. The Project will also be required to ensure the provision of adequate corner sight distance and stopping sight distance at all Project driveways along Village Way per City of Goleta standards. Limitations on the placement of ganged mailboxes and other infrastructure, such as sprinkler controllers so that they do not intrude on intersections, and limitations on landscape height at intersecting driveways will also be required to ensure that corner sight distance requirements are met. With these measures, line of sight impacts internal to the Project would be reduced to a less than significant level (**Class II**).

Traffic Congestion

Project Trip Generation

Traffic generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating location. Traffic volumes expected to be generated by the Village at Los Carneros Project were estimated for the weekday commuter A.M. and P.M. peak hours, as well for a 24-hour daily period, using trip generation rates published in the Institute of Transportation Engineers' *Trip Generation* publication.

Traffic volumes for the Project's single-family residential, apartment, and condominium/townhouse units were forecast based on rates per the number and types of dwelling units. There is no internal access to the Project's public park site and no vehicular access from any location. The only access is via foot or bicycle along a path leading off of the Tecolotito Creek maintenance road. Accordingly, no trips have been allocated to the Park. A summary of the trip generation estimates for the Project is provided in **Table 4.13-6.**

Table 4.13-6
Project Trip Generation[a]

Housing Type	Size	Daily Trip Ends Volumes[b]	A.M. Peak Hour Volumes			P.M. Peak Hour Volumes		
			In	Out	Total	In	Out	Total
Single Family (Detached) Housing[c]	56 units	536	11	31	42	36	21	57
Apartments[d]	144 units	958	15	58	73	58	31	89
Condominiums/Townhomes[e]	265 units	1,540	45	133	178	120	87	207
Total:		**3,034**	**71**	**222**	**293**	**214**	**139**	**356**

[a] Source: ITE "Trip Generation", 8th Edition, 2008.
[b] Trips are one-way traffic movements, entering or leaving.
[c] ITE Land Use Code 210 (Single-Family Detached Housing) trip generation average rates.
- Daily Trip Rate: 9.57 trips/dwelling unit; 50% inbound/50% outbound.
- A.M. Peak Hour Trip Rate: 0.75 trips/dwelling unit; 25% inbound/75% outbound.
- P.M. Peak Hour Trip Rate: 1.01 trips/dwelling unit; 63% inbound/37% outbound.

[d] ITE Land Use Code 220 (Apartment) trip generation average rates.
- Daily Trip Rate: 6.65 trips/dwelling unit; 50% inbound/50% outbound.
- A.M. Peak Hour Trip Rate: 0.51 trips/dwelling unit; 20% inbound/80% outbound.
- P.M. Peak Hour Trip Rate: 0.62 trips/dwelling unit; 65% inbound/35% outbound.

[e] ITE Land Use Code 230 (Residential Condominium/Townhouse) trip generation average rates were utilized to determine daily trips. ITE Land Use Code 231 (Low-Rise Residential Condominium/Townhouse) trip generation average rates were utilized to determine AM/PM peak hour trips.
- Daily Trip Rate: 5.81 trips/dwelling unit; 50% inbound/50% outbound.
- A.M. Peak Hour Trip Rate: 0.67 trips/dwelling unit; 25% inbound/75% outbound.
- P.M. Peak Hour Trip Rate: 0.78 trips/dwelling unit; 58% inbound/42% outbound.

The Project is forecast to generate approximately 293 vehicle trips (71 inbound trips and 222 outbound trips) during the A.M. peak hour and 353 vehicle trips (214 inbound trips and 139 outbound trips) during the P.M. peak hour. Over a 24-hour period, the Project is forecast to generate approximately 3,034 daily trip-ends during a typical weekday (1,514 inbound trips and 1,519 outbound trips).

Project Trip Distribution

The Project's traffic distribution is based in part on the GP/CLUP Supplemental FEIR traffic model and considers the proximity of the Project's access points to the major arterials serving the study area as well as the proposed Project layout and the internal circulation pattern. Accordingly, Project traffic volumes both entering and exiting the site have been distributed and assigned to the adjacent street system based on the following considerations:

- The City of Goleta's traffic model select zone assignment;
- The site's proximity to major traffic corridors (e.g., Los Carneros Road, Hollister Avenue, and U.S. 101 Freeway);
- Expected localized traffic flow patterns based on adjacent roadway channelization and presence of traffic signals;
- Existing intersection traffic volumes; and
- Ingress and egress availability at the Project site.

The forecast A.M. and P.M. peak hour Project-generated traffic volumes distributed to the study intersections are shown in **Figures 4.13-8** and **4.13-9**, respectively.

Roadway Segment Impacts

The Project's added daily traffic volumes were evaluated based on an analysis of existing and future operating conditions at the eleven study street segments both with and without the Project. The LOS for roadway segments is based on average daily traffic (ADT) volumes.

Impact TR 2: Would the project increase traffic volumes on local roadway segments by more than 1.0 percent in either the Project or cumulative condition on roadways where plus Project traffic would exceed the Acceptable Capacity or are forecast to exceed the Acceptable Capacity under cumulative conditions?

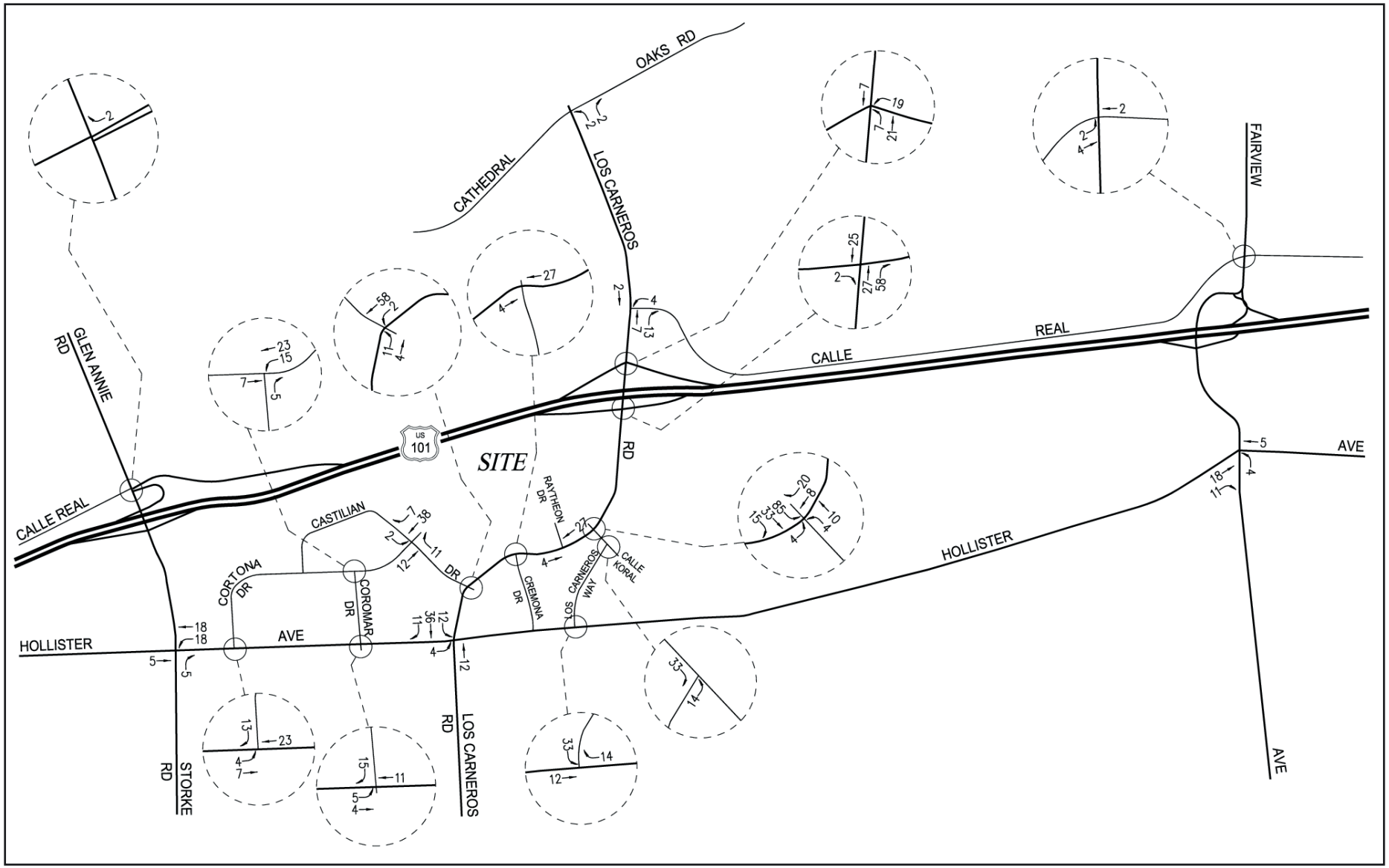
Significance Before Mitigation: Potentially Significant

The existing + Project ADT volume forecasts for the study-area roadway segments are shown in **Table 4.13-7,** which compares the existing and existing + Project ADT roadway volumes and identifies the potential impacts of the Project's traffic additions based on the City's capacity thresholds.

Table 4.13-7
Existing + Project Roadway Volumes

Roadway Segment	Acceptable Capacity[1]	Existing ADT	Existing + Project ADT	Percent Change	Impact
1. Storke Road s/o US Highway 101 SB Ramps	34,000	33,759	33,819	0.2	No
2. Storke Road s/o Hollister Avenue	34,000	21,358	21,510	0.7	No
3. Storke Road s/o Whittier Drive (Two-Lane segment)	14,300	13,159	13,219	0.5	No
4. Hollister Avenue w/o Storke Road	34,000	26,277	26,459	0.7	No
5. Hollister Avenue e/o Storke Road	34,000	21,227	21,593	1.7	No
6. Hollister Avenue w/o Los Carneros Road	34,000	18,337	18,793	2.5	No
7. Hollister Avenue e/o Los Carneros Way	34,000	16,007	16,585	3.6	No
8. Los Carneros Road s/o US Highway 101 SB Ramps	34,000	24,275	25,219	3.9	No
9. Los Carneros Road s/o Hollister Avenue (Two-Lane segment)	14,300	15,193	15,589	2.6	Yes[2]
10. Fairview Avenue s/o US Highway 101 SB Ramps	34,000	24,666	24,788	0.5	No
11. Fairview Avenue n/o Fowler Road (Two-Lane segment)	14,300	5,367	5,427	1.1	No

1 Roadway volume capacities for LOS C standard.
2 Los Carneros Road south of Hollister Avenue was widened to a 4-lane road with a capacity of 34,000 ADT subsequent to the preparation of the Project's TIA and therefore, traffic volume on this roadway segment would be improved relative to what is reported in this table(see page 45 of the TIA).



Source: Linscott, Law & Greenspan Engineers, June 6, 2012.

