APPENDIX F

TRAFFIC IMPACT ANALYSIS, FORRESTER CREEK INDUSTRIAL PARK

Linscott Law & Greenspan, March 5, 2009

LINSCOTT LAW & GREENSPAN
engineers

TRAFFIC IMPACT ANALYSIS

FORRESTER CREEK INDUSTRIAL PARK

El Cajon, California
March 5, 2009

LLG Ref. 3-05-1602

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FORRESTER CREEK INDUSTRIAL PARK

El Cajon, California
March 5, 2008

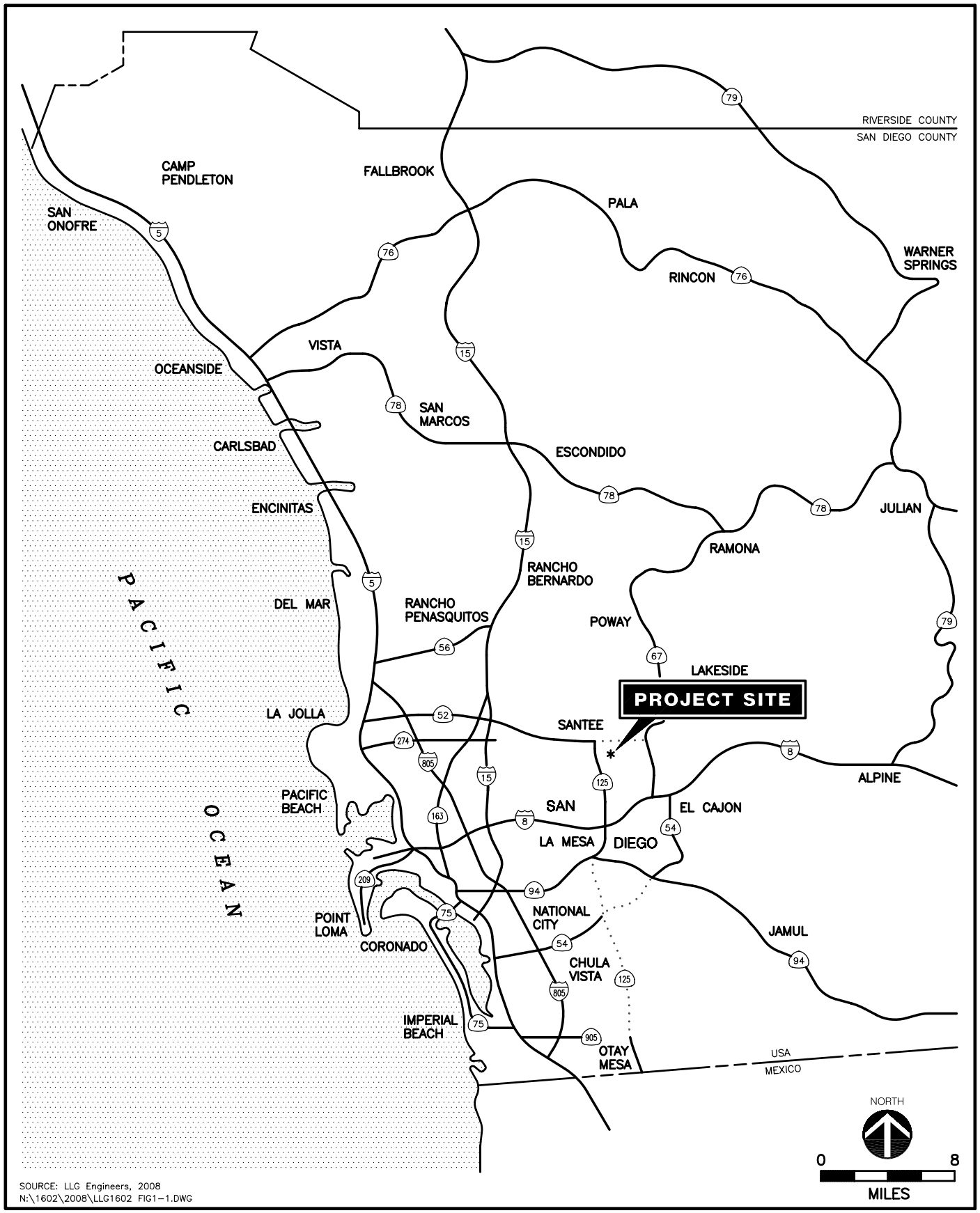
1.0 INTRODUCTION

Linscott, Law & Greenspan Engineers (LLG) has been retained to prepare a traffic study for the Forrester Creek Industrial Park project. The purpose of this study is to assess the impacts to the local circulation system as a result of a proposed 462,955 square feet industrial park. The project site is located on the northwest corner of the Cuyamaca Street and Weld Boulevard (N. Marshall Avenue) intersection in the City of El Cajon. Access to the site will be provided via Weld Boulevard, opposite Gillespie Way.

The traffic analysis presented in this report includes the following:

- Project description
- Existing conditions assessment
- Analysis Approach and Methodology
- Significance Criteria
- Near-term cumulative projects discussion
- Project traffic generation/distribution/assignment
- Near-term intersection/street segment capacity analysis
- Year 2030 Analysis
- Congestion Management Program Compliance
- Access Discussion
- Significance of Impacts / Mitigation Measures

Figure 1-1 shows the project vicinity and ***Figure 1-2*** depicts the site location.



SOURCE: LLG Engineers, 2008
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Figure 1-1

Vicinity Map

Forrester Creek Industrial Park

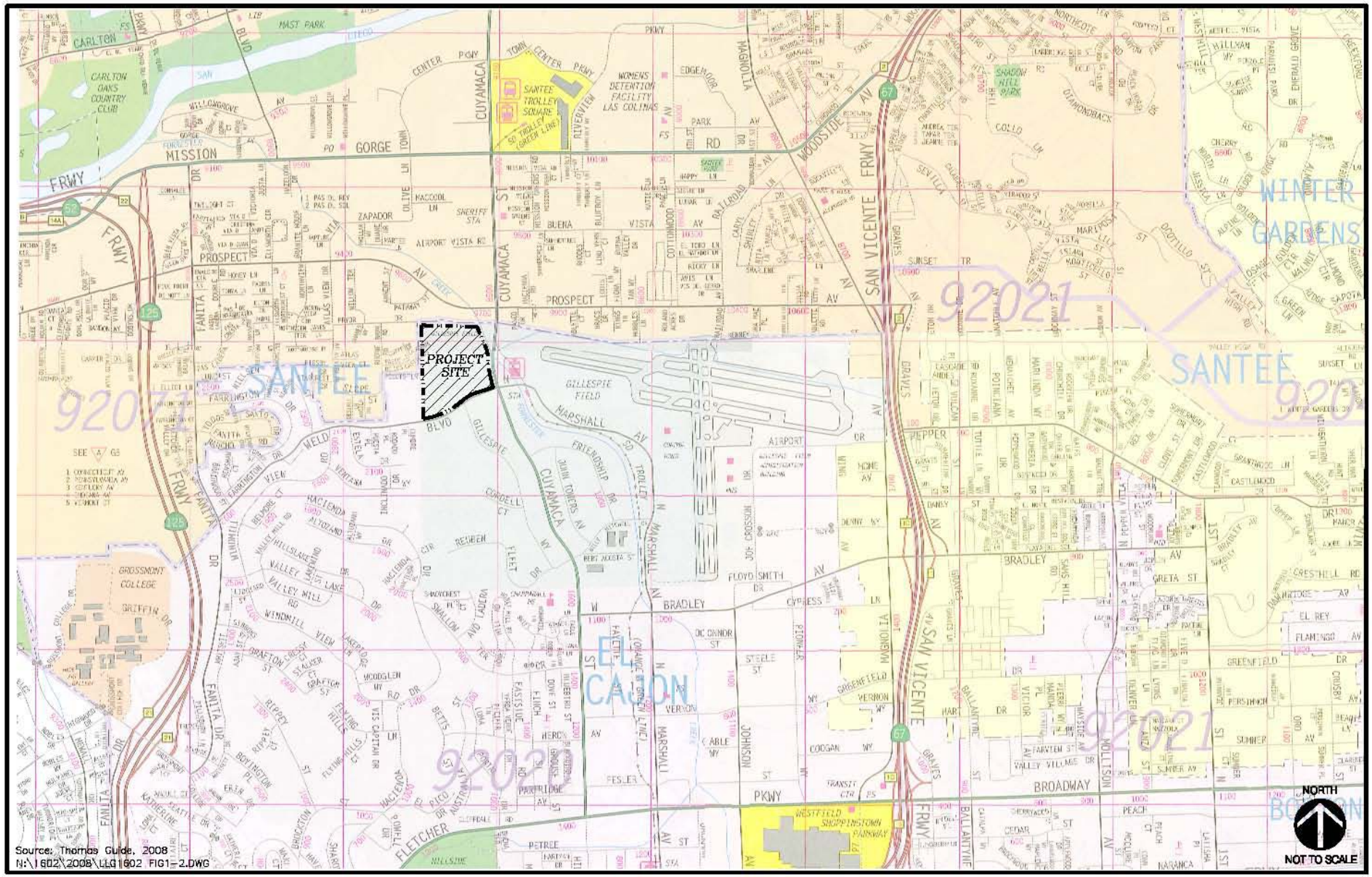

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Figure 1-2

Project Area Map

Forrester Creek Industrial Park

2.0 PROJECT DESCRIPTION

2.1 Existing Land Use Plan

The Forrester Creek Industrial Park is part of the Gillespie Field Airport, which consists of approximately 750 acres. The site is designated for commercial/industrial use by the Gillespie Field Special Development Area plan. Existing industrial development at Gillespie Field includes approximately 160 acres.

The City of El Cajon General Plan designates the site for open space uses. The proposed project will require a General Plan Amendment and a rezone to the M zone, which allows manufacturing type uses.

2.2 Project Location

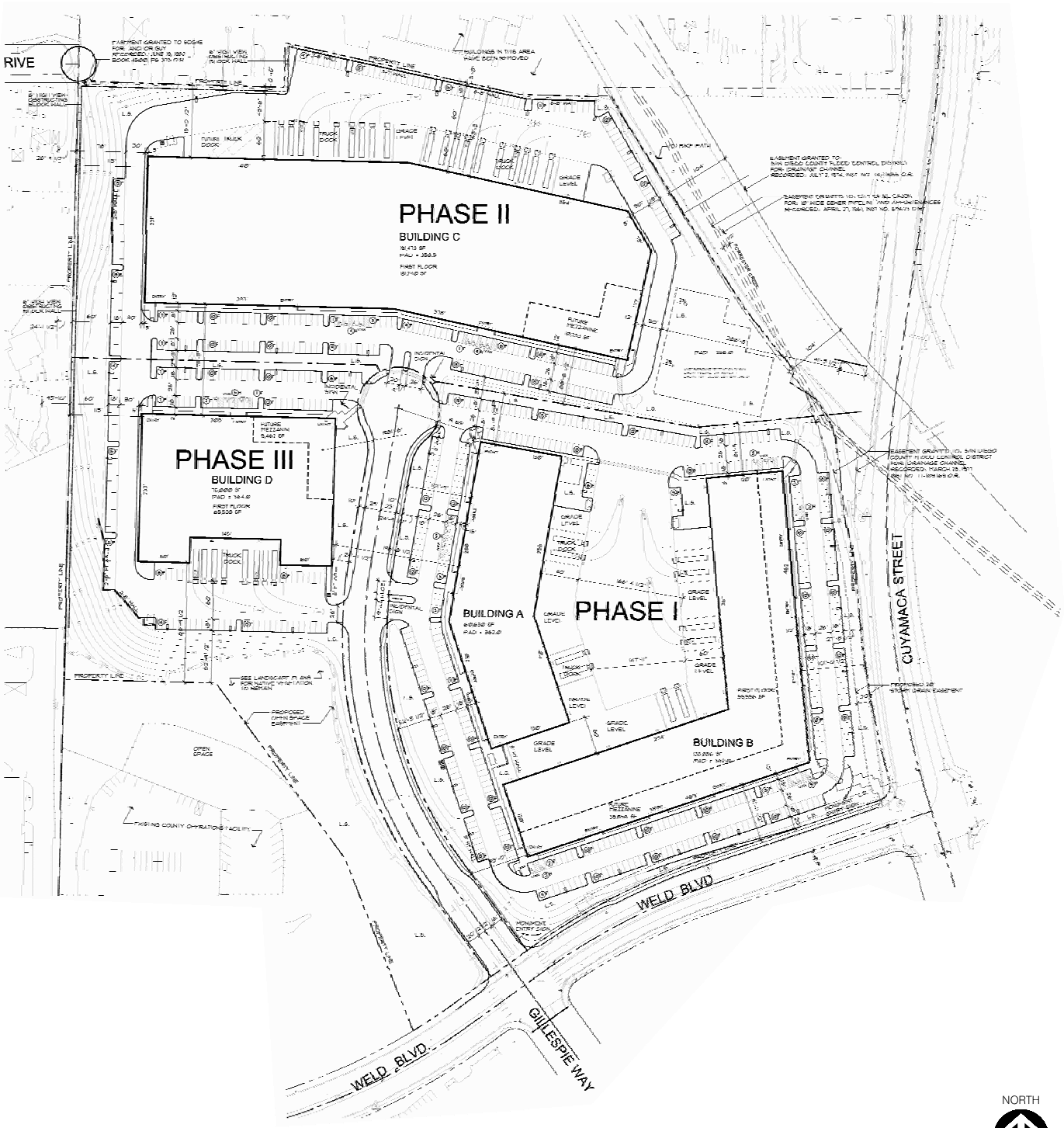
The project is located on the northwest corner of Weld Boulevard and Cuyamaca Street in the City of El Cajon. Site access will be provided via one driveway to Weld Boulevard opposite Gillespie Way.

2.3 Project Description

The Forrester Creek Industrial Park consists of approximately 31.5 acres and is part of the Gillespie Field Airport, which consists of approximately 750 acres. Gillespie Field Airport is owned and operated by the County of San Diego. The Forrester Creek Industrial Park Project consists of the development of 462,973 square feet Industrial Park. The project is planned to be built in three phases.

- Phase 1 – 196,500 square feet industrial park
- Phase 2 – 191,473 square feet industrial park
- Phase 3 – 75,000 square feet industrial park

Phase I will include the construction of a new project driveway opposite Gillespie Way and construction of three buildings on the southeast corner of the site. The Project Phase I is expected to be completed by mid-2011 and will include Buildings A and B. Phase II will include construction of Buildings C in the northwestern section of the property and should be completed by mid-2012. Phase III will include construction of the final Building D in the western section of the property and the overall project should be completed by 2013. ***Figure 2-1*** shows the conceptual site plan.