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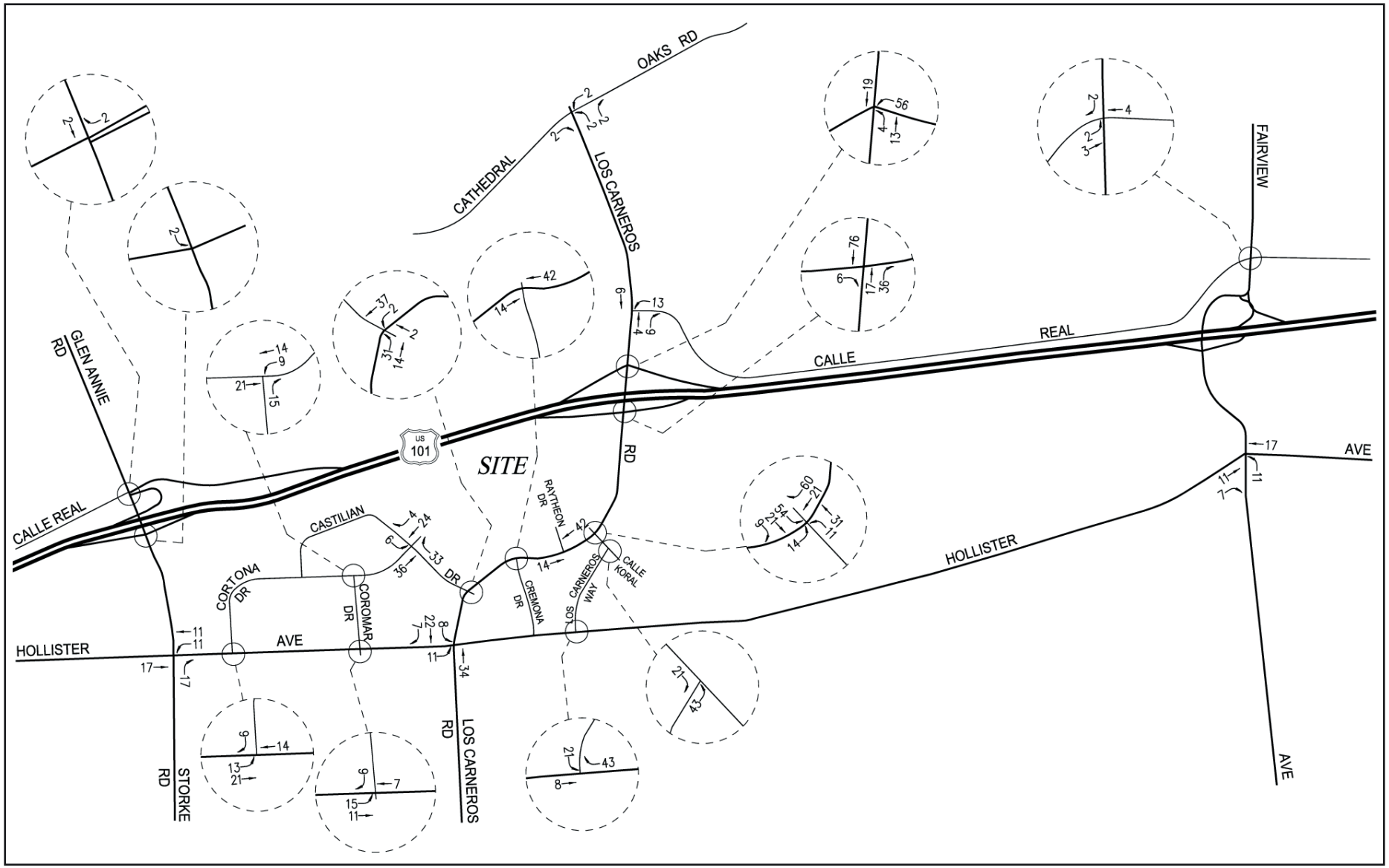
Project Traffic Volumes – AM Peak Hour

Not to Scale

FIGURE 4.13-8



Source: Linscott, Law & Greenspan Engineers, June 6, 2012.

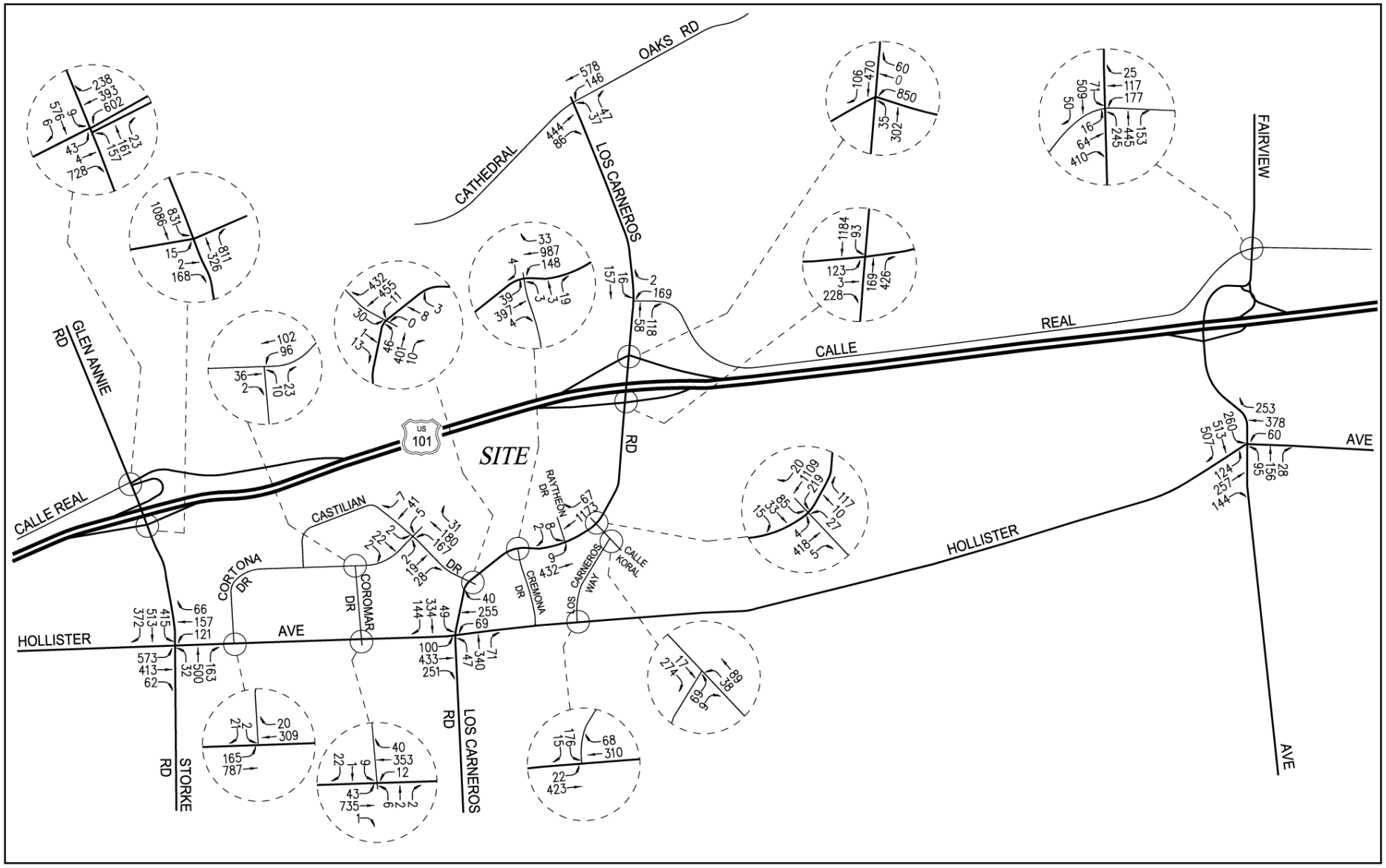
As shown in Table 4.13-7, the two-lane segment of Los Carneros Road south of Hollister Avenue currently carries 15,193 vehicles per day (vpd), which exceeds the City's Acceptable Capacity standard (i.e., LOS C) under existing conditions. Los Carneros Road, south of Hollister Avenue has been widened to four lanes subsequent to the preparation of the Project's TIA. The roadway widening to 4 lanes has addressed the previously existing exceedence of the capacity standards since a 4-lane road has the capacity of 34,000 ADT. The Project's potential impact has been reduced to an insignificant level (**Class III**). The Project will have incremental but less than significant impact on the remaining ten study roadway segments (**Class III**).

Intersection Operations Impacts

Impact TR 3: Would the project utilize a substantial portion of a study area intersection's capacity where the intersection is currently operating at an acceptable LOS but with cumulative traffic would degrade to or approach LOS D based on the City's definition of "substantial" as stated in its Threshold #4?

Significance Before Mitigation: Less than Significant

Growth in overall traffic volumes due to the Project is anticipated to incrementally increase the *v/c* ratios and delay values at the study intersections. *Existing Plus Project* AM peak and PM peak hour volumes are presented in **Figures 4.13-10** and **4.13-11,** respectively. Summaries of the *v/c* ratios for signalized study intersections (or delay values for un-signalized study intersections) and the corresponding LOS during the weekdays for the AM and PM peak hour and are provided in **Tables 4.13-8** and **4.13-9**, respectively. These tables compare the *Existing* and *Existing Plus Project* levels of service and identify Project-specific impacts.



Source: Linscott, Law & Greenspan Engineers, June 6, 2012.

VILLAGE AT LOS CARNEROS PROJECT

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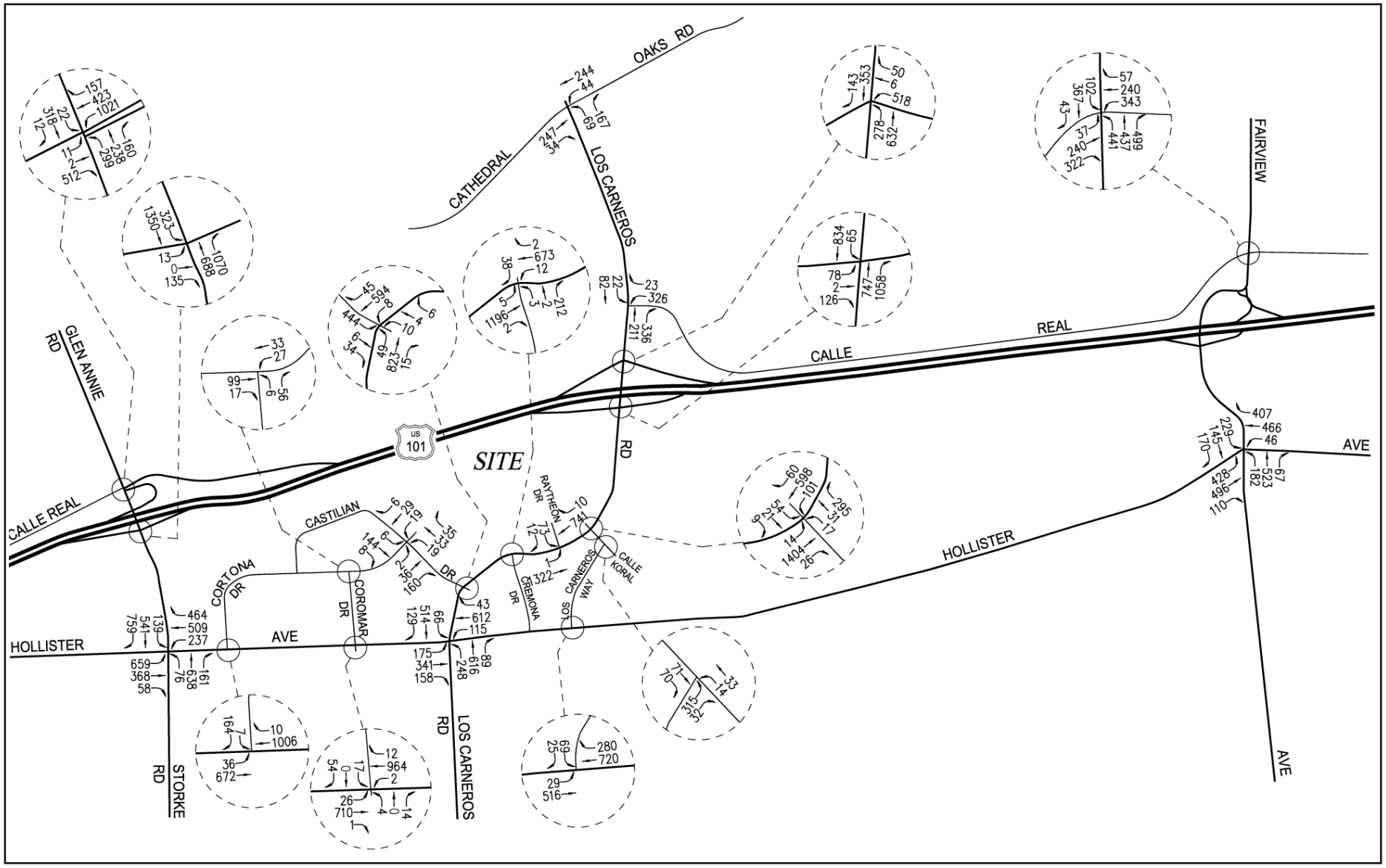
Existing With Project Traffic Volumes – AM Peak Hour

Not to Scale

FIGURE 4.13-10



Source: Linscott, Law & Greenspan Engineers, June 6, 2012.