Source: Legacy Building Services, 2009
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Figure 2-1

Site Plan

Forrester Creek Industrial Park

3.0 STUDY AREA AND EXISTING CONDITIONS

3.1 Study Area

Based on the anticipated distribution of project traffic and discussions with City staff, the specific study area includes the following intersections:

Intersections

- Cuyamaca Street and Mission Gorge Road
- Cuyamaca Street and Prospect Avenue
- Fanita Drive and Weld Boulevard
- Gillespie Way / Weld Boulevard [a]
- Cuyamaca Street / Weld Boulevard (Marshall Avenue)
- Cuyamaca Street and West Bradley Avenue
- West Bradley Avenue and Marshall Avenue
- West Bradley Avenue and SR 67 Southbound Ramps
- West Bradley Avenue and SR 67 Northbound Ramps
- Grossmont College Drive and SR 125 Southbound Ramps
- Grossmont College Drive and SR 125 Northbound Ramps
- Fanita Drive and Grossmont College Drive [a]
- Cuyamaca Street and Fletcher Parkway

Note:

a. Unsignalized intersections. Remaining intersections are signalized.

3.2 Existing Street Network

The following is a brief description of the existing roadway system in the study area.

Weld Boulevard extends from Fanita Drive to Cuyamaca Street. At Cuyamaca Street, Weld Boulevard becomes Marshall Avenue. Weld Boulevard is a four-lane roadway that has a two-way left-turn median between Nielsen Street and Fanita Drive. The speed limit along Weld Boulevard in the vicinity of the project is 40 MPH.

Cuyamaca Street is classified as a Major Arterial within the City of Santee. It extends from Fletcher Parkway in El Cajon to just north of El Nopal in Santee. Cuyamaca Street varies as a four or six-lane roadway between Mission Gorge Road and Fletcher Parkway.

Mission Gorge Road is classified as a Major Arterial from the western Santee City limits to SR 125 and a Prime Arterial from SR 125 to Magnolia Avenue. Eight lanes are planned between SR 125 and Fanita Drive. This roadway extends from Magnolia Avenue in Santee to Interstate 8 in San Diego. It generally provides six travel lanes. The posted speed limit is 35-40 mph east of Mesa Road and 50-55 mph west of Mesa Road.

Prospect Avenue is classified as a Collector from Mesa Road to Cuyamaca Street and as a Major Arterial east of Cuyamaca Street. It is generally constructed as a two-lane roadway between Graves Avenue and Mesa Road. Portions of the roadway have been widened to Major Arterial standards as property has redeveloped along this roadway. Eventually, this roadway will be constructed as a four-lane major arterial. Existing uses along the roadway are predominantly industrial, and access is provided to adjacent properties.

Fanita Drive extends from Mission Gorge Road to Grossmont College Drive in El Cajon. It is currently constructed as three-lane (two lanes northbound) undivided roadway. It is a two-lane roadway between Gibbons Street and Grossmont College Drive. This roadway primarily provides access to residential and small commercial land uses. The posted speed limit is 45 mph.

Marshall Avenue extends from Cuyamaca Street to south of Fletcher Parkway in El Cajon. It is generally a four-lane undivided roadway with a center two-way-left-turn lane. The posted speed limit is 40 mph.

Bradley Avenue extends from Cuyamaca Street to east of SR 67 in El Cajon. It is generally a four-lane undivided roadway with a center two-way-left-turn lane. The posted speed limit is 45 mph.

Fletcher Parkway is currently constructed as six-lane divided roadway west of Cuyamaca Street and eight-lane divided roadway between Cuyamaca Street and Marshall Avenue. The posted speed limit ranges from 40 to mph in the study area.

Grossmont College Drive extends from east of Fanita Drive to west of SR 125. It is currently constructed as two-lane undivided roadway. There is no posted speed limit on this roadway .

State Route (SR) 67 extends generally north-south from Interstate 8 to the south to SR 78 in Ramona to the north. It is generally a four-lane freeway north of Prospect Avenue, and a six-lane freeway south of Prospect Avenue.

SR 52 is a four to six-lane freeway, which currently terminates at SR 125. SR 52 is currently being extended eastward to SR 67, with a half interchange at Fanita Drive and a full interchange at Cuyamaca Street and SR 67. This work is expected to be completed by the end of 2010.

SR 125 is a four to six-lane freeway, which extends from I-8 to SR 52. The terminus of SR 125 is signalized at Mission Gorge Road. There is no funding or a timetable for this extension of SR 125 northerly to the City of Poway.

Figure 3–1 depicts the existing conditions at the study area intersections.

3.3 Existing Traffic Volumes

3.3.1 *Peak Hour Intersection Turning Movement Volumes/ADT*

Existing AM and PM peak hour traffic volumes were collected at the key intersections to capture peak commuter activity. The AM and PM peak hour intersection turning movement counts were conducted in April 2008 and are shown on ***Figure 3-2***. ***Appendix A*** contains copies of the intersection count sheets.

3.3.2 *Daily Traffic Volumes*

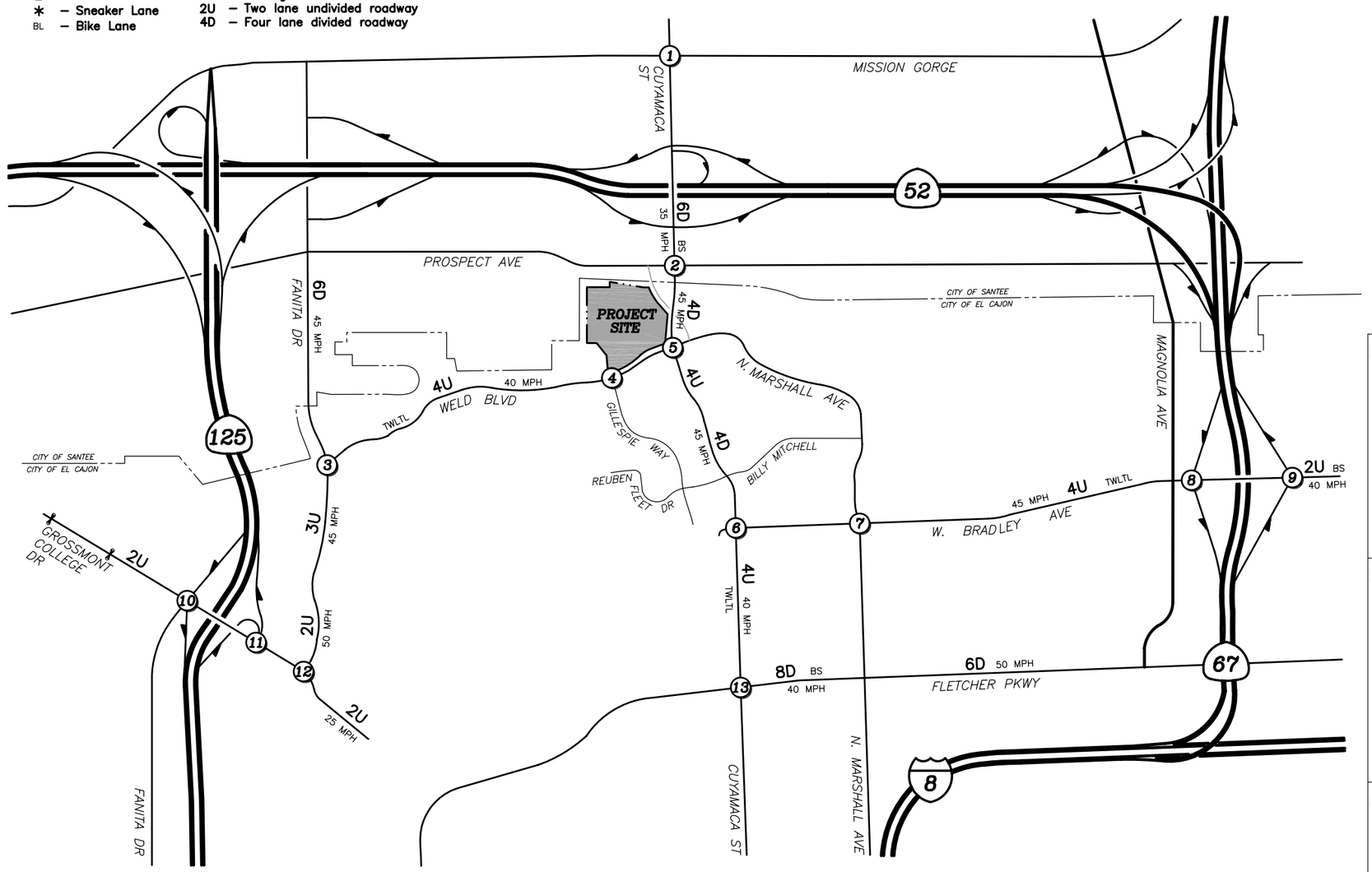
Table 3–1 is a summary of the average of the daily traffic (ADT) volumes conducted on April 8th and 9th, 2008. *Appendix A* contains the ADT count sheets.

TABLE 3–1
EXISTING TRAFFIC VOLUMES

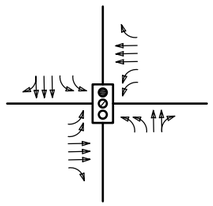
Street Segment	Daily Volumes
Weld Boulevard	
Gillespie Way to Cuyamaca Street	7,400
Cuyamaca Street	
Prospect Avenue to Weld Boulevard	14,600
Weld Boulevard to Bradley Avenue	19,900

LEGEND

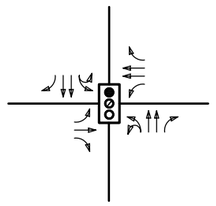
- Traffic Signal
- STOP – All-Way Stop
- STOP – Two-Way Stop
- * – Sneaker Lane
- BL – Bike Lane
- BS – Bus Stop
- NP – No Parking
- RTOL – Right Turn Overlap
- TWLTL – Two-Way Left-Turn Lane
- NRTOR – No Right-turn on Red
- 2U – Two lane undivided roadway
- 4D – Four lane divided roadway



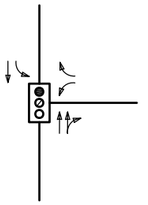
1 CUYAMACA ST / MISSION GORGE



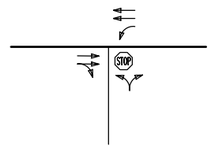
2 CUYAMACA ST / PROSPECT AVE



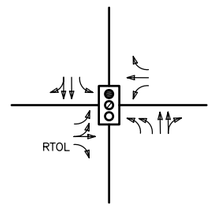
3 FANITA DR/ WELD BLVD



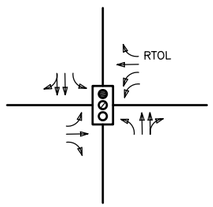
4 GILLESPIE WAY/ WELD BLVD



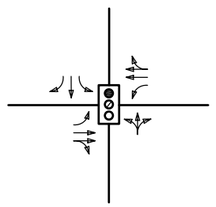
5 CUYAMACA ST/ N. MARSHALL AVE



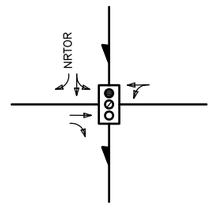
6 CUYAMACA ST/ BRADLEY ST



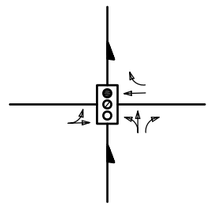
7 N. MARSHALL AVE/ W. BRADLEY AVE



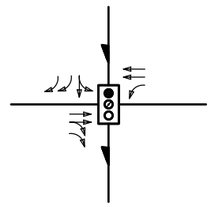
8 SR 67 SB RAMPS/ W. BRADLEY AVE



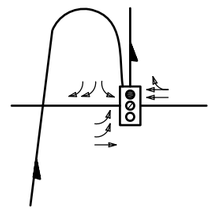
9 SR 67 NB RAMPS W. BRADLEY AVE



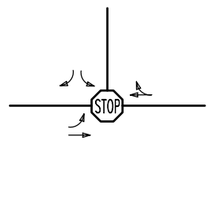
10 SR 125 SB RAMPS/ GROSSMONT COLLEGE DR



11 SR 125 NB RAMPS/ GROSSMONT COLLEGE DR



12 FANITA DR/ GROSSMONT COLLEGE DR



13 CUYAMACA ST/ FLETCHER PKWY

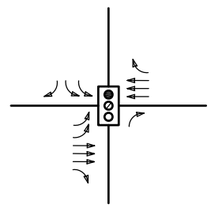


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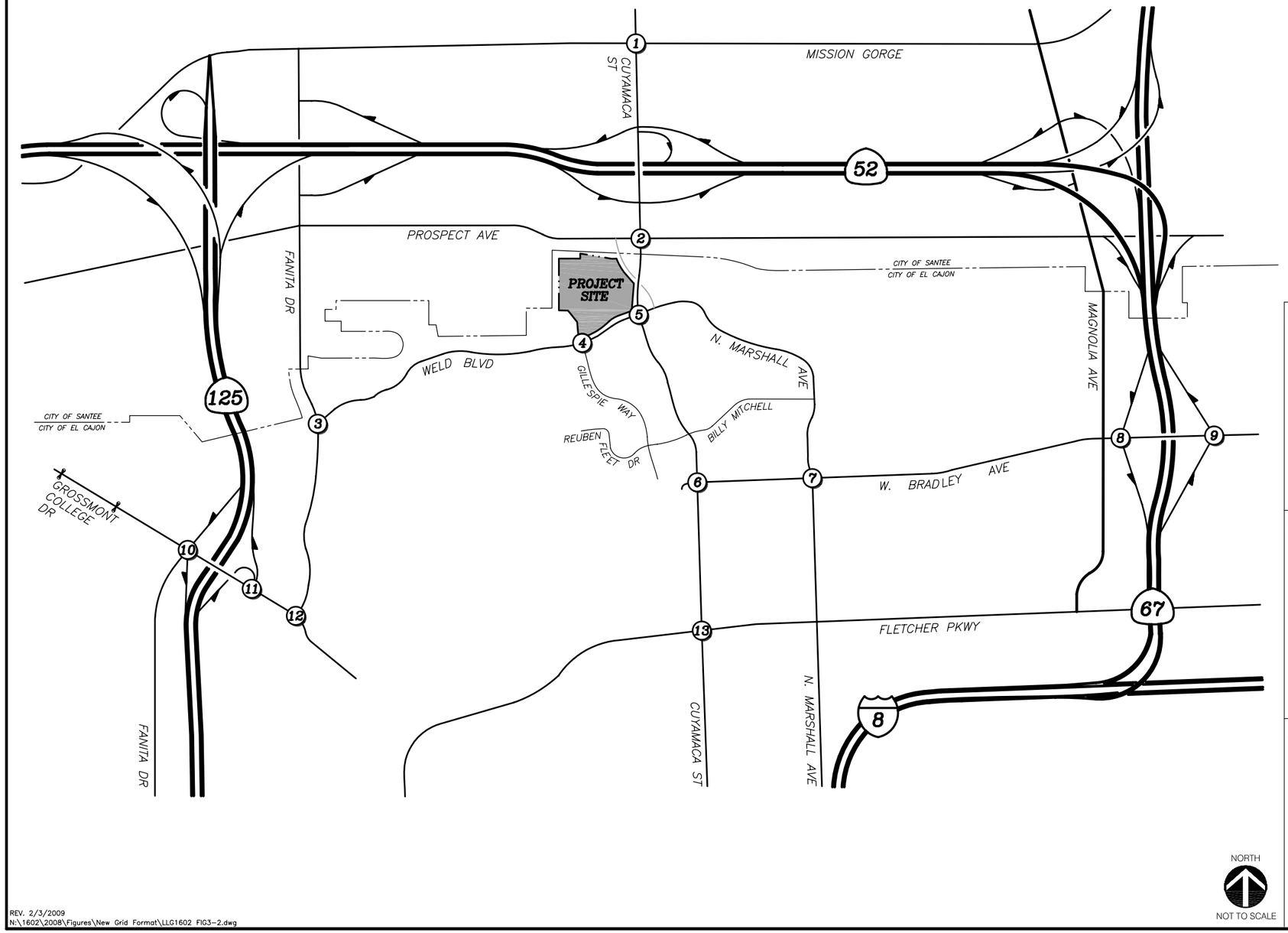
Figure 3-1

Existing Conditions Diagram

Forrester Creek Industrial Park

NOTES:

- AM/PM peak hour volumes are shown at the intersections



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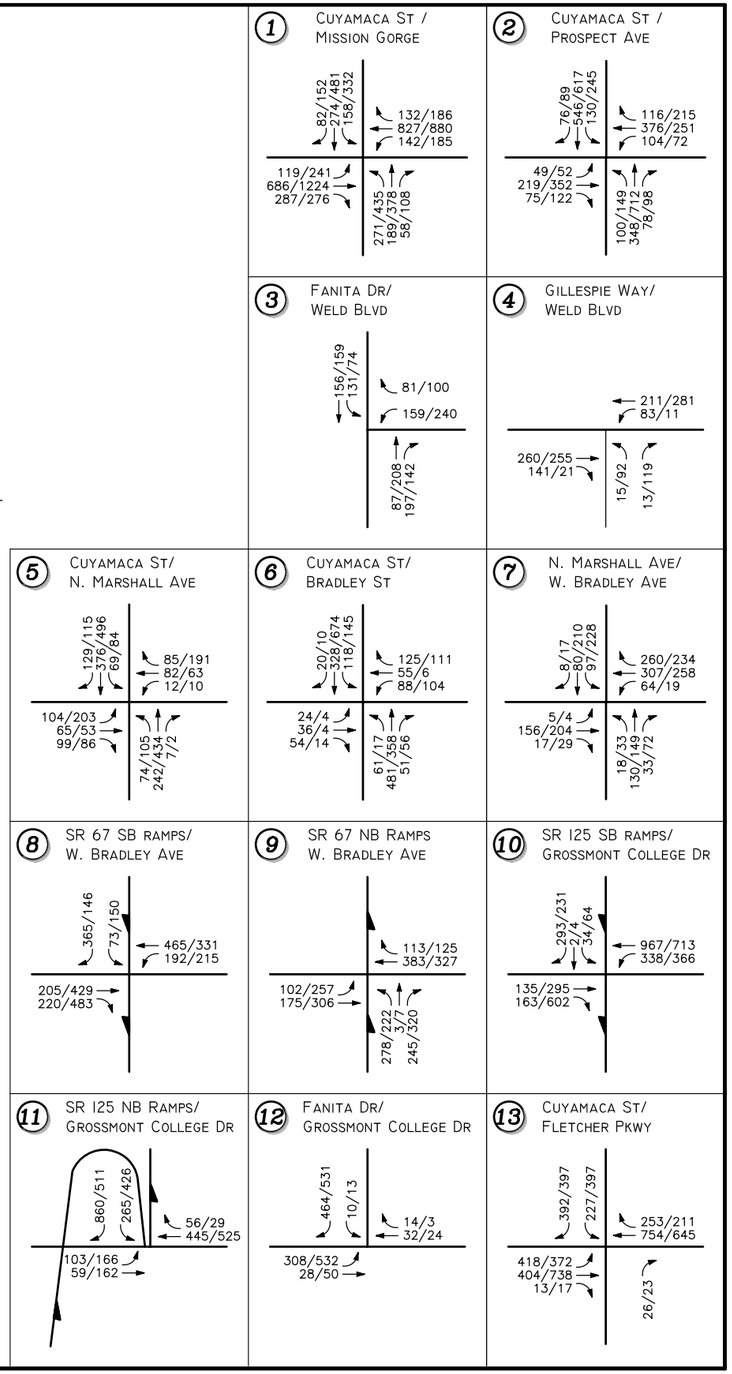

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Figure 3-2

Existing Traffic Volumes AM/PM Peak Hours

Forrester Creek Industrial Park

4.0 ANALYSIS APPROACH AND METHODOLOGY

4.1 Analysis Approach

The Study Area intersections and segments will be analyzed for the following Scenarios:

- Existing
- Existing + Cumulative Projects
- Existing + Cumulative Projects + Project Phase I
- Existing + Cumulative Projects + Project Phases I & II
- Existing + Cumulative Projects + Entire Project (Phases I, II & III)
- Year 2030 Without Project
- Year 2030 With Project

4.2 Analysis Methodology

Level of service (LOS) is the term used to denote the different operating conditions which occur on a given roadway segment under various traffic volume loads. It is a qualitative measure used to describe a quantitative analysis taking into account factors such as roadway geometries, signal phasing, speed, travel delay, freedom to maneuver, and safety. LOS provides an index to the operational qualities of a roadway segment or an intersection. LOS designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. LOS designation is reported differently for signalized and unsignalized intersections, as well as for roadway segments. ***Table 4-1*** summaries the description for each level of service.

4.2.1 *Intersections*

Signalized Intersections

For signalized intersections, LOS criteria are stated in terms of the average control delay per vehicle for a 15-minute analysis period. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Table 4-2 summarizes the delay thresholds for signalized intersections.

Level of service **A** describes operations with very low delay, (i.e. less than 10.0 seconds per vehicle). This occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.

Level of service **B** describes operations with delay in the range of 10.1 seconds to 20.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of Average delay.

Level of service **C** describes operations with delay in the range of 20.1 seconds to 35.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.

TABLE 4-1
INTERSECTION LEVEL OF SERVICE DESCRIPTIONS

Level of Service	Description
A	Occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	Generally occurs with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.
C	Generally results when there is fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
D	Generally results in noticeable congestion. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences.
F	Considered to be unacceptable to most drivers. This condition often occurs with over saturation i.e. when arrival flow rates exceed the capacity of the intersection. It may also occur at high volume-to-capacity ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

TABLE 4-2
LEVEL OF SERVICE THRESHOLDS FOR SIGNALIZED INTERSECTIONS

Average Control Delay Per Vehicle (Seconds/Vehicle)			Level of Service
0.0	≤	10.0	A
10.1	to	20.0	B
21.1	to	35.0	C
35.1	to	55.0	D
55.1	to	80.0	E
	≥	80.0	F

Level of service **D** describes operations with delay in the range of 35.1 seconds to 55.0 seconds per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or higher v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are more frequent.

Level of service **E** describes operations with delay in the range of 55.1 seconds to 80.0 seconds per vehicle. This is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.

Level of service **F** describes operations with delay in excess of 80.0 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with over-saturation (i.e., when arrival flow rates exceed the capacity of the intersection). It may also occur at high v/c ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

Unsignalized Intersections

For unsignalized intersections, level of service is determined by the computed or measured control delay and is defined for each minor movement. Level of service is not defined for the intersection as a whole. ***Table 4-3*** depicts the criteria, which are based on the Average control delay for any particular minor movement.

TABLE 4-3
LEVEL OF SERVICE THRESHOLDS FOR UNSIGNALIZED INTERSECTIONS

Average Control Delay Per Vehicle (Seconds/Vehicle)	Level of Service	Expected Delay to Minor Street Traffic
0.0 ≤ 10.0	A	Little or no delay
10.1 to 15.0	B	Short traffic delays
15.1 to 25.0	C	Average traffic delays
25.1 to 35.0	D	Long traffic delays
35.1 to 50.0	E	Very long traffic delays
≥ 50.0	F	Severe congestion

Level of Service F exists when there are insufficient gaps of suitable size to allow a side street demand to safely cross through a major street traffic stream. This level of service is generally evident from extremely long control delays experienced by side-street traffic and by queuing on the minor-street approaches. The method, however, is based on a constant critical gap size; that is, the critical gap remains constant no matter how long the side-street motorist waits.

LOS F may also appear in the form of side-street vehicles selecting smaller-than-usual gaps. In such cases, safety may be a problem, and some disruption to the major traffic stream may result. It is important to note that LOS F may not always result in long queues but may result in adjustments to normal gap acceptance behavior, which are more difficult to observe in the field than queuing.

4.2.2 *Street Segments*

Street segments were analyzed in the 2030 time frame, based upon the comparison of ADT to the San Diego County *Average Daily Vehicle Trips* table. ***Table 4-4*** provides segment capacities for different street classifications, based on traffic volumes and roadway characteristics.

TABLE 4-4
AVERAGE DAILY VEHICLE TRIPS

Circulation Element Roads		**Level Of Service**				
Class	**X-Section**	**A**	**B**	**C**	**D**	**E**
Expressway	126/146	<36,000	<54,000	<70,000	<86,000	<108,000
Prime Arterial	102/122	<22,200	<37,000	<44,600	<50,000	<57,000
Major Road	78/98	<14,800	<24,700	<29,600	<33,400	<37,000
Collector	64/84	<13,700	<22,800	<27,400	<30,800	<34,200
Collector (3-Lane)		<10,275	<17,100	<20,550	<23.,100	<25,650
Town Collector	54/74	≤3,000	≤6,000	≤9,500	≤13,500	≤19,000
Light Collector	40/60	<1,900	<4,100	<7,100	<10,900	<16,200
Rural Collector	40/84	<1,900	<4,100	<7,100	<10,900	<16,200
Light Collector	40/60	<1,900	<4,100	<7,100	<10,900	<16,200
Recreational Parkway	40/100	<1,900	<4,100	<7,100	<10,900	<16,200
Rural Mountain	40/100	<1,900	<4,100	<7,100	<10,900	<16,200
Non-Circulation Element Roads		**Level of Service**				
Class	**X-Section**	**A**	**B**	**C**	**D**	**E**
Residential Collector	40/60	*	*	<4,500	*	*
Residential Road	36/56	*	*	<1,500	*	*
Residential Cul-de-sac or Loop Road	32/52	*	*	< 200	*	*

* Levels of service are not applicable to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.

5.0 SIGNIFICANCE CRITERIA

The City of El Cajon follows the SANTEC/ITE Guidelines to determine project traffic impacts on its roadway network system.

According to the SANTEC/ ITE guidelines, a project is considered to have a significant impact if the new project traffic has decreased the operations of surrounding roadways by a defined threshold. The defined thresholds for roadway segments and intersections are defined in ***Table 5–1*** below. If the project exceeds the thresholds in *Table 5–1*, then the project may be considered to have a significant project impact. If an impact occurs in the near-term, it is considered a *direct project* impact. If the impact occurs in the long-term, it is considered a *cumulative project* impact. A feasible mitigation measure will need to be identified to return the impact within the thresholds (pre-project + allowable increase) or the impact will be considered significant and unmitigated.

TABLE 5–1
TRAFFIC IMPACT SIGNIFICANT THRESHOLDS

Level of Service with Project[a]	Allowable Increase Due to Project Impacts[b]					
	Freeways		Roadway Segments		Intersections	Ramp Metering
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec.)	Delay (min.)
D, E & F (*or ramp meter delays above 15 minutes*)	0.01	1	0.02	1	2	2[c]

a. Footnotes:

a. All level of service measurements are based upon HCM procedures for peak-hour conditions. However, V/C ratios for Roadway Segments may be estimated on an ADT/24-hour traffic volume basis (using Table 2 or a similar LOS chart for each jurisdiction). The acceptable LOS for freeways, roadways, and intersections is generally "D" ("C" for undeveloped or not densely developed locations per jurisdiction definitions). For metered freeway ramps, LOS does not apply. However, ramp meter delays above 15 minutes are considered excessive.

b. If a proposed project's traffic causes the values shown in the table to be exceeded, the impacts are deemed to be significant. These impact changes may be measured from appropriate computer programs or expanded manual spreadsheets. The project applicant shall then identify feasible mitigations (within the Traffic Impact Study [TIS] report) that will maintain the traffic facility at an acceptable LOS. If the LOS with the proposed project becomes unacceptable (see note a above), or if the project adds a significant amount of peak hour trips to cause any traffic queues to exceed on- or off-ramp storage capacities, the project applicant shall be responsible for mitigating significant impact changes.

b. General Notes:

1. V/C = Volume to Capacity Ratio
2. Speed = Arterial speed measured in miles per hour
3. Delay = Average stopped delay per vehicle measured in seconds for intersections, or minutes for ramp meters.
4. LOS = Level of Service

It should be noted that the SANTEC/ITE guidelines do not specify thresholds for the various qualitative analyses described in Section 4.2 above. For these analyses, LLG used engineering judgment to make determinations of significance.

6.0 ANALYSIS OF EXISTING CONDITIONS

6.1 Peak Hour Intersection Levels of Service

Table 6-1 summarizes the existing intersection operations. As seen in *Table 6-1*, all study area intersections are calculated to currently operate at LOS D or better except the unsignalized Fanita Drive / Grossmont College Drive intersection, which is calculated to operate at LOS F during the PM peak hour.

Past analyses of SR 67 / Bradley Avenue interchange have indicated that the interchange operates at LOS E or F. However, the analysis in this report determined better interchange operations with the SR 67 Southbound Ramps / Bradley Avenue intersection operating at LOS D during the AM peak hour and LOS C during the PM peak hour and the SR 67 Northbound Ramps / Bradley Avenue intersection operating at LOS C during the AM and PM peak hours. To verify these operations, field observations were made for a period of 45 minutes during the AM and PM peak hours at the two intersections. Though long queues were observed on some movements at both intersections, the stopped traffic was observed to clear the intersection at the end of each cycle, which is not indicative of LOS E/F operations.

The existing intersection analysis worksheets are included in ***Appendix B***.

TABLE 6–1
EXISTING INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing	
			Delay [a]	LOS [b]
1. Cuyamaca St / Mission Gorge Rd	Signal	AM	24.8	C
		PM	30.5	C
2. Cuyamaca St / Prospect Ave	Signal	AM	21.7	C
		PM	31.1	C
3. Fanita Dr / Weld Blvd	Signal	AM	8.6	A
		PM	9.7	A
4. Weld Blvd / Gillespie Way	TWSC [c]	AM	13.0	B
		PM	11.8	B
5. Cuyamaca St / Weld Blvd	Signal	AM	16.1	B
		PM	20.3	C

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. TWSC - Two-Way Stop Controlled intersection. Minor street left turn delay is reported.