VILLAGE AT LOS CARNEROS PROJECT

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Existing With Project Traffic Volumes – PM Peak Hour

Not to Scale

FIGURE 4.13-11

Table 4.13-8
Existing + Project AM Peak Hour Levels of Service

Intersection	Existing		Existing + Project		Project-Added Trips	V/C Change	Impact?
	ICU/Delay	LOS	ICU/Delay	LOS			
Glen Annie Road-Storke Road/Calle Real – US Highway 101 NB Ramps	0.69	B	0.69	B	2	0.000	No
Storke Road/US Highway 101 SB Ramps	0.78	C	0.78	C	0	0.000	No
Storke Road/Hollister Avenue	0.61	B	0.61	B	46	0.006	No
Cortona Drive/Hollister Avenue	8.5	A	8.7	A	47	0.010	No
Coromar Drive/Cortona Drive	7.9	A	8.0	A	50	0.026	No
Coromar Drive/Hollister Avenue[a]	12.0	B	12.0	B	35	0.010	No
Castilian Drive/Cortona Drive	8.2	A	9.7	A	70	0.016	No
Los Carneros Road/Cathedral Oaks Road	15.5	C	15.9	C	4	0.002	No
Los Carneros Road/Calle Real	8.82	A	8.89	A	26	0.004	No
Los Carneros Road/US Highway 101 NB Ramps	0.55	A	0.56	A	54	0.012	No
Los Carneros Road/US Highway 101 SB Ramps	0.54	A	0.55	A	112	0.008	No
Los Carneros Road/Calle Koral	0.46	A	0.53	A	179	0.067	No
Raytheon Drive/Los Carneros Road	0.49	A	0.50	A	31	0.008	No
Cremona Drive/Los Carneros Road	10.3	B	10.4	B	31	0.009	No
Los Carneros Road/Castilian Drive	0.40	A	0.42	A	75	0.025	No
Los Carneros Road/Hollister Avenue	0.45	A	0.47	A	75	0.012	No
Los Carneros Way/Calle Koral	8.9	A	9.1	A	47	0.030	No
Los Carneros Way/Hollister Avenue	0.27	A	0.29	A	59	0.014	No
Fairview Avenue/Calle Real	0.66	B	0.66	B	8	0.000	No
Fairview Avenue/Hollister Avenue	0.52	A	0.53	A	38	0.005	No

[a] Coromar Drive/Hollister Avenue intersection was signalized subsequent to the preparation of the Project's TIA. Therefore, the actual existing LOS at this intersection has been improved as compared to what is reported in this table. For this reason, impacts identified in the Project's TIA (Appendix H) would be reduced (see Page 48 of the TIA).

Table 4.13-9
Existing + Project PM Peak Hour Levels of Service

Intersection	Existing		Existing + Project		Project-Added Trips	V/C Change	Impact?
	ICU/ Delay	LOS	ICU/ Delay	LOS			
Glen Annie Road-Storke Road/Calle Real – US Highway 101 NB Ramps	0.65	B	0.65	B	4	0.001	No
Storke Road /US Highway 101 SB Ramps	0.76	C	0.76	C	2	0.001	No
Storke Road/Hollister Avenue	0.74	C	0.74	C	56	0.000	No
Cortona Drive/Hollister Avenue	15.2	C	15.5	C	57	0.018	No
Coromar Drive/Cortona Drive	8.6	A	8.7	A	59	0.028	No
Coromar Drive/Hollister Avenue	20.0	C	20.0	C	42	0.017	No
Castilian Drive/Cortona Drive	10.0	A	10.7	B	103	0.026	No
Los Carneros Road/Cathedral Oaks Road	12.9	B	13.0	B	8	0.005	No
Los Carneros Road/Calle Real	11.83	B	12.22	B	32	0.014	No
Los Carneros Road/US Highway 101 NB Ramps	0.56	A	0.59	A	92	0.026	No
Los Carneros Road/US Highway 101 SB Ramps	0.78	C	0.80	C	135	0.021	No
Los Carneros Road/Calle Koral	0.66	B	0.71	C	221	0.053	No
Raytheon Drive/Los Carneros Road	0.53	A	0.54	A	56	0.004	No
Cremona Drive/Los Carneros Road	18.9	C	19.4	C	56	0.005	No
Los Carneros Road/Castilian Drive	0.65	B	0.66	B	86	0.007	No
Los Carneros Road/Hollister Avenue	0.66	B	0.67	B	82	0.011	No
Los Carneros Way/Calle Koral	11.1	B	11.6	B	64	0.027	No
Los Carneros Way/Hollister Avenue	0.42	A	0.44	A	72	0.018	No
Fairview Avenue/Calle Real	0.76	C	0.76	C	11	0.002	No
Fairview Avenue/Hollister Avenue	0.63	B	0.63	B	46	0.006	No

[a] Coromar Drive/Hollister Avenue intersection was signalized subsequent to the preparation of the Project's TIA. Therefore, the LOS at this intersection has improved as compared to what is reported in this table. For this reason, actual impacts identified in the Project's TIA (Appendix H) would be less than shown in this Table. See Page 48 of the TIA.

All 20 intersections in the study area are expected to continue operating at LOS C or better during both the AM and PM peak hours with the addition of the Project-generated traffic. Incremental but less than significant impacts are noted at the study intersections. Because there are no significant impacts, no traffic mitigation measures are required or recommended for the study intersections under the *Existing Plus Project* condition and impacts are less than significant (**Class III**).

Traffic Signal Warrant Analysis

The TIA includes a traffic signal warrant analyses prepared for the following intersections:

- Cortona Drive/Hollister Avenue
- Coromar Drive/Hollister Avenue
- Castilian Drive/Cortona Drive
- Los Carneros Road/Cathedral Oaks Road
- Los Carneros Road/Calle Real

The *Los Carneros Road/Calle Real* "T" intersection was operating as an all-way stop controlled intersection at the time the TIA was prepared. A roundabout was installed at this intersection subsequent to the preparation of the TIA. The TIA compared the operations expected under the all-way stop control with those anticipated under control of a roundabout and concluded that the roundabout would reduce overall traffic impacts. The remaining four intersections are currently operated as two-way stop controlled intersections with stop signs facing the minor street approach (or approaches). The determination of whether installation of a traffic signal is warranted was based on criteria set forth in Chapter 4C of the *California Manual on Uniform Traffic Control Devices (MUTCD).*[5] Parts A and B of Warrant No. 3 (peak hour) traffic signal warrants were prepared. The peak hour warrant is applied where traffic conditions are such that, for one hour of the day, minor street traffic suffers undue delay when entering or crossing the major street. A summary of warrant analysis outcomes is provided in **Table 4.13-10**.

Table 4.13-10
Signal Warrant Existing and Existing + Project

Study Intersection	Existing Conditions	Existing Conditions Plus Project
Cortona Drive/Hollister Avenue	Satisfied	Satisfied
Coromar Drive/Hollister Avenue	Not Satisfied	Not Satisfied
Castilian Drive/Cortona Drive	Not Satisfied	Not Satisfied
Los Carneros Road/Cathedral Oaks Road	Satisfied	Satisfied
Los Carneros Road/Calle Real	Satisfied	Satisfied

Traffic signals ~~are warranted~~ warrant criteria are met at Cortona Drive/Hollister Avenue, Los Carneros Road/Cathedral Oaks Road, and Los Carneros Road/Calle Real intersections as shown in Table 4.13-10. However, as stated in the MUTCD, the satisfaction of a traffic signal warrant is not necessarily justification for the installation of a traffic signal. Other factors such as delay, congestion, and approach conditions may be considered. Based on the Supplemental Traffic Analysis Memorandum prepared for this Project (Appendix J.1.) regarding the Cortona Drive/Hollister Avenue intersection, the recent installation of a traffic signal at the adjacent Coromar Drive/Hollister Avenue intersection produces breaks/gaps in Hollister Avenue traffic flow approaching Cortona Drive. These traffic gaps facilitate turning movements at the Cortona Drive/Hollister Avenue intersection. Further review of this intersection indicated that the majority of turning movements from Cortona Drive onto Hollister Avenue are right-turn movements. As such, an additional traffic signal at the Cortona Drive/Hollister Avenue intersection would not be recommended.

~~However,~~ Although Table 4.13-10 indicates ~~the criteria for signal warrants at~~ Los Carneros Road/Cathedral Oaks Road, and Los Carneros Road/Calle Real intersections meet signal warrant criteria, the criteria ~~each intersection~~ is met by existing conditions without Project contribution. The Project's impacts to these intersections do not create the warrant condition and are, therefore, less than significant (**Class III**).

Castilian Drive/Cortona Drive Intersection

The TIA includes an evaluation of the Castilian Drive/Cortona Drive intersection to determine if traffic control devices may be needed at this location. The intersection is presently controlled by

[5] *California Manual on Uniform Traffic Control Devices (MUTCD),* State of California Business, Transportation and Housing Agency, Department of Transportation, 2012 Edition.

a two-way stop with stop signs facing the eastbound and westbound Cortona Drive approaches. Cortona Drive currently terminates just east of this intersection. However, the Project will extend Cortona Drive into the Project site over ~~a~~ the Tecolotito Creek bridge ~~to be constructed across Tecolotito Creek that~~ and will change the existing terminus of Cortona Drive, ~~and~~ extending it easterly to an intersection with Village Way, within the Project.

The analysis considered the *Existing Plus Project* condition. The minimum thresholds for Warrant No. 3 (peak hour) are not satisfied under all of the analysis conditions and this intersection is forecast to continue to operate at LOS C or better. For this reason, implementation of other types of intersection traffic control is not necessary~~.~~ and the Project's impact on traffic control at this intersection would be less than significant (**Class III**).

A supplemental review was also conducted to examine the individual movement and approach delays that motorists would be expected to experience when traversing through this intersection under the current two-way stop controlled operation. Under the *Existing Plus Project* scenario, the worst case delays and LOS are expected to occur at the westbound Cortona Drive approach with the following forecasted delays and LOS operations (HCM data worksheets are provided in Appendix H*)*:

AM Peak Hour: Westbound Approach Delay = 15.0, LOS C
PM Peak Hour: Westbound Approach Delay = 11.9, LOS B

As the analysis demonstrates, the existing two-way stop control would be adequate to manage traffic at the Castilian Drive/Cortona Drive intersection.