Signalized Intersection		Unsignalized Intersections	
Delay	LOS	Delay	LOS
0.0 < 10.0	A	0.0 < 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
> 80.1	F	> 50.1	F

TABLE 6–1 (CONTINUED)
EXISTING INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing	
			Delay[a]	LOS[b]
6. Cuyamaca St / W. Bradley Ave	Signal	AM	18.7	B
		PM	17.8	B
7. Marshall Ave / W. Bradley Ave	Signal	AM	14.8	B
		PM	17.0	B
8. SR 67 SB Ramps / W. Bradley Ave	Signal	AM	43.1	D
		PM	29.7	C
9. SR 67 NB Ramps / W. Bradley Ave	Signal	AM	23.6	C
		PM	30.8	C
10. Grossmont College Dr / SR 125 SB Ramps	Signal	AM	19.2	B
		PM	19.2	B
11. Grossmont College Dr / SR 125 NB Ramps	Signal	AM	27.0	C
		PM	22.8	C
12. Fanita Dr / Grossmont College Dr	AWSC[c]	AM	17.7	C
		PM	**66.1**	**F**
13. Cuyamaca St / Fletcher Pkwy	Signal	AM	10.4	B
		PM	9.8	A

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. AWSC – All-Way Stop Controlled intersection.

Signalized Intersection		Unsignalized Intersections	
Delay	**LOS**	**Delay**	**LOS**
0.0 < 10.0	A	0.0 < 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
> 80.1	F	> 50.1	F

7.0 CUMULATIVE PROJECTS

A list of cumulative projects was developed in consultation with the City of El Cajon Staff and, research conducted at the County of San Diego and the City of Santee. A total of 9 cumulative projects were identified and are listed in ***Table 7-1***. *Table 7-1* also summarizes the trip generation for the cumulative projects. These projects in the nearby area will potentially add traffic to the roadway and intersections in the study area.

1. **Gillespie Field Redevelopment** - is in screen draft stage. This project is located to the north and west of the intersection of the Bradley Avenue / Wing Boulevard intersection. This is a 70-acre redevelopment project. The change in land use will allow for future aviation development.

2. **Princess Joann** – is a proposed residential development. This site is located at the eastern boundary of the City of Santee on the east side of Magnolia Avenue between Kerrigan Street and Princess Joann Road. This project consists of the development of 24 acres of the 119-acres site, with 39 single family homes and open space. This project is calculated to generate 290 ADT with 23 AM peak hour trips and 29 PM peak hour trips.

3. **Santee Office Park** – is a proposed mixed-use project with retail, multi-family residential and commercial. This project is located north of Mission Gorge Road, between Cuyamaca Street and Magnolia Avenue. This project includes 250 units of multifamily residential, 3,300 seat multiplex theatre, 2-acres of retail, and 2.02 million square feet of office space. This project is calculated to generate 35,639 ADT with 3,286 AM peak hour trips and 3,875 PM peak hour trips.

4. **River Walk Residential** - is a proposed residential development. This site is located north of Mission Gorge Road and east of Cuyamaca Street in the City of Santee. This project includes 230 single family residential units. This project is calculated to generate 2,300 ADT with 184 AM peak hour trips and 230 PM peak hour trips.

5. **Fanita Ranch** – is a residential development with retail and commercial mostly serving the development. The project is located north of Mast Boulevard between Fanita Parkway and Cuyamaca Street in the City of Santee. The project includes 1,380 units of single family residential, a 22-room inn, office, retail, nursery and 61.6 acres of public parks. This project is calculated to generate 18,770 ADT with 1,253 AM peak hour trips and 1,554 PM peak hour trips.

6. **Edgemoor Skilled Nursing Facility** – is a proposed nursing facility. This site is located south of Mast Boulevard, west of Cottonwood Avenue. The project consists of a 192-bed skilled nursing facility. This project is calculated to generate 576 ADT with 40 AM peak hour trips and 40 PM peak hour trips.

TABLE 7–1
CUMULATIVE PROJECTS TRIP GENERATION

Project Name	Size	Daily Trip Ends (ADT)		AM Peak Hour					PM Peak Hour				
		Rate [a]	Volume	% of ADT	In:Out Split	Volume			% of ADT	In:Out Split	Volume		
						In	Out	Total			In	Out	Total
1. Gillespie Field Redevelopment [a]													
2. Princess Joann (Single Family Residential)	29 DU	10 /DU	290	8%	3 :7	7	16	23	10%	7 :3	20	9	29
3. Santee Office Park (Mixed-Use)			16,714			1,081	245	1,326			648	1,172	1,820
4. River Walk (Single Family Residential)	230 DU	10 /DU	2,300	8%	3 :7	55	129	184	10%	7 :3	161	69	230
5. Fanita Ranch (Residential / Retail)			9,385			206	421	627			530	247	777
6. Edgemoor Skilled Nursing Facility (Nursing Facility)	192 Beds	3 /Bed	576	7%	6 :4	24	16	40	7%	4 :6	16	24	40
7. TM 5383 - Home of the Guiding Hands - (Single Family Residential)	62 DU	10 /DU	620	8%	3 :7	15	35	50	10%	7 :3	43	19	62
8. TM 5214 - Lakeside Downs (Single Family Residential)	147 DU	10 /DU	1,470	8%	3 :7	35	83	118	10%	7 :3	103	44	147
9. TM 5396 - Silversage Condominiums (Multi-Family Residential)	80 DU	8 /DU	640	8%	2 :8	10	41	51	10%	7 :3	45	19	64
Total [a]			**31,995**			**1,433**	**986**	**2,419**			**1,566**	**1,603**	**3,169**

Footnotes:

a. The total does not include trips generated by Gillespie Field Redevelopment project since the project description is not known.

7. **TM 5383 (Home of the Guiding Hands)** - is a residential project. This project is located at 10025 Los Ranchitos Road. The project consists of 62 single family residential units. This project is calculated to generate 620 ADT with 50 AM peak hour trips and 62 PM peak hour trips.

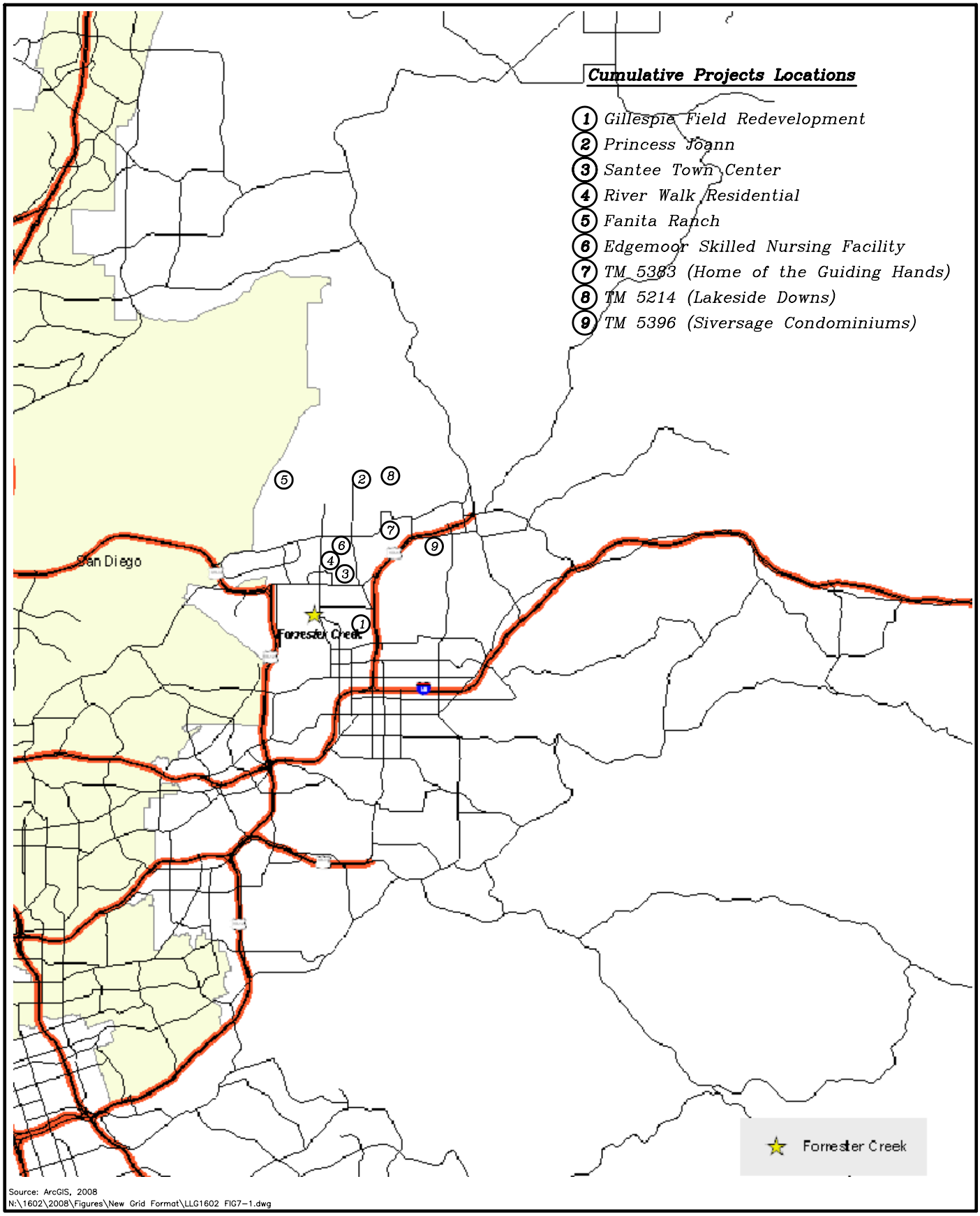
8. **TM 5214 (Lakeside Downs) APN 377-111-32; 377-112-29, 30, 31; 379-011-01, 02; 379-040-032** - is a residential project. The project consists of 147 single family residential units. This project is calculated to generate 1,470 ADT with 118 AM peak hour trips and 147 PM peak hour trips.

9. **TM 5396 (Silver Sage Condominiums)** - is a residential project. This project is located at 11719-49 Woodside Avenue. The project consists of 80 multi-family residential units. This project is calculated to generate 640 ADT with 51 AM peak hour trips and 64 PM peak hour trips.

7.1 Summary of Cumulative Projects Trips

Figure 7-1 depicts the locations of the 9 cumulative projects, while ***Figure 7-2*** shows the total cumulative project traffic volumes. The existing + project + cumulative projects traffic volumes are shown on ***Figure 7-2***.

The individual assignment worksheets are included in ***Appendix C***.



Source: ArcGIS, 2008
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NORTH

NOT TO SCALE

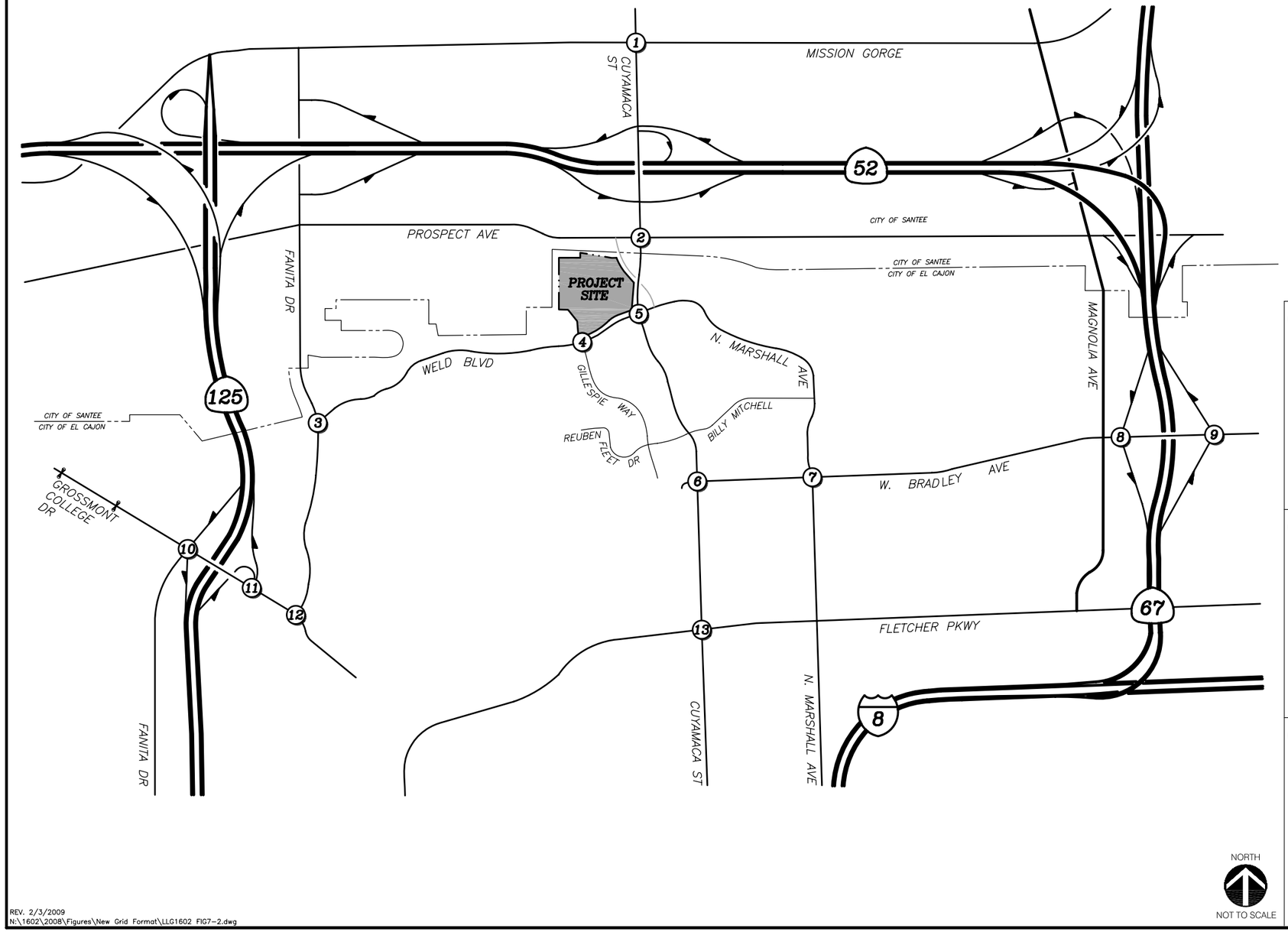
Figure 7-1

Cumulative Projects Location Map

Forrester Creek Industrial Park

NOTES:

- AM/PM peak hour volumes are shown at the intersections



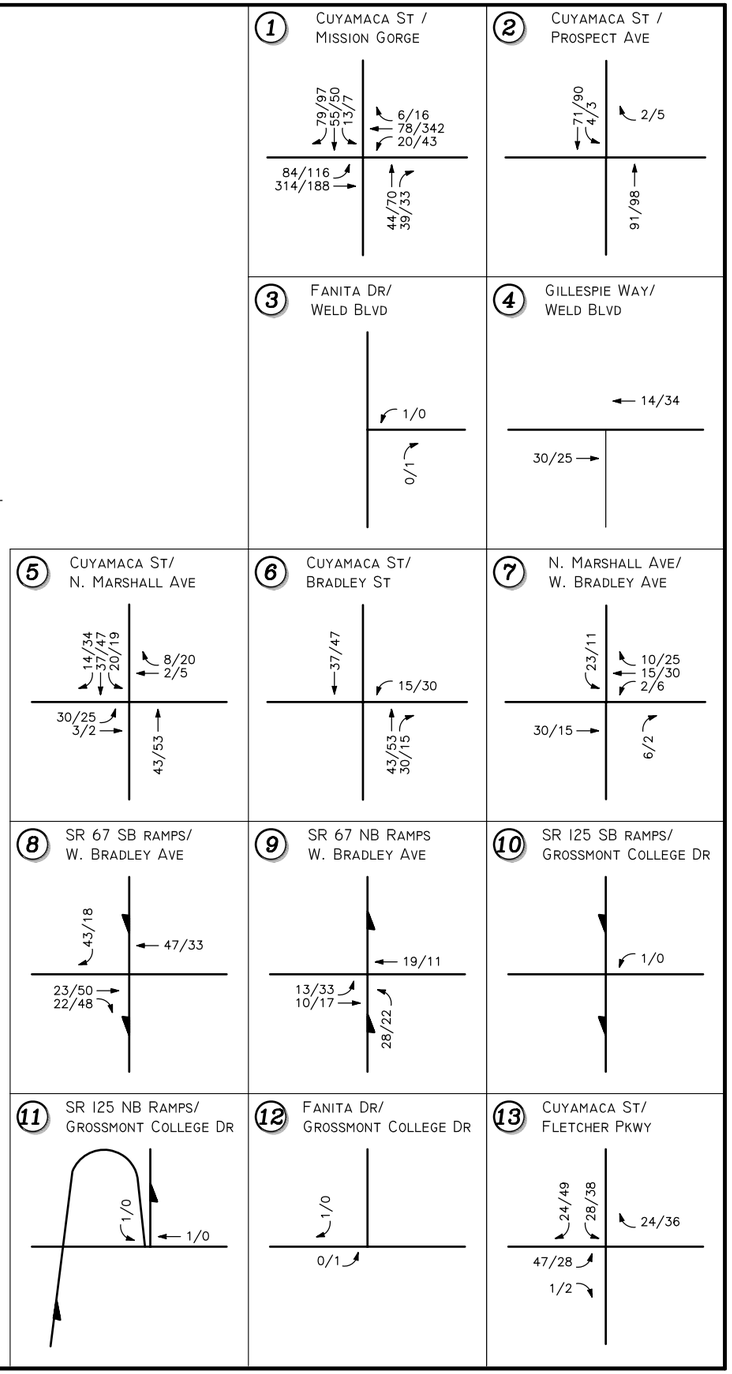


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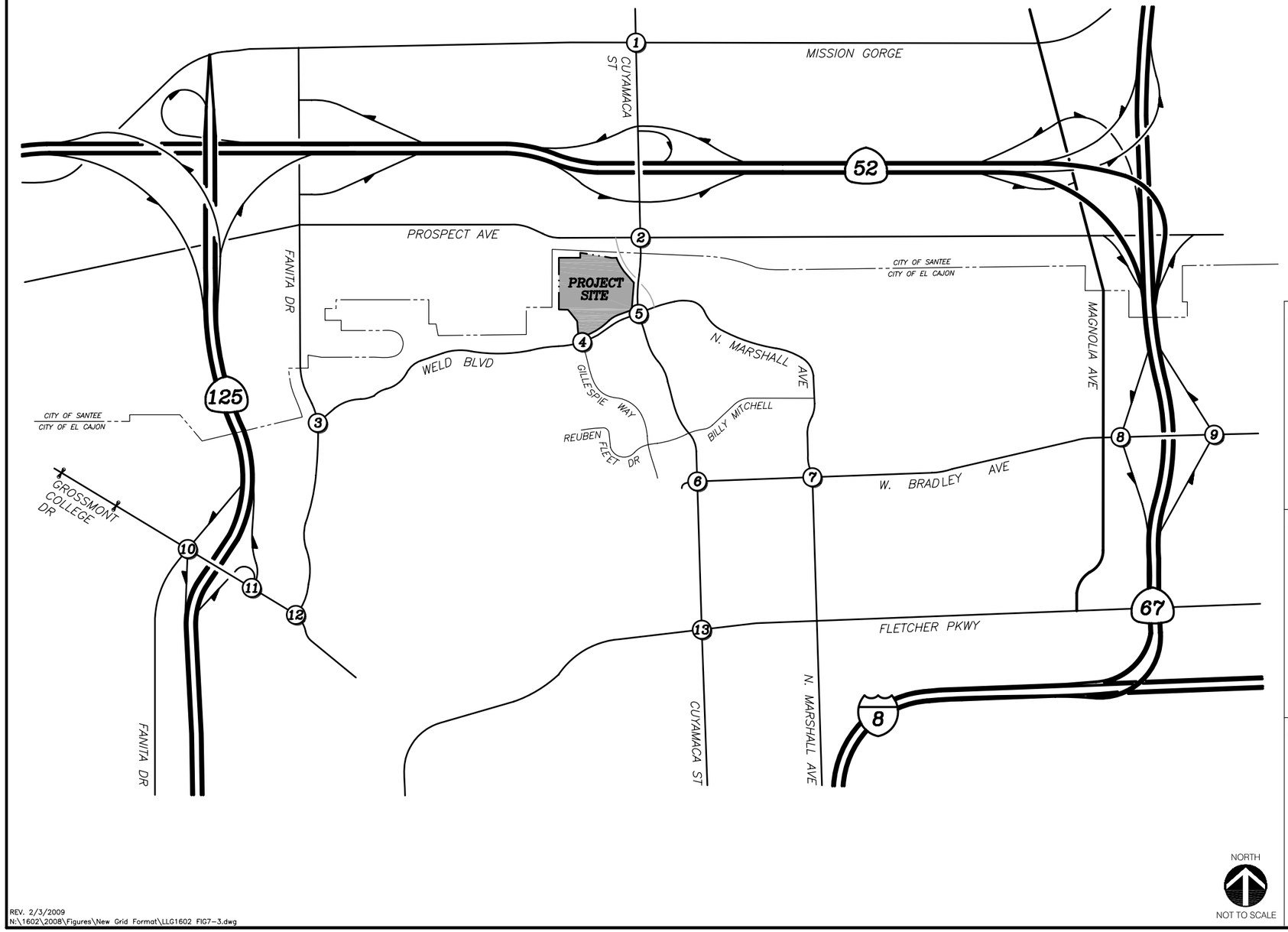
Figure 7-2

Cumulative Projects Traffic Volumes AM/PM Peak Hours

Forrester Creek Industrial Park

NOTES:

- AM/PM peak hour volumes are shown at the intersections



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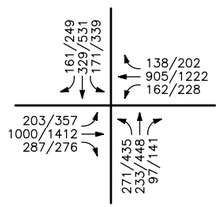
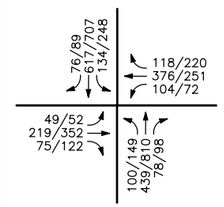
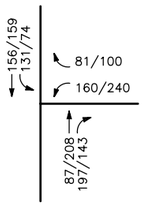
1 Cuyamaca St / Mission Gorge



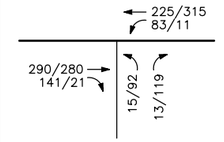
2 Cuyamaca St / Prospect Ave



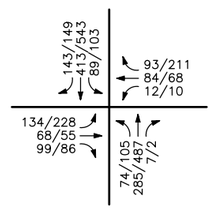
3 Fanita Dr/ Weld Blvd



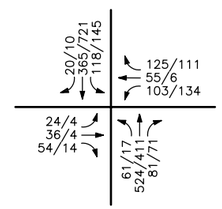
4 Gillespie Way/ Weld Blvd



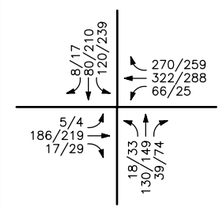
5 Cuyamaca St/ N. Marshall Ave



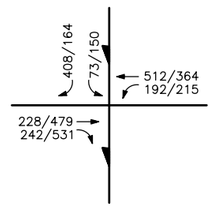
6 Cuyamaca St/ Bradley St



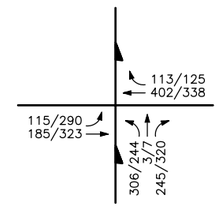
7 N. Marshall Ave/ W. Bradley Ave



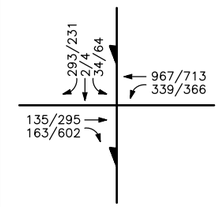
8 SR 67 SB ramps/ W. Bradley Ave



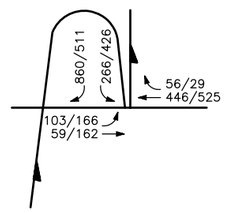
9 SR 67 NB Ramps W. Bradley Ave



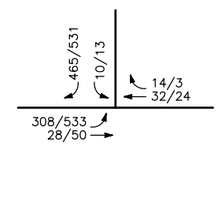
10 SR 125 SB ramps/ Grossmont College Dr



11 SR 125 NB Ramps/ Grossmont College Dr



12 Fanita Dr/ Grossmont College Dr



13 Cuyamaca St/ Fletcher Pkwy

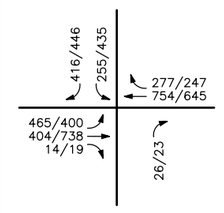


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Figure 7-3

Existing + Cumulative Projects Traffic Volumes AM/PM Peak Hours

Forrester Creek Industrial Park

8.0 TRIP GENERATION/DISTRIBUTION/ASSIGNMENT

8.1 Trip Generation

The Forrester Creek Industrial Park Project consists of the development of 462,973 square feet Industrial Park. The project is planned to be built in three phases.

- Phase 1 – 196,500 square feet light industrial
- Phase 2 – 191,473 square feet light industrial
- Phase 3 – 75,000 square feet light industrial

The trip generation rate is based on the *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002,* published by SANDAG. The document has several categories for Industrial land uses. Base on information provided specifically for the Forrester Creek Industrial Park project, the land use that most closely matches the land use for the project is "Industrial Park (no commercial)". Traffic volumes expected to be generated by the development are based upon a trip rate of 8 trips per 1,000 square feet.

Table 8–1 tabulates the raw project trip generation for Forrester Creek Industrial Park.

8.2 Project Trip Generation Without Truck Traffic

The following paragraphs summarize the estimated project traffic based on trip rates. Since this is an industrial park, a significant amount of truck traffic is expected to be generated. This is explained further in Section 8.3.

8.2.1 *Project Phase I Trip Generation*

As seen in *Table 8–1*, Phase I of the Project is calculated to generate approximately 1,572 ADT with 173 trips (156 inbound / 17 outbound) during the AM peak hour and 189 trips (38 inbound / 151 outbound) during the PM peak hour.

8.2.2 *Project Phase II Trip Generation*

As seen in *Table 8–1*, Phase II of the Project is calculated to generate approximately 1,532 ADT with 169 trips (152 inbound / 17 outbound) during the AM peak hour and 184 trips (37 inbound / 147 outbound) during the PM peak hour.

8.2.3 *Project Phase III Trip Generation*

As seen in *Table 8–1*, Phase III of the Project is calculated to generate approximately 600 ADT with 66 trips (59 inbound / 7 outbound) during the AM peak hour and 72 trips (14 inbound / 58 outbound) during the PM peak hour.

8.2.4 *Entire Project Trip Generation (Without Accounting For Trucks*

As seen in *Table 8–1*, the entire project (Phases I, II & III) is calculated to generate approximately 3,704 ADT with 407 trips (366 inbound / 41 outbound) during the AM peak hour and 444 trips (89 inbound / 355 outbound), during the PM peak hour.

TABLE 8–1
PROJECT TRIP GENERATION

Description	Size	Daily Trip Ends (ADT)		AM Peak Hour					PM Peak Hour				
		Rate[a]	Volume	% of ADT	In:Out Split	Volume			% of ADT	In:Out Split	Volume		
						In	Out	Total			In	Out	Total
Phase I (Buildings A & B)													
Industrial Park (No commercial)	196,500 SF	8 /1,000 SF	1,572	11%	90 :10	156	17	173	12%	20 :80	38	151	189
No of Trucks (10% of Total Volume)			157			16	2	18			4	15	19
Truck PCE[b]			236			24	3	27			6	23	29
Passenger Cars Only			1,415			140	15	155			34	136	170
Total Phase I Traffic with PCE			**1,651**			**164**	**18**	**182**			**40**	**159**	**199**
Phase II (Buildings C)													
Industrial Park (No commercial)	191,473 SF	8 /1,000 SF	1,532	11%	90 :10	152	17	169	12%	20 :80	37	147	184
No of Trucks (10% of Total Volume)			153			15	2	17			4	15	19
PCE[b]			230			23	3	26			6	23	29
Passenger Cars Only			1,379			137	15	152			33	132	165
Total Phase II Traffic with PCE			**1,609**			**160**	**18**	**178**			**39**	**155**	**194**
Phase III (Building D)													
Industrial Park (No commercial)	75,000 SF	8 /1,000 SF	600	11%	90 :10	59	7	66	12%	20 :80	14	58	72
No of Trucks (10% of Total Volume)			60			6	1	7			1	6	7
Truck PCE[b]			90			9	2	11			2	9	11
Passenger Cars Only			540			53	6	59			13	52	65
Total Phase III Traffic with PCE			**630**			**62**	**8**	**70**			**15**	**61**	**76**
Entire Project													
Industrial Park (No commercial)	462,973 SF	8 /1,000 SF	3,704	11%	90 :10	366	40	407	12%	20 :80	89	355	444
No of Trucks (10% of Total Volume)			370			37	5	42			9	36	45
Truck PCE [b]			556			56	8	64			14	55	69
Passenger Cars Only			3,334			330	36	366			80	320	400
Total Project Traffic with PCE			**3,890**			**386**	**44**	**430**			**94**	**375**	**469**

Footnotes:

a. Rate is based on the *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, April 2002, by SANDAG

b. PCE = Passenger car equivalent (1.5)

8.3 Project Trip Generation With Truck Traffic

Truck traffic must be considered when analyzing an industrial park land use. The Institute of Transportation Engineers (ITE) *Trip Generation Manual, 7th Edition* was consulted to determine the approximate truck traffic percentage for industrial type land uses. According to the land use type "Industrial Park" (Land Use 130), truck trips accounted for 1 to 22 percent of the weekday traffic surveyed. The average for all sites surveyed was approximately 8 percent. SANDAG does not have any information on truck traffic in the San Diego area. Based on the information from ITE, it was assumed that ten percent (10%) of the total traffic generated by the project is trucks.