Vehicle Queuing Los Carneros Road/Calle Koral Intersection

A vehicle queuing analysis was prepared as part of the TIA for the Los Carneros Road/Calle Koral intersection to evaluate the Project's potential impacts to vehicle queues and storage requirements. The Los Carneros Road/Calle Koral is currently a signalized "T" intersection with a protected southbound left-turn phase from Los Carneros Road onto eastbound Calle Koral. The Project will construct the fourth leg of this intersection to provide site access and will be required to make the signal modifications needed to accommodate a 4-way intersection.

Vehicle queuing at *Los Carneros Road/Calle Koral* was calculated using the *Synchro Studio 8* software package, which implements the Highway Capacity Manual operational methodology. The analysis was prepared using the *Existing Plus Project* AM and PM peak hour traffic volume forecasts and focused on evaluating the key left-turn movements through the intersection. **Table 4.13-11** provides the forecast vehicle queuing at all the key left-turn movements during the A.M. and P.M. peak hours. Vehicle queue forecasts are based on the 95th percentile, which represents the maximum back of queue with 95th percentile traffic volumes and the available left-turn storage lengths associated with each approach to the intersection. Summary data worksheets of the queuing analyses are contained in Appendix J.

Table 4.13-11
Vehicle Queuing at Los Carneros Road/Calle Koral Intersection[a]

Left Turn Lane	Available Left-Turn Storage (feet)	Maximum Back of Queue[b] Existing + Project (feet)	
		AM Peak Hour	PM Peak Hour
NB Los Carneros Road	190	25[c]	25[c]
SB Los Carneros Road	200	126	74
EB Calle Koral	120	56	44
WB Calle Koral	100	25[c]	25[c]

[a] Based on Synchro Studio 8 Software
[b] Queue lengths represent the maximum back of queue with 95 percentile traffic volumes.
[c] Forecasted queue length calculated at less than one vehicle. Queue length of one vehicle = 25 feet (including space between stopped vehicles) is reported.

As shown, the available left-turn storage provided at the Los Carneros Road/Calle Koral intersection approaches would accommodate the forecasted 95th percentile vehicle queues under Existing Plus Project conditions. Accordingly, vehicle queuing that exceeds the holding capacity of left-turn storage area is not anticipated at this location as a result of Project implementation (**Class III**).

Congestion Management Program (CMP) Impacts

A Congestion Management Program (CMP) traffic impact assessment was prepared to determine the potential Project impacts on designated CMP roadway system. Two CMP freeway locations and eight CMP intersections in the Project vicinity were identified and analyzed. The Project is not expected to create any significant impacts at any of the freeway segment locations or CMP intersections. Only incremental but less than significant Project impacts are noted (**Class III**).

CMP Freeway Segment Impacts

Impact TR 4: Would the Project add to traffic volumes along US Highway 101 in excess of CMP threshold criteria?

Significance Before Mitigation: Less Than Significant

CMP freeway segment locations in the Project vicinity include:

- U.S. Highway 101, between Fairview Avenue and Los Carneros Road
- U.S. 101 Freeway, between Los Carneros Road and Storke Road

According to the Santa Barbara 2009 CMP[6] the segment of US Highway 101 between Fairview Avenue and Los Carneros Road operates at LOS D during both the weekday AM and PM peak hours while the segment of US Highway 101 between Los Carneros Road and Storke Road operates at LOS B during the weekday A.M. peak hour and LOS C during the weekday P.M.

[6] Santa Barbara 2009 CMP at http://www.sbcag.org/PDFs/publications/2009%20CMP%20Plan%20FINAL%20w%20Appendices.pdf, accessed 8/29/13.

peak hour. The CMP threshold for freeway impacts is the addition of 50 trips to freeway segments operating at LOS E or LOS F and 100 trips to freeway segments operating at LOS D.

Analysis based on the Project's land use characteristics, trip generation forecasts, trip distribution, and traffic assignment, concluded that the Project's contribution to traffic on any studied segment of U.S. 101 would not exceed the CMP thresholds during either the A.M. or P.M. peak hours. Accordingly, the Project will have a less than significant impact to the CMP freeway segments located in the study area (**Class III**).

CMP Intersection Impacts

Impact TR 5: Would the Project add to traffic volumes at CMP intersections in excess of CMP significance thresholds?

Significance Before Mitigation: Less Than Significant

The following study-area intersections are included in the CMP network:

- Glen Annie Road-Storke Road/Calle Real-US Highway 101 NB Ramps
- Storke Road/US Highway 101 SB Ramps
- Storke Road/Hollister Avenue
- Los Carneros Road/US Highway 101 NB Ramps
- Los Carneros Road/US Highway 101 SB Ramps
- Los Carneros Road/Hollister Avenue
- Fairview Avenue/Calle Real
- Fairview Avenue/Hollister Avenue

Summaries of the v/c ratios and corresponding LOS for the eight CMP study intersections during the weekday A.M. and P.M. peak hours are shown in **Tables 4.13-9 and 4.13-10,** respectively. Application of the CMP threshold criteria to the *Existing Plus Project* condition demonstrates that the Project would create incremental but less than significant impacts ~~at the CMP study intersections~~ (**Class III**).

Parking

Refer to Section 4.9 Land Use and Planning for a discussion of the Project's parking.

4.13.4 Cumulative Impacts

The TIA forecast cumulative traffic volumes using the City's traffic model. The cumulative forecasts include traffic generated by approved and pending projects proposed in the City of Goleta[7] as well as development of the UCSB Long Range Development Plan, the Santa Barbara Airport Specific Plan, and regional growth in the Goleta-Santa Barbara area. Programmed regional improvements assumed in the City's traffic model include: Cathedral Oaks interchange, construction of a new freeway overcrossing that would be located between Hollister Avenue and Storke Road/US 101 interchanges, and Ekwill Fowler extensions (including the SR-217 roundabouts). This analysis conservatively assumes the traffic volumes

[7] SA list summarizing the approved and pending projects is contained in Appendix H for reference.

provided by the City's traffic model, but does not assume any other potential roadway and/or intersection improvements.

Cumulative Impacts on Roadway Segments

The LOS at all 11 study roadway segments are incrementally increased by the addition of traffic generated by regional growth and the cumulative development projects listed in Section 3.0 *Related Projects*.

Impact TR 6: Would Project-generated traffic volumes result in significant cumulative impacts on any study area roadway segments based on the City's significance criteria?

Significance Before Mitigation: Potentially Significant

The *Cumulative Without Project* ADT volumes on the analysis street segments were formulated by analyzing the P.M. peak hour traffic volume growth at the adjacent study intersections from the City's traffic model comparing *Cumulative Without Project* vs. *Existing Conditions*. The resultant percentage growth at each study street segment was then applied to the respective existing ADT volumes. A description of the roadway segment ADT design capacities and LOS C thresholds by functional street classification is provided in the TIA (Appendix E of the TIA).

Table 4.13-12 provides the cumulative roadway volumes and identifies the impacts of the Project-added traffic based on the City's capacity thresholds.

Table 4.13-12
Cumulative Without Project and Cumulative + Project Roadway Volumes

Roadway Segment	Acceptable Capacity[1]	Cumulative ADT	Cumulative + Project ADT	Percent ADT Change	Impact
1. Storke Road s/o US Highway 101 SB Ramps	34,000	41,087	41,147	0.1	No
2. Storke Road s/o Hollister Avenue	34,000	27,691	27,843	0.5	No
3. Storke Road s/o Whittier Drive (Two-Lane segment)	14,300	17,061	17,121	0.4	No
4. Hollister Avenue w/o Storke Road	34,000	30,972	31,154	0.6	No
5. Hollister Avenue e/o Storke Road	34,000	29,277	29,643	1.3	No
6. Hollister Avenue w/o Los Carneros Road	34,000	27,213	27,669	1.7	No
7. Hollister Avenue e/o Los Carneros Way	34,000	18,303	18,881	3.2	No
8. Los Carneros Road s/o US Highway 101 SB Ramps	34,000	31,752	32,696	3.0	No
9. Los Carneros Road s/o Hollister Avenue (Two-Lane segment)	14,300	21,248	21,644	1.9	Yes[1]
10. Fairview Avenue s/o US Highway 101 SB Ramps	34,000	27,532	27,654	0.4	No

Roadway Segment	Acceptable Capacity[1]	Cumulative ADT	Cumulative + Project ADT	Percent ADT Change	Impact
11. Fairview Avenue n/o Fowler Road (Two-Lane segment)	14,300	6,386	6,446	0.9	No

[1]Los Carneros Road south of Hollister Avenue was widened to a 4-lane road with a capacity of 34,000 ADT subsequent to the preparation of the Project's TIA and therefore the cumulative roadway volumes would be improved as compared to what is reported in this table.

As shown in Table 4.13-12, the two-lane segment of Los Carneros road south of Hollister Avenue is forecast to exceed the Acceptable Capacity standard under both the *Cumulative Without Project* and *Cumulative With Project* conditions. Los Carneros Road south of Hollister Avenue is forecast to carry 21,248 vpd, which exceeds the City's Acceptable Capacity standard of LOS C under *Cumulative Without Project* conditions. With the Project traffic, the two-lane segment of Los Carneros Road south of Hollister Avenue is forecast to carry 21,644 and traffic volume on this segment would increase by 1.9 percent, which exceeds the City's 1.0 percent impact threshold. With the widening of Los Carneros Road south of Hollister Avenue, completed in 2013, the Project's impact is reduced to less than significant (**Class II**).

Cumulative Impacts on Intersection Operations

The LOS at all 20 study intersections would increase incrementally with the addition of traffic generated by regional growth and the cumulative development projects listed in Section 3.0 *Related Projects*.

Impact TR 7: Would Project-generated traffic volumes result in significant cumulative traffic impacts at study area intersections based on the City's significance threshold criteria?

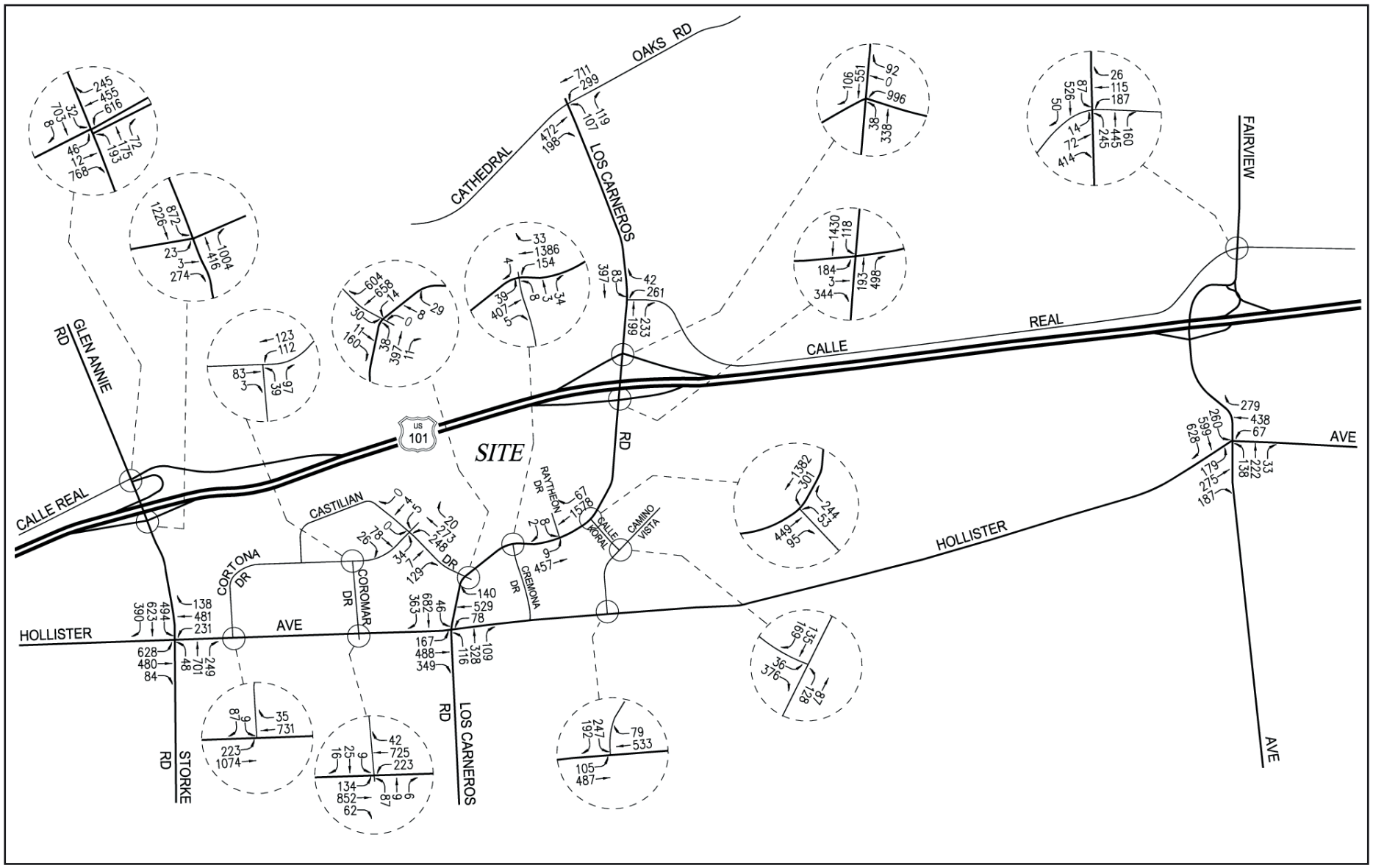
Significance Before Mitigation: Potentially Significant