Trucks potentially have greater impacts on a roadway network than passenger cars. A passenger-car equivalent factor was applied to the truck traffic to account for this fact. Exhibit 23-8, Passenger-Car Equivalents on Extended Freeway Segments in the *Highway Capacity Manual, 2000* recommends Passenger Car Equivalence of 2.5 for heavy vehicles on level terrain. Most of the study area is level terrain. Hence, this factor was applied to the truck trips.

Table 8–1 summarizes the net project trip generation with the passenger car equivalent (PCE) factor applied to the truck traffic.

8.3.1 *Project Phase I Trip Generation*

As seen in *Table 8–1*, with the PCE factor, Phase I of the Project is calculated to generate approximately 1,651 ADT with 182 trips (164 inbound / 18 outbound) during the AM peak hour and 199 trips (40 inbound / 159 outbound) during the PM peak hour.

8.3.2 *Project Phase II Trip Generation*

As seen in *Table 8–1*, with the PCE factor, Phase II of the Project with the PCE factor, is calculated to generate approximately 1,609 ADT with 178 trips (160 inbound / 18outbound) during the AM peak hour and 194 trips (39 inbound / 155 outbound) during the PM peak hour.

8.3.3 *Project Phase III Trip Generation*

As seen in *Table 8–1*, with the PCE factor, Phase III of the Project is calculated to generate approximately 630 ADT with 70 trips (62 inbound / 8 outbound) during the AM peak hour and 76 trips (15 inbound / 61 outbound) during the PM peak hour.

8.3.4 *Entire Project Trip Generation*

As seen in *Table 8–1*, with the PCE factor, the entire project (Phases I, II & III) is calculated to generate approximately 3,890 ADT with 430 trips (386 inbound / 44 outbound) during the AM peak hour and 469 trips (94 inbound / 375 outbound), during the PM peak hour.

The above net trips were used in the analysis.

8.4 Trip Distribution/Assignment

SR 52, which currently terminates at SR 125, northeast of the project site is under construction to be extended to SR 67. This extension is expected to be completed prior to the opening of the Project Phase I. Therefore, the project traffic distribution assumes the extension of SR 52. The extension of SR 52 is expected to be a very convenient route for the project traffic, since freeway access will be available on Cuyamaca Street, less than a quarter mile north of the project site.

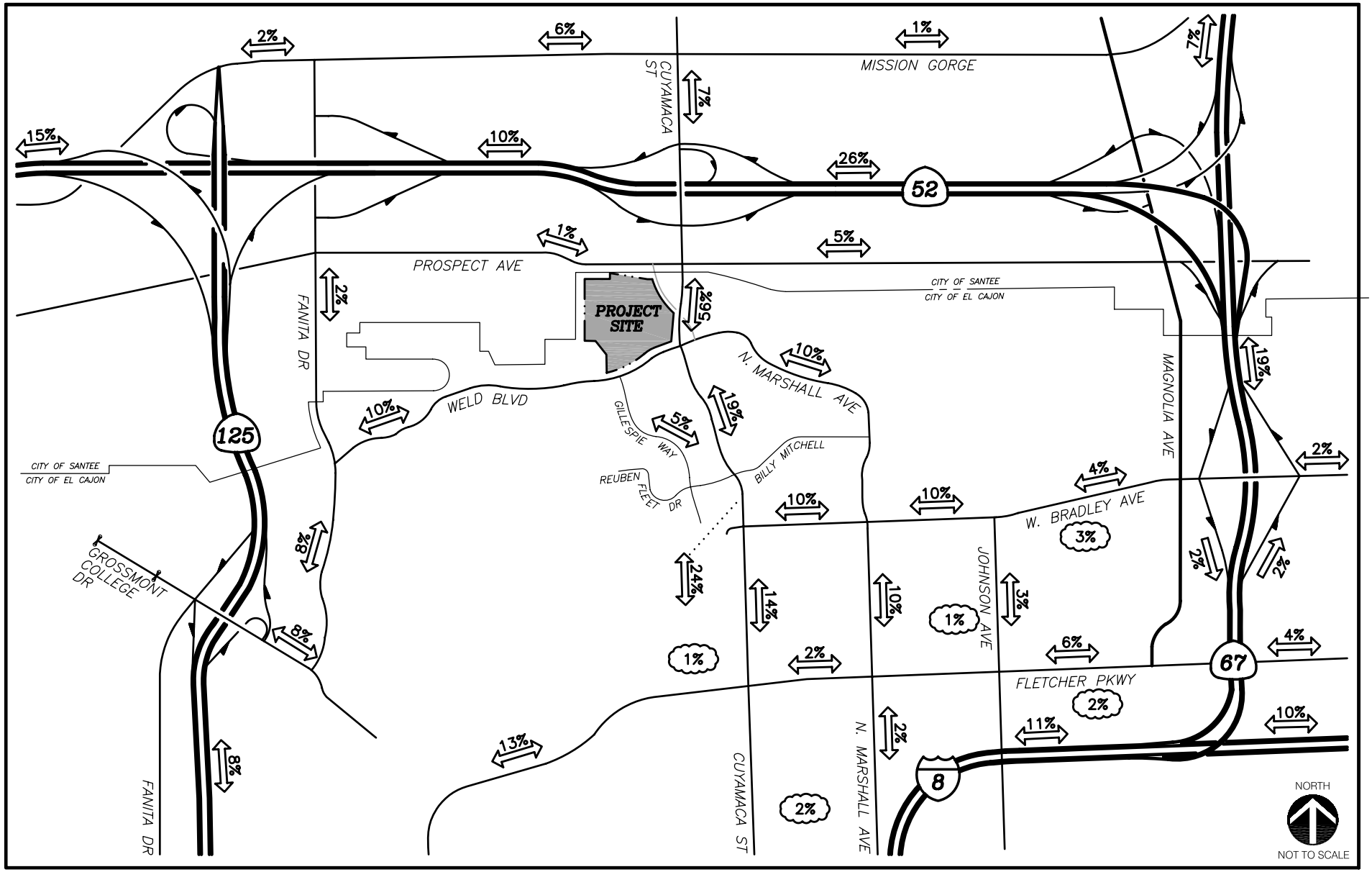
A Select Zone Assignment (SZA) was obtained from SANDAG to aid in estimating the trip distribution. The project-generated traffic was distributed to the street network based on the SZA results, the site's access location, the roadway system characteristics (i.e. signalized locations, lane geometry), the site's proximity to the nearby freeways, and the existing peak hour and daily traffic volumes.

Several road segments in the vicinity of the project have truck restrictions, which prohibits any trucks over 7 tons on the roadway segment. There is no information or study to determine the amount or percent of trucks over 7 tons for an industrial land use. LLG assumed that 50 percent of the site truck traffic would be over 7 tons. The truck restriction will result in a different project trip distribution for truck traffic. Therefore, a separate distribution was developed for the project truck traffic of over 7 tons.

The project traffic was assigned to the street network based on the project trip distribution and calculated trip generation. Access to the site is provided via one driveway on Weld Boulevard.

Figure 8-1 depicts the estimated project traffic distribution for passenger vehicles and small trucks, while, ***Figure 8-2*** depicts the estimated project traffic distribution for truck traffic over 7 tons. The Project Phase I traffic assignment is depicted on ***Figure 8-3***. ***Figure 8-4*** depicts the Existing + Cumulative Projects + Project Phase I traffic assignment. ***Figure 8-5*** depicts the Project Phase II traffic, while ***Figure 8-6*** depicts the Existing + Cumulative Projects + Project Phases I & II traffic volumes.

Figure 8-7 depicts the Project Phase III traffic assignment. ***Figure 8-8*** depicts the total Project traffic assignment for passenger vehicles and small trucks, while ***Figure 8-9*** the Existing + Cumulative Projects + Entire Project (Phases I, II & III) traffic volumes.



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LINSCOTT LAW & GREENSPAN engineers

LEGEND

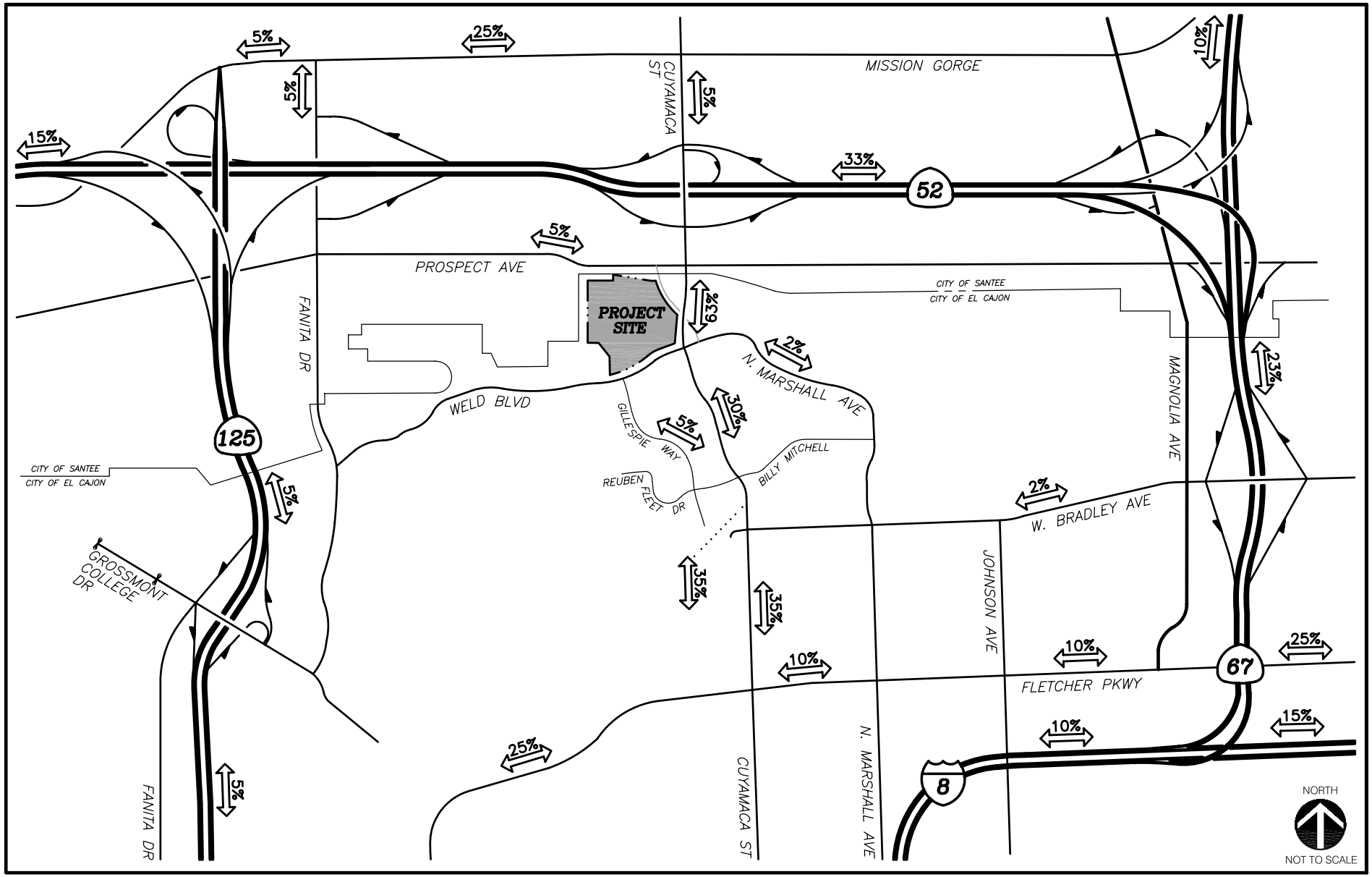
XX% — Regional Trip Distribution

XX% — Local Capture

Figure 8-1

Project Traffic Distribution
Passenger Vehicles & Small Trucks

Forrester Creek Industrial Park



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LINSCOTT LAW & GREENSPAN engineers

LEGEND

XX% — Regional Trip Distribution

XX% — Local Capture

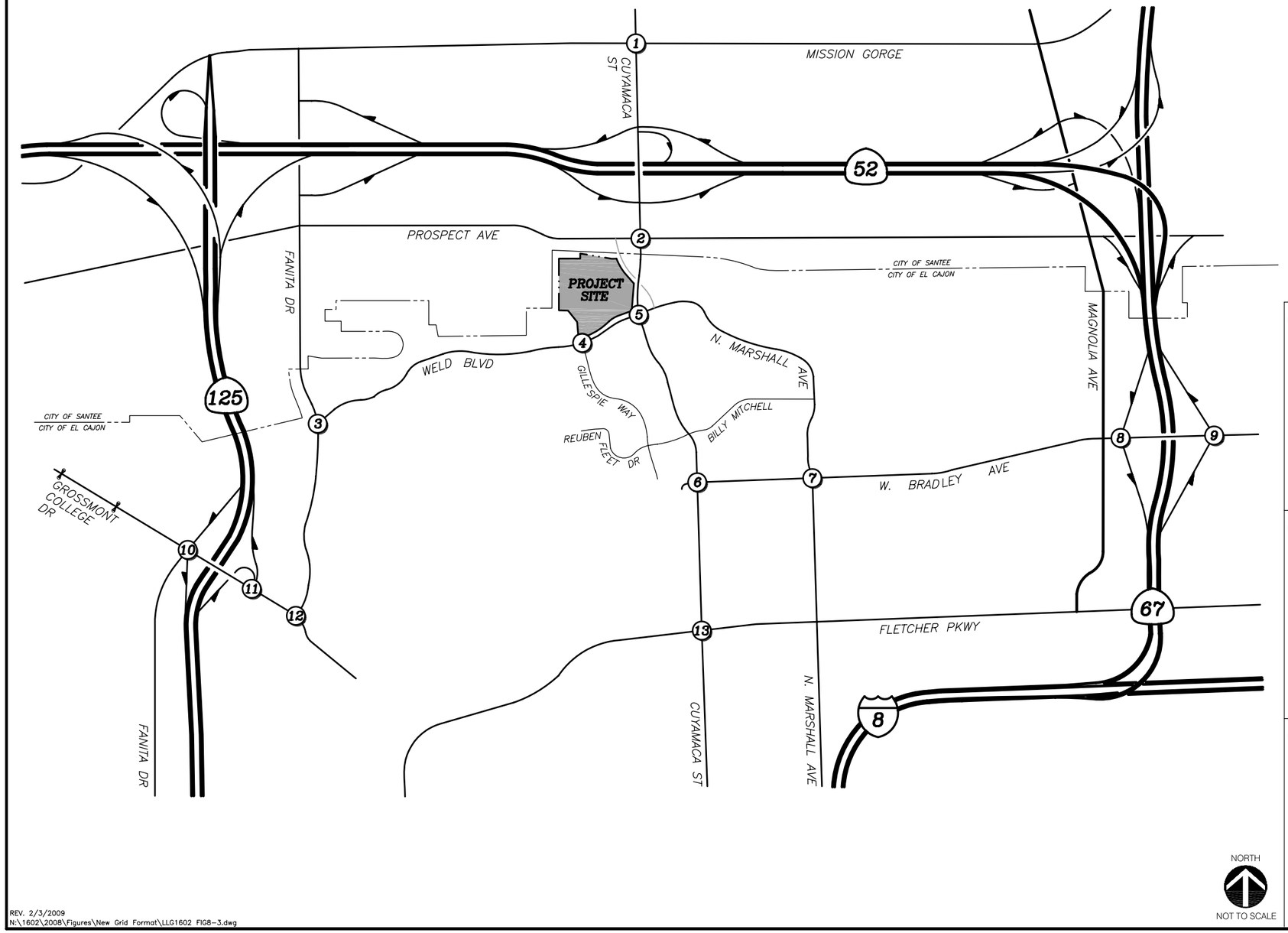
Figure 8-2

Project Traffic Distribution
Truck Traffic Over 7 Tons

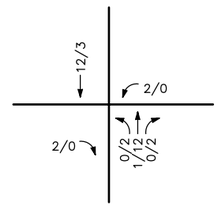
Forrester Creek Industrial Park

NOTES:

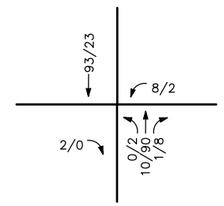
- AM/PM peak hour volumes are shown at the intersections



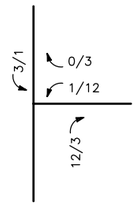
1 CUYAMACA ST / MISSION GORGE



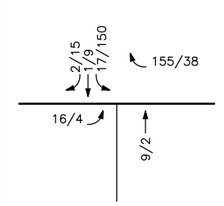
2 CUYAMACA ST / PROSPECT AVE



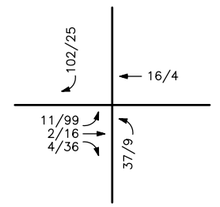
3 FANITA DR/ WELD BLVD



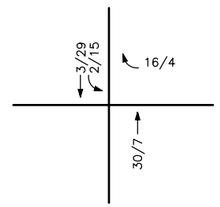
4 GILLESPIE WAY/ WELD BLVD



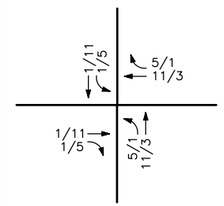
5 CUYAMACA ST/ N. MARSHALL AVE



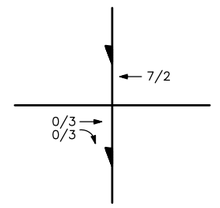
6 CUYAMACA ST/ BRADLEY ST



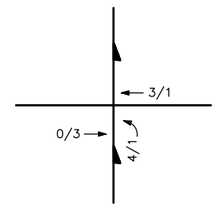
7 N. MARSHALL AVE/ W. BRADLEY AVE



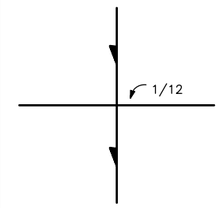
8 SR 67 SB RAMPS/ W. BRADLEY AVE



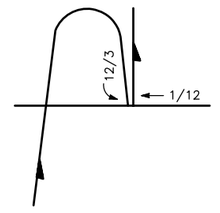
9 SR 67 NB RAMPS W. BRADLEY AVE



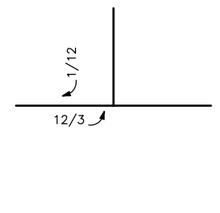
10 SR 125 SB RAMPS/ GROSSMONT COLLEGE DR



11 SR 125 NB RAMPS/ GROSSMONT COLLEGE DR



12 FANITA DR/ GROSSMONT COLLEGE DR



13 CUYAMACA ST/ FLETCHER PKWY

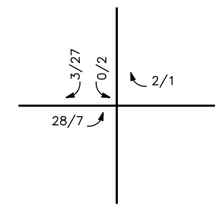


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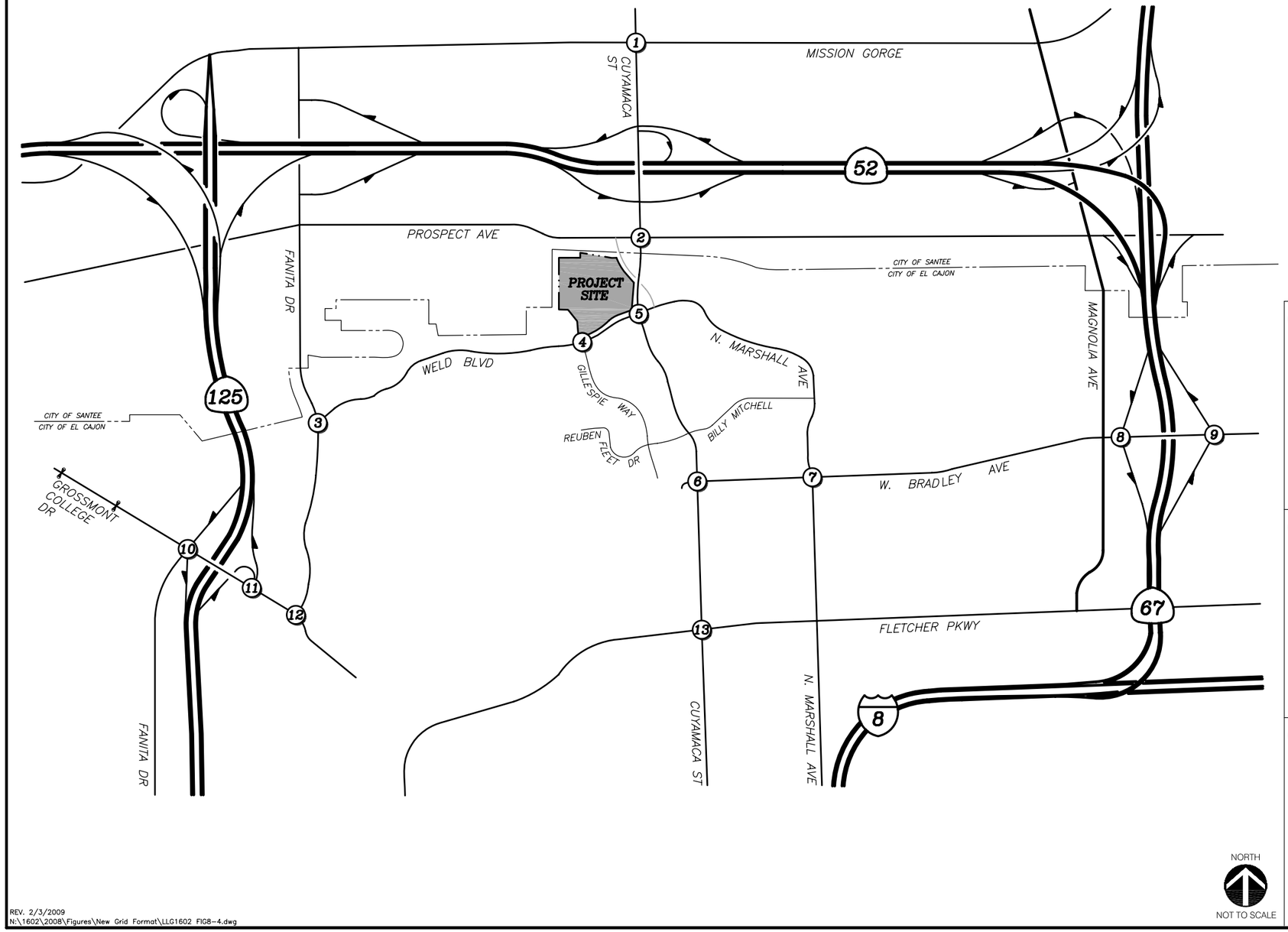
Figure 8-3

Project Phase I Traffic Volumes AM/PM Peak Hours

Forrester Creek Industrial Park

NOTES:

– AM/PM peak hour volumes are shown at the intersections



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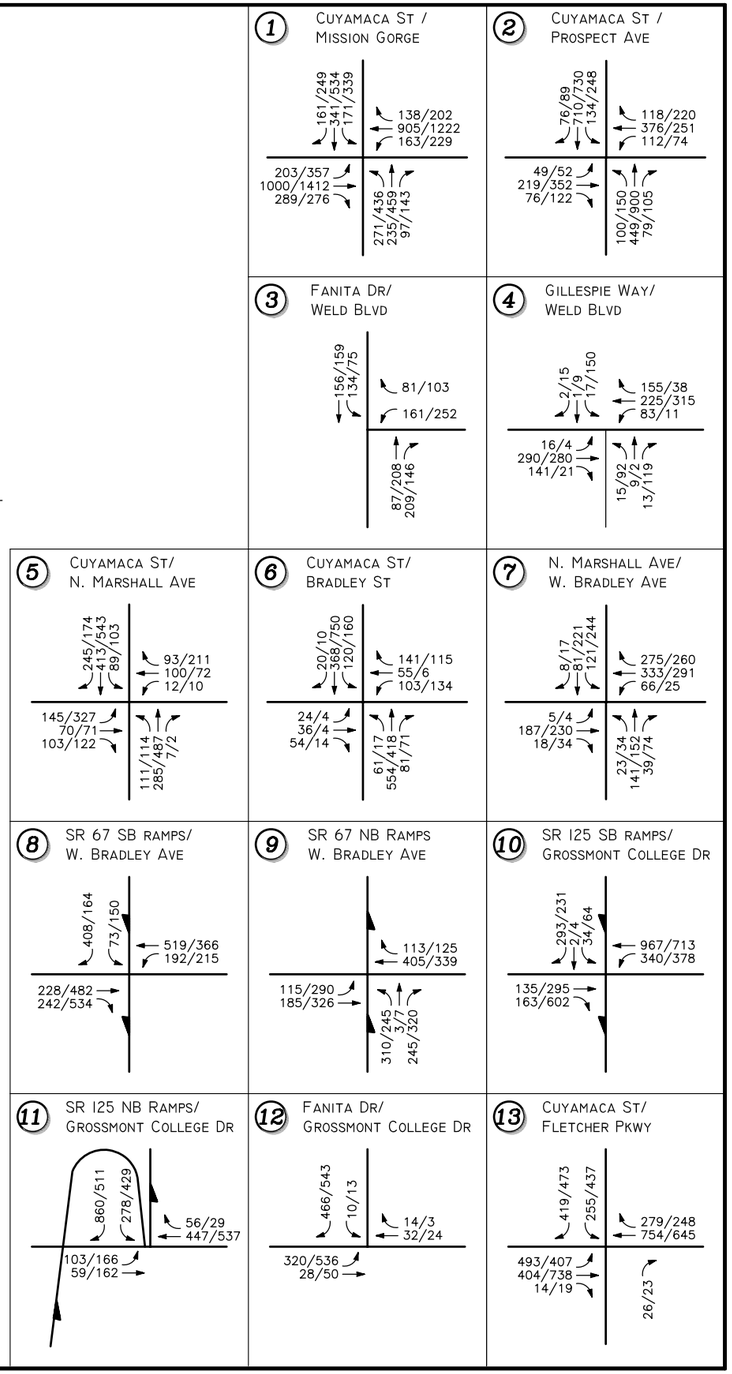

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engineers

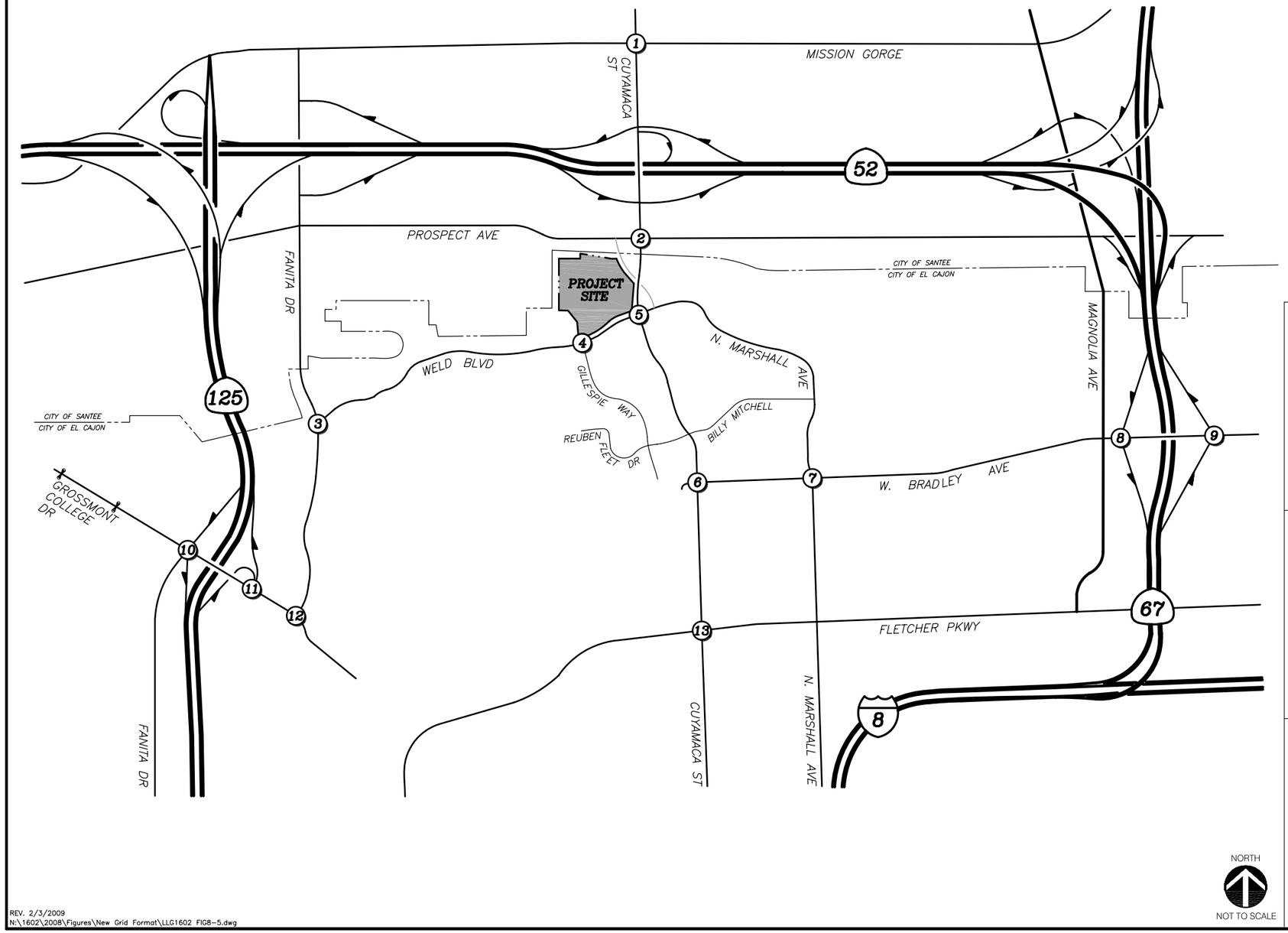
Figure 8-4

Existing + Cumulative Projects + Project Phase I Traffic Volumes AM/PM Peak Hours