Cumulative Without Project AM and PM peak hour intersection volumes are presented in **Figures 4.13-12 and 4.13-13**. *Cumulative Plus Project* AM and PM peak hour intersection volumes are presented in **Figures 4.13-14 and 4.13-15.** *Cumulative Without Project* and *Cumulative Plus Project v/c* ratios, delays and corresponding LOS for the study area intersections during AM and PM peak hours are provided in **Tables 4.13-13** and **4.13-14**, respectively.

Table 4.13-13
Cumulative and Cumulative + Project AM Peak Hour Levels of Service

Intersection	Cumulative w/o Project		Cumulative with Project		V/C Change	Cumulative Impact?
	ICU/ Delay	LOS	ICU/ Delay	LOS		
Glen Annie Road-Storke Road/Calle Real – US Highway 101 NB Ramps	0.76	C	0.76	C	0.000	No
Storke Road/US Highway 101 SB Ramps	0.90	D	0.90	D	0.0002	No
Storke Road/Hollister Avenue	0.82	D	0.83	D	0.006	No
Cortona Drive/Hollister Avenue	13.6	B	14.2	B	0.018	No
Coromar Drive/Cortona Drive	9.2	A	9.3	A	0.027	No
Coromar Drive/Hollister Avenue[a]	>50.0	F	>50.0	F	35	Yes[b]
Castilian Drive/Cortona Drive	11.0	B	13.7	B	0.015	No
Los Carneros Road/Cathedral Oaks Road	>50.0	F	>50.0	F	0.002	No
Los Carneros Road/Calle Real[c]	14.91	B	15.23	C	0.004	No
Los Carneros Road/US Highway 101 NB Ramps	0.64	B	0.65	B	0.012	No
Los Carneros Road/US Highway 101 SB Ramps	0.66	B	0.67	B	0.008	No
Los Carneros Road/Calle Koral	0.57	A	0.62	B	0.058	No
Raytheon Drive/Los Carneros Road	0.62	B	0.63	B	0.008	No
Cremona Drive/Los Carneros Road	13.4	B	13.8	B	0.008	No
Los Carneros Road/Castilian Drive	0.54	A	0.57	A	0.025	No
Los Carneros Road/Hollister Avenue	0.66	B	0.67	B	0.011	No
Camino Vista/Calle Koral	12.0	B	12.4	B	0.029	No
Camino Vista/Hollister Avenue	0.50	A	0.53	A	0.024	No
Fairview Avenue/Calle Real	0.67	B	0.67	B	0.000	No
Fairview Avenue/Hollister Avenue	0.63	B	0.64	B	0.004	No

[a] Coromar Drive/Hollister Avenue intersection was signalized subsequent to the preparation of the Project's TIA and therefore, cumulative LOS at this intersection would improve relative to what is reported in this table and cumulative impacts identified in this table would also be reduced.
[b] For intersections with existing LOS ratings below C, an impact is considered significant if the project would send at least 15, 10, or 5 trips to intersections operating at LOS D, E, or F, respectively.
[c] A roundabout has since been constructed at this intersection, improving the cumulative LOS.

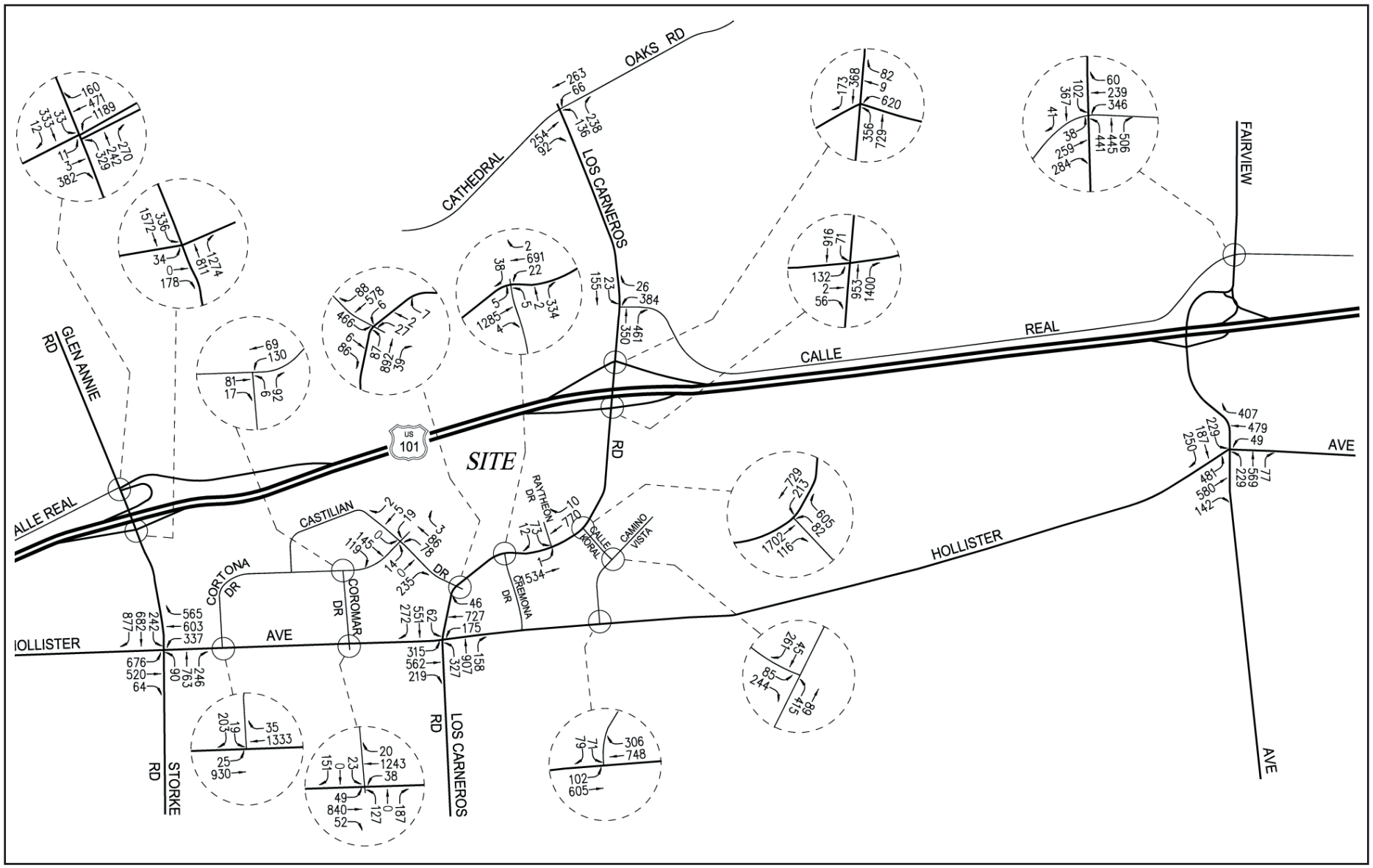


Source: Linscott, Law & Greenspan Engineers, June 6, 2012.

Cumulative Without Project Traffic Volumes – AM Peak Hour

Not to Scale

FIGURE 4.13-12



Source: Linscott, Law & Greenspan Engineers, June 6, 2012.

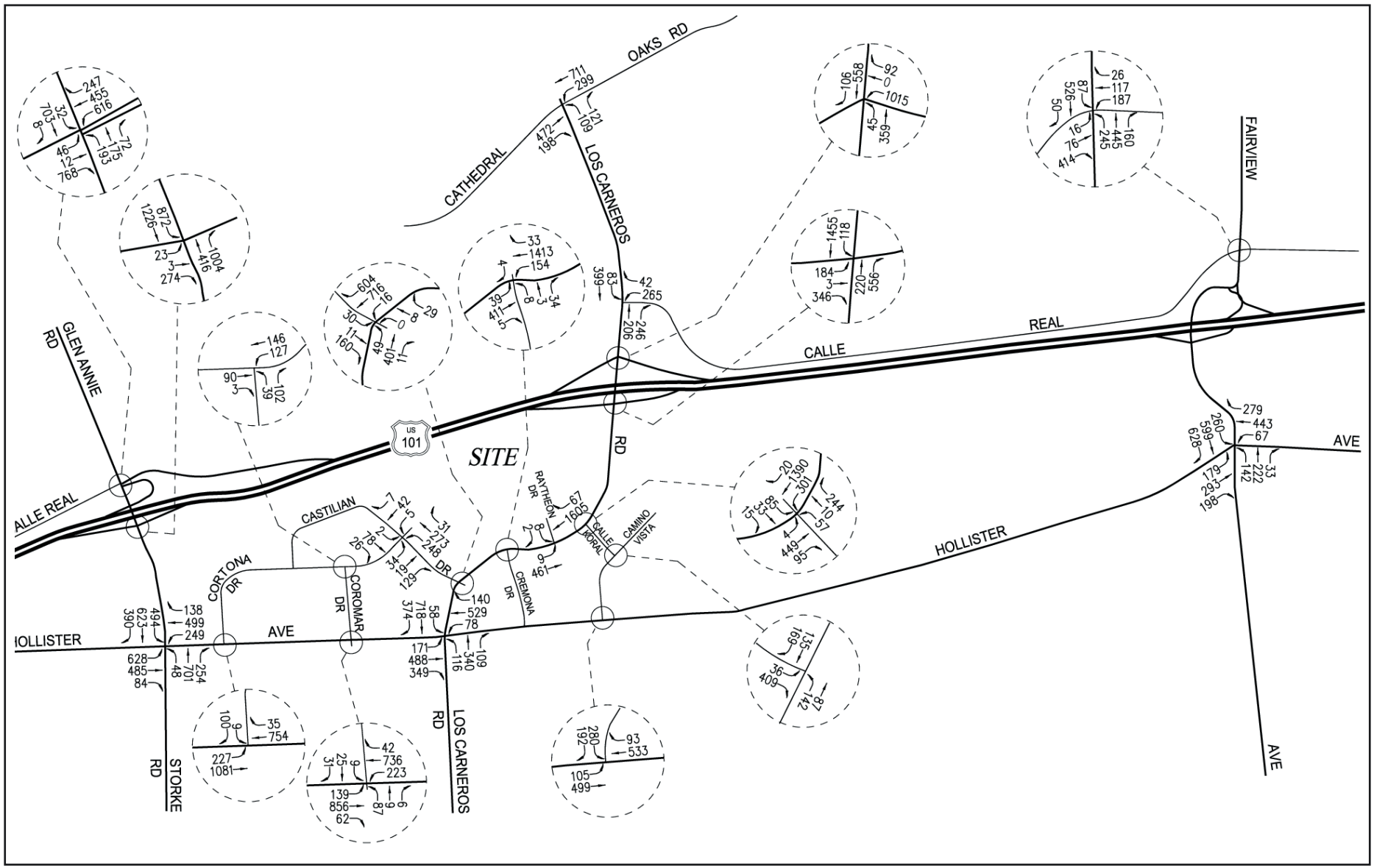
VILLAGE AT LOS CARNEROS PROJECT

ENVICOM CORPORATION

Cumulative Without Project Traffic Volumes – PM Peak Hour

Not to Scale

FIGURE 4.13-13



Source: Linscott, Law & Greenspan Engineers, June 6, 2012.

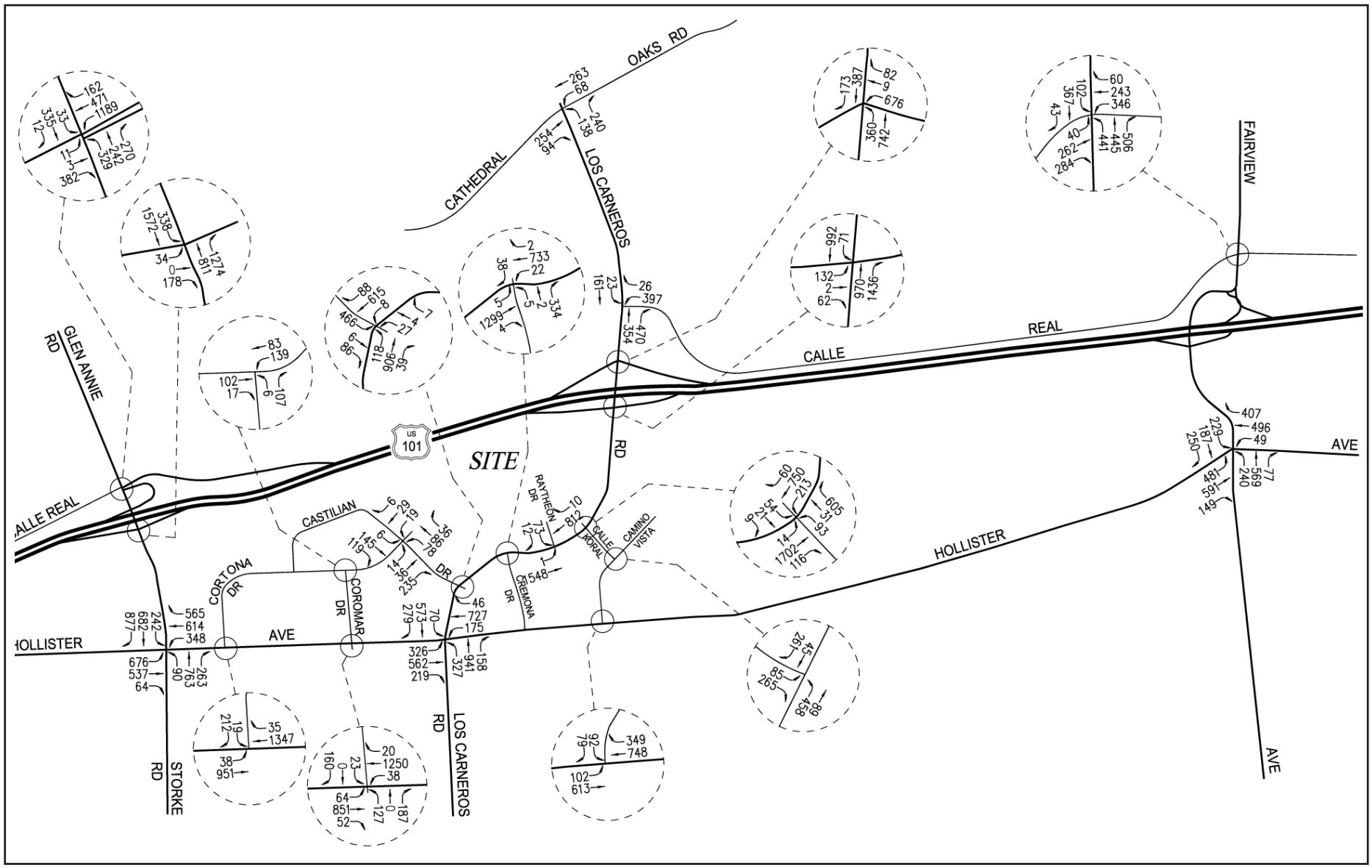
VILLAGE AT LOS CARNEROS PROJECT

ENVICOM CORPORATION

Cumulative With Project Traffic Volumes – AM Peak Hour

Not to Scale

FIGURE 4.13-14



Source: Linscott, Law & Greenspan Engineers, June 6, 2012.

Table 4.13-14
Cumulative and Cumulative + Project PM Peak Hour Levels of Service

Intersection	Cumulative w/o Project		Cumulative with Project		V/C Change	Cumulative Impact?
	ICU/ Delay	LOS	ICU/ Delay	LOS		
Glen Annie Road-Storke Road/Calle Real – US Highway 101 NB Ramps	0.72	C	0.72	C	0.000	No
Storke Road/US Highway 101 SB Ramps	0.88	D	0.88	D	0.000	No
Storke Road/Hollister Avenue	0.86	D	0.86	D	0.000	No
Cortona Drive/Hollister Avenue	47.6	E	>50.0	F	0.018	Yes
Coromar Drive/Cortona Drive	8.4	A	8.6	A	0.028	No
Coromar Drive/Hollister Avenue[a]	>50.0	F	>50.0	F	0.012	Yes[b]
Castilian Drive/Cortona Drive	11.2	B	12.8	B	0.027	No
Los Carneros Road/Cathedral Oaks Road	21.7	C	22.3	C	0.005	No
Los Carneros Road/Calle Real[c]	18.46	C	19.55	C	0.013	No
Los Carneros Road/US Highway 101 NB Ramps	0.68	B	0.71	C	0.026	No
Los Carneros Road/US Highway 101 SB Ramps	1.03	F	1.05	F	0.020	Yes[b]
Los Carneros Road/Calle Koral	0.89	D	0.95	E	0.053	Yes
Raytheon Drive/Los Carneros Road	0.60	A	0.61	B	0.005	No
Cremona Drive/Los Carneros Road	41.6	E	44.4	E	0.004	No
Los Carneros Road/Castilian Drive	0.71	C	0.71	C	0.007	No
Los Carneros Road/Hollister Avenue	0.81	D	0.82	D	0.010	No
Camino Vista/ Calle Koral	14.6	B	16.4	C	0.040	No
Camino Vista/Hollister Avenue	0.52	A	0.55	A	0.025	No
Fairview Avenue/Calle Real	0.77	C	0.77	C	0.002	No
Fairview Avenue/Hollister Avenue	0.67	B	0.67	B	0.005	No

[a] Coromar Drive/Hollister Avenue intersection was signalized subsequent to the preparation of the Project's TIA and therefore, cumulative LOS at this intersection would be improved relative to what is reported in this table and cumulative impacts identified in this table also would be reduced.
[b] For intersections with existing LOS ratings below C, an impact would be significant if the Project would send at least 15, 10, or 5 trips to intersections operating at LOS D, E, or F, respectively.
[c] A roundabout has since been constructed at this intersection, improving the cumulative LOS.

As shown in **Tables 4.13-13 and 4.13-14,** 11 of the 20 study intersections are expected to operate at LOS C or better during both the A.M. and P.M. peak commuter hours in the cumulative growth condition without Project traffic. Nine study intersections are expected to operate at unacceptable levels of LOS D or worse during either or both of the A.M. and P.M. peak hours. The *Cumulative With Project* condition results show that the Project would make a cumulatively considerable contribution to cumulative traffic impacts at three study intersections ~~(**Class I)**~~, as follows:

- Cortona Drive/Hollister Avenue (P.M. peak hour additional trips = 57, LOS F)
- Los Carneros Road/U.S. 101 Southbound Ramps (P.M. peak hour additional trips = 135, LOS F)
- Los Carneros Road/Calle Koral (P.M. peak hour additional trips = 221, LOS E)

Coromar Drive/Hollister Avenue (A.M. peak hour additional trips = 35, and PM peak hour additional trips = 42, LOS F prior to signalization). The potential for installation of a traffic signal at this location was discussed in this Project's TIA, which stated that installation of a traffic signal would reduce the cumulative A.M. and P.M. peak hour traffic conditions at this location to less than significant levels (i.e. LOS C). Subsequent to the completion of the Project's TIA a signal was installed at this intersection as a project-specific mitigation measure associated with the approved Cabrillo Business Park to reduce that project's potential traffic impacts. ~~and the projected reduction in LOS has been achieved.~~ However, as shown in **Tables 4.13-13 and 4.13-14,** the Project's contribution to cumulative impacts at this location ~~may still be~~ would be cumulatively considerable and potentially significant. ~~Additional analysis is required to determine actual significance.~~

Mitigation measures consisting of specific improvements at each of the three intersections projected to operate at LOS D or worse with *Cumulative Plus Project* conditions, and a requirement that the Project contribute its fair share of the cost of the recently installed traffic signal at Coromar Drive/Hollister Avenue, are identified below in Section 4.13.5. These requirements would reduce the Project's contribution to cumulative effects to less than cumulatively considerable. (**Class II**).

Incremental but less than significant Project contribution to cumulative traffic impacts are noted at the remaining 16 study intersections.

Cumulative Traffic Signal Warrant Analysis

The traffic signal warrant analyses discussed ~~above~~ in Section 4.13.3 also evaluated~~, includes results for~~ cumulative and cumulative plus Project traffic conditions for the same five intersections. The results of the traffic signal warrant analysis for cumulative conditions is ~~as~~ summarized in **Table 4.13- 15**.

Table 4.13-15
Summary of Traffic Signal Warrant Analyses
Cumulative and Cumulative + Project Conditions

Study Intersection	Cumulative w/o Project	Cumulative With Project
Cortona Drive/Hollister Avenue	Satisfied	Satisfied
Coromar Drive/Hollister Avenue	Satisfied	Satisfied
Castilian Drive /Cortona Drive	Not Satisfied	Not Satisfied
Los Carneros Road/Cathedral Oaks Road	Satisfied	Satisfied
Los Carneros Road/Calle Real	Satisfied	Satisfied

As shown in **Table 4.13-15**, traffic signal ~~is~~ warrant~~ed~~ criteria are met at the following intersections under the *Cumulative Without Project* and *Cumulative With Project* conditions:

- Cortona Drive / Hollister Avenue
- Coromar Drive / Hollister Avenue
- Los Carneros Road / Cathedral Oaks Road
- Los Carneros Road / Calle Real

Corresponding cumulative intersection impacts of the Project that also meet the traffic signal warrant criteria include:

- Cortona Drive/Hollister Avenue
- Coromar Drive/Hollister Avenue

Coromar Drive/Hollister Avenue

Subsequent to the completion of the Project's TIA a traffic signal was installed at the Coromar Drive/Hollister Avenue intersection as a project-specific mitigation measure imposed on the approved Cabrillo Business Park. Implementation of mitigation identified in Section 4.13.5 requires the Project to pay its fair share contribution to the cost of the traffic signal to offset the Project's contribution to cumulative effects at Coromar Drive/Hollister Avenue (**Class II**).

Cortona Drive/Hollister Avenue

Based on the Supplemental Traffic Analysis prepared for this Project, March 31, 2014, the recent installation of a traffic signal at the Coromar Drive/Hollister Avenue intersection has produced an increase in gaps in traffic flow along Hollister Avenue approaching Cortona Drive. These traffic gaps facilitate turning movements at the Cortona Drive/Hollister Avenue intersection. Further review of traffic volume forecasts at this intersection under future cumulative with Project conditions indicate that the majority of turning movements from southbound Cortona Drive onto Hollister Avenue would be right-turn movements (i.e., AM peak hour: 100 right-turns, 9 left turns, PM peak hour: 212 right-turns, 19 left-turns). Therefore, given the relatively low forecast southbound cumulative left-turn volume at this intersection, as well as additional breaks/gaps in Hollister Avenue traffic flow resulting from the recently installed traffic signal at Coromar Drive/Hollister Avenue, an additional traffic signal at the Cortona Drive/Hollister Avenue intersection is not recommended. Implementation of intersection improvements identified in the Supplemental Traffic Analysis (2014) and provided below in Section 4.13-5, would reduce cumulative impacts at Cortona Drive/Hollister Avenue and the Project would make a less than considerable contribution to any remaining cumulative effects without requiring installation of a traffic signal at this intersection (**Class II**).

Castilian Drive/Cortona Drive Intersection

To determine whether other traffic control devices would be needed at the Castilian Drive/Cortona Drive intersection, the analysis considered the *Cumulative With Project* condition. As the minimum thresholds for Warrant No. 3 (peak hour) are not satisfied under any of the analysis conditions and this intersection is forecast to continue to operate at LOS C or better under all existing and future analysis conditions, implementation of other types of intersection traffic controls will not be necessary. In addition, a supplemental review was conducted to examine the individual movement and approach delays that could be experienced by motorists traversing through the intersection under the current two-way stop controlled operations. Under the corresponding *Cumulative With Project* scenario, the worst case delays and LOS are expected to occur at the westbound Cortona Drive approach of the intersection with the following forecasted delays and LOS operations (HCM data worksheets are provided in Appendix H):

AM peak hour: Westbound Approach Delay = 24.7, LOS C
PM peak hour: Westbound Approach Delay = 16.8, LOS C
The study concluded that the existing two-way stop sign would remain adequate to control traffic

at the Castilian Drive/Cortona Drive intersection under *Cumulative Plus Project* condition (**Class III**).

Cumulative Vehicle Queuing Los Carneros Road/Calle Koral Intersection

The Project will take vehicular access at its east boundary by constructing the fourth leg of the Los Carneros Road/Calle Koral intersection and would, therefore, contribute to cumulative vehicle volumes at this intersection. Accordingly, the Project will be required to make the necessary modifications to the existing traffic signal to accommodate the new fourth leg. In forecasting vehicle queuing, the Synchro software considers traffic volume data, lane configurations, traffic signal timing, left-turn phasing, and available vehicle storage for the respective traffic movements. The analysis was prepared using the *Cumulative Plus Project* A.M. and P.M. peak hour traffic volume forecasts and focused on evaluating key left-turn movements through the intersection. **Table 4.13-16** shows the forecast vehicle queuing at all the key left-turn movements under the cumulative + Project scenario during the A.M. and P.M. peak hours.

Table 4.13-16
Cumulative Vehicle Queuing at
Los Carneros Road/Calle Koral Intersection[a]

Left Turn Lane	Available Left-Turn Storage (feet)	Maximum Back of Queue[b] Cumulative + Project (feet)	
		AM Peak Hour	PM Peak Hour
NB Los Carneros Road	190	25[c]	27[c]
SB Los Carneros Road	200	169	188
EB Calle Koral	120	55	60
WB Calle Koral	100	41	95

[a] Based on Synchro Studio 8 Software
[b] Queue lengths represent the maximum back of queue with 95 percentile traffic volumes.
[c] Forecasted queue length calculated at less than one vehicle. Queue length of one vehicle = 25 feet (including space between stopped vehicles) is reported.

As shown, the available left-turn storage provided at the Los Carneros Road/Calle Koral intersection approaches are anticipated to accommodate the respective forecast 95th percentile vehicle queues under the *Cumulative Plus Project* condition. As a result, potential vehicle queuing would not exceed the existing left turn pocket capacity at this location and the Project's impact would be less than significant (**Class III**).

Roundabout Review for Los Carneros Road/Calle Real Intersection

An analysis of the Los Carneros Road/Calle Real intersection was prepared as part of the TIA to compare operations expected under an all-way stop sign control with those anticipated under the control of a roundabout. Los Carneros Road/Calle Real is a "T" intersection, previously controlled by a stop sign facing the westbound Calle Real approach with unrestricted flow on Los Carneros Road. Based on information provided by the City stop signs were installed at all approaches to the intersection for improved safety. To improve the traffic flow, a roundabout design was subsequently approved for this intersection and was constructed in 2012, although it was not completed at the time that this Project's TIA was prepared.

The Los Carneros Road/Calle Real roundabout was analyzed using the methodology included in the Highway Capacity Manual (HCM). According to the HCM, roundabouts share the same

basic control delay formulation with two-way and all-way stop controlled intersections, adjusting for the effect of yield control. This methodology estimates the average control delay in seconds per vehicle for each of the approaches and determines the LOS for each approach and for the intersection as a whole. Average control delay for any particular movement is a function of the capacity of the approach and the degree of saturation. The capacity of a roundabout approach is directly influenced by three flow patterns: the entering flow, the circulating flow, and the exiting flow. In general, a roundabout approach capacity decreases as the conflicting flow increases. A description of the HCM method and corresponding LOS is provided in the TIA.

The Los Carneros Road/Calle Real roundabout analysis was prepared using the *Cumulative Without Project* and *Cumulative Plus Project* A.M. and P.M. peak hour traffic volume forecasts. Summaries of the roundabout delay values and corresponding LOS during the weekday A.M. and P.M. peak hours are shown in **Table 4.13-17**.

Table 4.13-17
Roundabout Los Carneros Road/Calle Real Intersection

Intersection Traffic Control Operations	Cumulative w/o Project				Cumulative with Project			
	A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
All-Way Stop	14.91	B	18.46	C	15.23	C	19.55	C
Roundabout	11.26	B	17.69	C	11.52	B	18.51	C
Difference in Delays[a]	(3.65)	-	(0.77)	-	(3.71)	-	(1.04)	
[a] Difference in delays = Roundabout Delays – All-Way Stop Control Delays.								

For comparison purposes, Table 4.13-17 summarizes the corresponding delays and LOS for the Los Carneros Road/Calle Real intersection based on the all-way stop control methodology. This intersection is expected to operate at better overall delays and corresponding LOS under the roundabout configuration than with the all-way stop controlled operation. Therefore, use of the more conservative all-way stop control methodology in the evaluation of potential *Existing Plus Project* and *Cumulative Plus Project* impacts for this intersection, as analyzed in the TIA, would be appropriate. The Project's contribution to cumulative traffic at this intersection would be reduced under the roundabout traffic control condition and, therefore, would be less than cumulatively considerable (**Class III**).

Cumulative Congestion Management Program Impacts

Impact TR 8: Would Project-generated traffic volumes result in significant cumulative traffic impacts at study area CMP intersections based on CMP threshold criteria?

Significance Before Mitigation: Potentially Significant

As shown in Tables 4.13-15 and 4.13-16 the Storke Road/U.S. Highway 101 Southbound Ramps, Storke Road/Hollister Avenue, Los Carneros Road/U.S. Highway 101 Southbound Ramps, and Los Carneros Road/Hollister Avenue intersections are forecast to operate at LOS D or worse under the *Cumulative Plus Project* condition. With the exception of the Storke Road/U.S. 101 southbound ramps intersection, the Project is expected to contribute trips that

would exceed the CMP impact thresholds at the following CMP study intersections forecast to operate at LOS D or worse:

- Storke Road/Hollister Avenue
- Los Carneros Road/U.S. 101 Southbound Ramps
- Los Carneros Road/Hollister Avenue

The CMP requires member agencies to prepare deficiency plans for CMP system facilities located within their jurisdictions that exceed the CMP LOS standard. The City of Goleta has adopted a standard of LOS C with the ***exception*** of the Storke Road/Hollister Avenue, where LOS D is the acceptable operating standard. In addition, the *GP/CLUP Supplemental FEIR* lists transportation improvements required to maintain acceptable operations under the year 2030 cumulative build-out conditions. According to Table 3.13-13 in Section 3.13 (Transportation and Circulation) of the *GP/CLUP Supplemental FEIR*, these three CMP study intersections are forecast to operate at the following acceptable standards under the General Plan build-out ***with*** recommended transportation improvements:

- Storke Road/Hollister Avenue: P.M. Peak Hour *v/c* = 0.89, LOS D
- Los Carneros Road/U.S. 101 Southbound Ramps: P.M. Peak Hour *v/c* = 0.56, LOS A
- Los Carneros Road/Hollister Avenue: P.M. Peak Hour *v/c* = 0.78, LOS C

The Goleta Transportation Improvement Program (GTIP) allows the City to collect the funds required to implement the identified transportation improvements from new benefitting development and includes the programmed improvements at these intersections that would improve LOS operations to LOS C or better (LOS D or better at the Storke Road/Hollister Avenue intersection). With construction these improvements City standards and CMP consistency would be achieved. The Project would be required to contribute its pro rata share of fees to the GTIP for implementation of the planned improvements. Payment of the GTIP fees would reduce the Project's contribution to a less than cumulatively considerable level (**Class II**).

4.13.5 Mitigation Measures

Impact TR 1: The design of the Village Way connections to Los Carneros Road as well as the internal driveways within the Project site could result in safety concerns, should adequate corner sight distance and stopping sight distance not be provided.

TR 1-1: For all Project driveways along Village Way internal to the Project site, and the Village Way/Los Carneros intersection, adequate corner sight distance and stopping sight distance must be provided as specified in the City Engineering Design Standards adopted by City Council in 2002. To achieve adequate corner sight distances for in-Project driveways and the Los Carneros Road/Village Way intersection the Project will be required to:

a. Landscaping design must ensure that plant materials specified and installed at the Los Carneros Road/Village Way intersection do not exceed a height a 36 inches when mature for the distance shown in the in TIA Figure A-1. This will be achieved by restricting plant materials in this location to ground cover and dwarf shrubs such that a clear line-of-sight for a minimum intersection sight

distance of 480 feet is maintained. There must be no monument signage, trees, utility infrastructure or other feature in excess of 36 inches in height placed within the line of sight restricted area.

b. Unless otherwise approved and posted, the speed limit of 15 miles per hour must be enforced on Village Way. The developer must post signage, paint the speed limit on the paved street at intervals and, if needed as determined by the City's Traffic Engineer, install speed bumps to help maintain this speed limit to ensure pedestrian safety. Stop signs facing driveways entering into Village Way must be installed where more than one dwelling unit is served by a driveway. Where necessary due to road curvature or other condition such as building placement, landscape must be limited to a height of 36 inches and convex mirrors must be installed at the driveway intersection as an aid to drivers turning onto Village Way. Village Way must be stripped for crosswalks where needed to for pedestrian access. Handicapped crossings must be striped where needed if handicapped accessible parking spaces are not located adjacent to a curb.

Plan Requirements and Timing: Before the final map may be recorded, the detailed design plans for all internal roadways together with detailed landscape and utility plans must be submitted to the City's Director of Planning and Environmental Services, the City Engineer and City Traffic Engineer for review and approval. The plans must be prepared in accordance with City standards and include compliance with these mitigation measures. The City Traffic Engineer or Public Works Director, or designee, may require additional mitigations if needed to ensure that adequate site distance is provided both internal to the Project and at the Village Way/Los Carneros Road intersection and that all reasonable measures needed to ensure pedestrian safety, including the maintenance of a 15 MPH speed limit, are undertaken.

Monitoring: The Public Works Director, or designee, must approve the Applicant's roadway design and the Public Works Director together with the Director of Planning and Environmental Services must approve the detailed landscape plan before the final map may be recorded for the project and must ensure adequate performance of these improvements before the City issues any certificate of occupancy.

Impact TR 2: The Project would increase traffic volumes on local roadway segments. The increase along the roadway segment of Los Carneros Road south of Hollister Avenue would be significant.

TR 2-1: The Permittee must monetarily contribute the Project's pro rata share of the cost of the road widening improvements from 2-lanes to 4-lanes of the roadway segment of Los Carneros Road south of Hollister Avenue. The road widening has already been completed.

Plan Requirements and Timing: The Permittee must pay a traffic impact fee before the final map may be recorded.

Monitoring: The Public Works Director, or designee, must verify that payment of this fee has been made before recordation of the Final Map.

Cumulative Impacts

Impact TR 6: Project-generated traffic volumes would result in a cumulatively considerable contribution to significant cumulative impacts on Los Carneros Road south of Hollister Avenue.

TR 6-1: Mitigation Measure TR 2-1 would also mitigate the Project's cumulative contribution impact on the Los Carneros Road south of the Hollister Avenue segment.

Impact TR 7: Project-generated traffic volumes would result in significant cumulative traffic impacts at the following intersections:

- Cortona Drive/Hollister Avenue
- Los Carneros Road/U.S. 101 Southbound Ramps
- Los Carneros Road/Calle Koral

TR 7-1: The southbound approach to Hollister Avenue on Cortona Drive must be restriped to provide one left-turn lane and one right-turn lane. This improvement can be accommodated within the existing Cortona Drive roadway width. In addition, an existing two-way left-turn painted median on Hollister Avenue that begins at the Cortona Drive intersection and extends easterly, must be restriped to provide a formal refuge area for southbound left-turn movement onto Hollister Avenue where a motorist may wait for an appropriate gap in eastbound traffic before entering the travel lanes. This minor painted median restriping can be accommodated within the existing Hollister Avenue roadway width.

~~At the discretion of the Public Works Director, the Permittee must install, or pay for the Project's fair share for the construction of a traffic signal at the intersection of Cortona Drive / Hollister Avenue. The traffic signal must reduce the Project's contribution to the *v/c* of 0.018 and result in a LOS A for the A.M. peak hour and LOS B for the P.M. peak hour. Should another project implement these traffic improvements before the City issues the first certificate of occupancy for the Project, the developer must pay its fair share contribution toward the cost incurred to implement these improvements prior to issuance of the first certificate of occupancy. The signal improvements or contribution to these improvements must be implemented under one of the following scenarios:~~

~~Scenario #1: If another project has implemented these improvements, then the Permittee must pay the Project's fair share contribution to the developer of the improvements in accordance with any City reimbursement agreement in effect at that time for these improvements.~~

~~Scenario #2: The Permittee must execute an agreement with the City, in a form approved by the City Attorney, and provide a cash deposit covering the Project's fair share contribution to this improvement.~~

Plan Requirements and Timing: The design of the restriping ~~traffic signal~~ improvements must be reviewed and approved by the Director of Public Works, or designee, before the final map may be recorded. Before the City issues the first certificate of occupancy, the Project developer must ~~post a performance~~

~~security, in a form approved by the City Attorney, and~~ implement ~~construct~~ said improvements in accordance with approved plans.

~~Scenario #1: In the event that the Permittee pays a monetary contribution for the installation of the Cortona Drive / Hollister Avenue intersection signal improvements, such contribution must be paid pursuant to any applicable reimbursement agreement and before the final map is recorded.~~

~~Scenario #2: In the event that the Permittee enters into a Traffic Agreement for the improvements, the contribution must be paid before the recordation of the final map.~~

Monitoring:
~~In the event that the Permittee must pay a monetary contribution for the Cortona Drive / Hollister Avenue intersection signal improvements under scenarios 1, the~~ The Public Works Director, or designee, must verify ~~such payment was~~ implementation of the restriping improvements consistent with the approved plans. ~~agreement and/or applicable fees.~~

~~In the event that the Permittee enters into a Traffic Agreement under scenario 2, the Public Works Director, or designee, must verify payments were collected before the recordation of the final map and any additional terms identified in the Traffic Agreement are met.~~

TR 7-2: The Permittee must monetarily contribute the Project's pro rata share of the cost of the installation of a traffic signal at the intersection of Coromar Drive / Hollister Avenue, which has already been installed. Project-specific mitigation measures are conditioned for the approved Cabrillo Business Park project, consisting of the addition of a traffic signal at the Coromar Drive/Hollister Avenue intersection as identified in Development Plan conditions of approval for that project. Because these traffic improvements have been implemented before this Project has obtained a certificate of occupancy, the Permittee will be required to pay its fair-share contribution of the cost incurred ~~prior to recordation~~ before recording ~~of~~ the final map.

Plan Requirements and Timing: Before the City permits recordation of the Project's ~~a~~ final map ~~for the Project~~, the ~~project developer~~ Permittee must pay the Project's pro rata share of the cost of these improvements pursuant to any applicable reimbursement agreement.

Monitoring: When the ~~Project developer~~ Permittee pays its monetary contribution for the Coromar Drive / Hollister Avenue intersection signal improvements, the Public Works Director, or designee, must verify that the ~~such~~ payment was consistent with the Agreement.

TR 7-3: The City's Capital Improvements Plan (CIP) includes an improvement project to add a separate northbound right-turn on Los Carneros Road at the intersection of Los Carneros Road/US Highway 101 Southbound On-Ramp. This improvement is currently being designed under the direction of the City Public Works Department. Based on the Los Carneros Overhead Bridge Replacement Project

Traffic Study, this improvement would create an operational LOS C for operations at this intersection, including *Cumulative Plus Project* volumes.[8]

The Project would be subject by ordinance to ~~payment of~~ pay Development Impact Fees (DIFs) adopted for the purpose ensuring that development pays its fair share of the cost of transportation improvements associated with cumulative development from which it would benefit.

Plan Requirements and Timing:
Fees must be paid before the final map ~~may be~~ is recorded or the City issues any permit ~~a LUP~~ for the Project, whichever comes first. ~~Based on payment of these fees, the Project's contribution to cumulative impacts at the Los Carneros Road/US 101 SB ramps would be considered less than cumulatively considerable and less than significant.~~

Monitoring: The Public Works Director, or designee, must verify payment of the Project's DIF fees before the final map is recorded

TR 7-4: The Permittee must monetarily contribute to the cost of construction for the additional northbound through lane along Los Carneros Road. The northbound through lane has been constructed from approximately 350 feet south of the Los Carneros/Calle Koral intersection to align with the existing right turn lane north of the intersection. Full improvements for a northbound through lane are required as a mitigation measure for traffic impacts associated with the Cabrillo Business Park project (at the project level) and with the Village at Los Carneros Project (at the cumulative level) and identified as Development Plan conditions of approval in the EIRs for each respective project.

The Village at Los Carneros ~~applicant~~ Permittee must pay the Project's fair-share contribution to the developer of the Los Carneros northbound through lane improvements in accordance with any City reimbursement agreement for these improvements in effect at that time.

Plan Requirements and Timing:
The Permittee must pay a monetary contribution for the additional northbound through lane improvements. ~~such~~ The contribution must be paid pursuant to any applicable reimbursement agreement and before the final map is recorded ~~recordation of the final map~~.

Monitoring:
~~The Permittee must pay a monetary contribution for the additional northbound through lane improvements and~~ The Public Works Director, or designee, must verify that the ~~such~~ contribution was consistent with agreement or applicable fees before the final map is recorded.

[8] Los Carneros Overhead Bridge Replacement Project, Traffic Study, Dowling Associates, Inc. January 2010.

Cumulative Congestion Management Program Impacts

Impact TR 8: Project-generated traffic volumes would result in significant cumulative traffic impacts at the following CMP intersections:

- Storke Road/Hollister Avenue
- Los Carneros Road/US Highway 101 SB Ramps
- Los Carneros Road/Hollister Avenue

Mitigation Measure TR 7-3 for improvements to the Los Carneros Road/U.S. Highway 101 southbound ramps intersection for cumulative impacts would also mitigate for impacts under the CMP criteria.

TR 8-1: The Capital Improvements Program (CIP) includes an improvement project with options to add a free westbound right-turn lane on Hollister Avenue at the Storke Road/Hollister Avenue intersection. This improvement, along with restriping the intersection to accommodate an additional northbound through lane would mitigate the *Cumulative Plus Project* impacts.

The Project would be subject by ordinance to payment of Development Impact Fees (DIFs) adopted for the purpose of ensuring that new development pays its fair share of transportation improvements associated with cumulative development. Fees must be paid before recordation of the Final map. ~~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 GTIP was established to collect funds to implement future identified improvements within the City. The Storke Road/Hollister Avenue intersection is included in the GTIP although a specific method for improving this intersection has not been identified. The improvements are to be designed to achieve a LOS D operating condition during the PM peak hour. The Permittee ~~will be~~ is required to contribute fees to the GTIP fund.

Plan Requirements and Timing:
The payment of the City's traffic impact fee must occur before the final map may be recorded.

Monitoring:
The Public Works Director, or designee, must verify that payment of this fee has been made before recordation of the Final Map.

TR 8-2: The CIP includes an improvement project to install dual northbound and westbound left-turn lanes at the Los Carneros Road/Hollister Avenue intersection. This improvement would provide for LOS B (*v/c* 0.69) operations at the intersection with *Cumulative Plus Project* volumes.

The Project would be subject by ordinance to payment of Development Impact Fees (DIFs) adopted for the purpose of requiring projects to pay a fair share of transportation improvements associated with cumulative development. Fees

~~would~~ must be paid before the City approves recordation of the tract map or the City issues ~~issuance of~~ the first ~~LUP~~ permit for the Project; whichever occurs first. As a result of payment of these fees, the Project's contribution to cumulative impacts at the Hollister Avenue/Los Carneros Road intersection would be less than cumulatively considerable and is considered less than significant.

The GTIP was established to ensure that new development contributes its fair share of the funds required to implement identified transportation improvements within the City. The Los Carneros Road/Hollister Avenue intersection is included in the GTIP although a specific method for improving this intersection has not been identified. The improvements are to be designed to achieve a LOS D operating condition during the P.M. peak hour. The Permittee ~~will be required to~~ must contribute its fees to the GTIP fund.

Plan Requirements and Timing: The payment of the City's Traffic Impact Fee must occur before the final map may be recorded.

Monitoring: The Public Works Director, or designee, must verify that payment of this fee was made before the final map may be recorded.

4.13.6 Residual Impacts

With implementation of the mitigation measures identified above, the project's traffic impacts would be reduced to a less than significant level (**Class II**). (See the Traffic Impact Study provided in Appendix J for levels of service following implementation of these measures.)