Forrester Creek Industrial Park

NOTES:

- AM/PM peak hour volumes are shown at the intersections



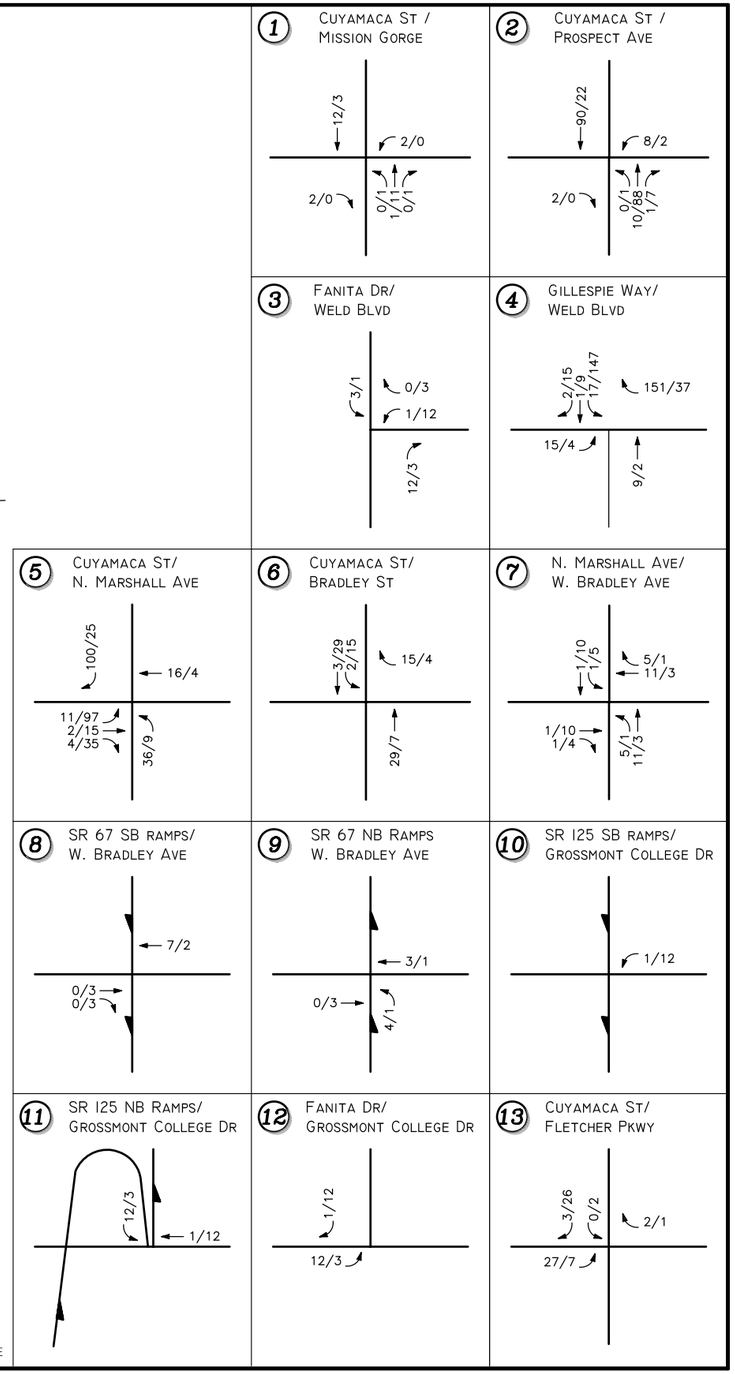


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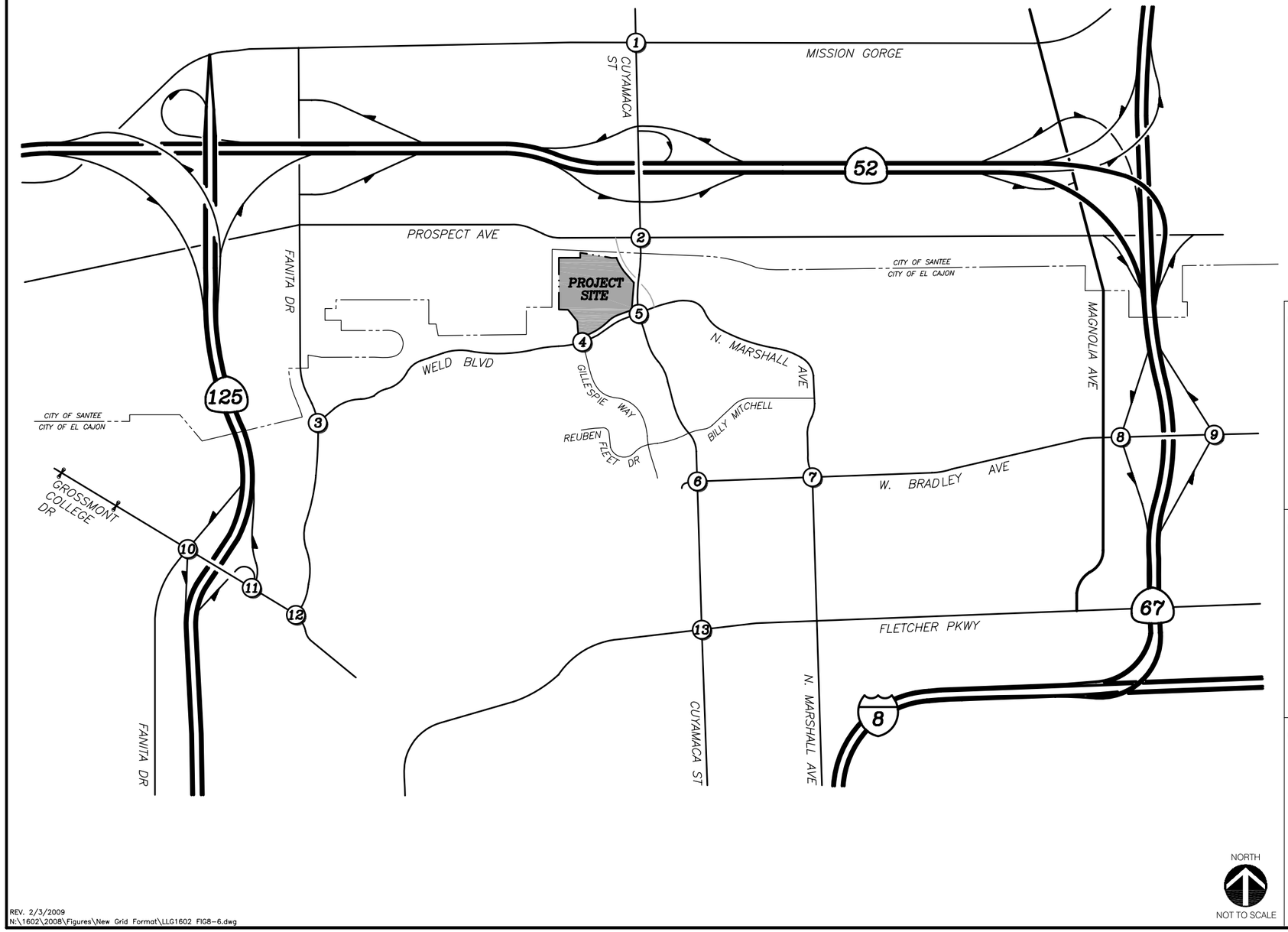
Figure 8-5

Project Phase II Traffic Volumes AM/PM Peak Hours

Forrester Creek Industrial Park

NOTES:

– AM/PM peak hour volumes are shown at the intersections



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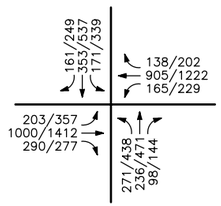
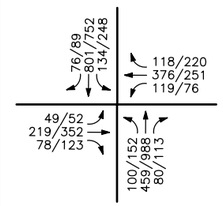
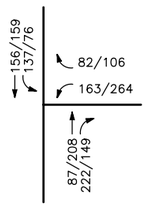
1 Cuyamaca St / Mission Gorge



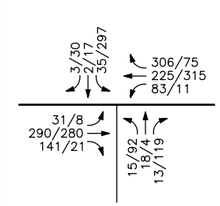
2 Cuyamaca St / Prospect Ave



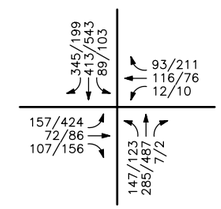
3 Fanita Dr/ Weld Blvd



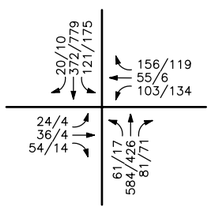
4 Gillespie Way/ Weld Blvd



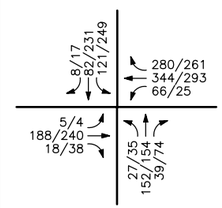
5 Cuyamaca St/ N. Marshall Ave



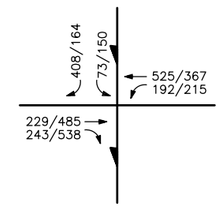
6 Cuyamaca St/ Bradley St



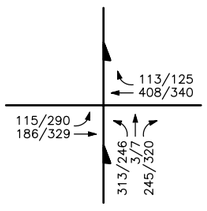
7 N. Marshall Ave/ W. Bradley Ave



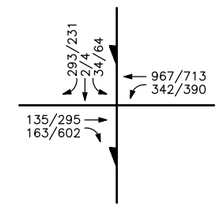
8 SR 67 SB ramps/ W. Bradley Ave



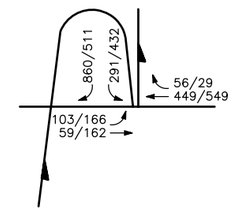
9 SR 67 NB Ramps W. Bradley Ave



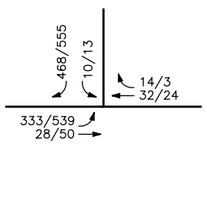
10 SR 125 SB ramps/ Grossmont College Dr



11 SR 125 NB Ramps/ Grossmont College Dr



12 Fanita Dr/ Grossmont College Dr



13 Cuyamaca St/ Fletcher Pkwy

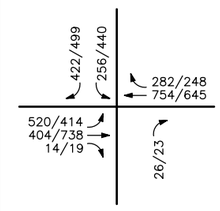


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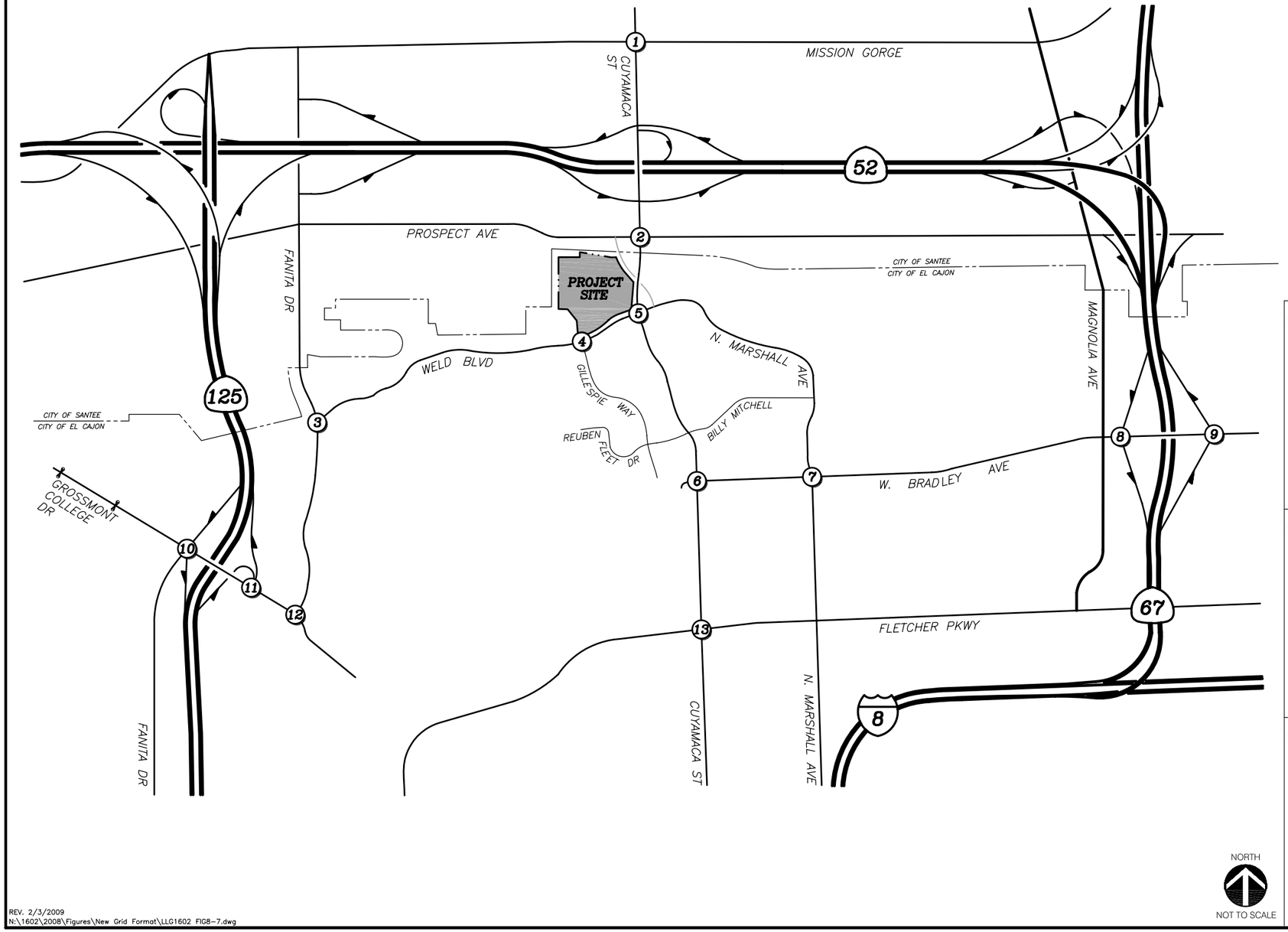
Figure 8-6

Existing + Cumulative Projects + Project Phases I & II Traffic Volumes AM/PM Peak Hours

Forrester Creek Industrial Park

NOTES:

- AM/PM peak hour volumes are shown at the intersections



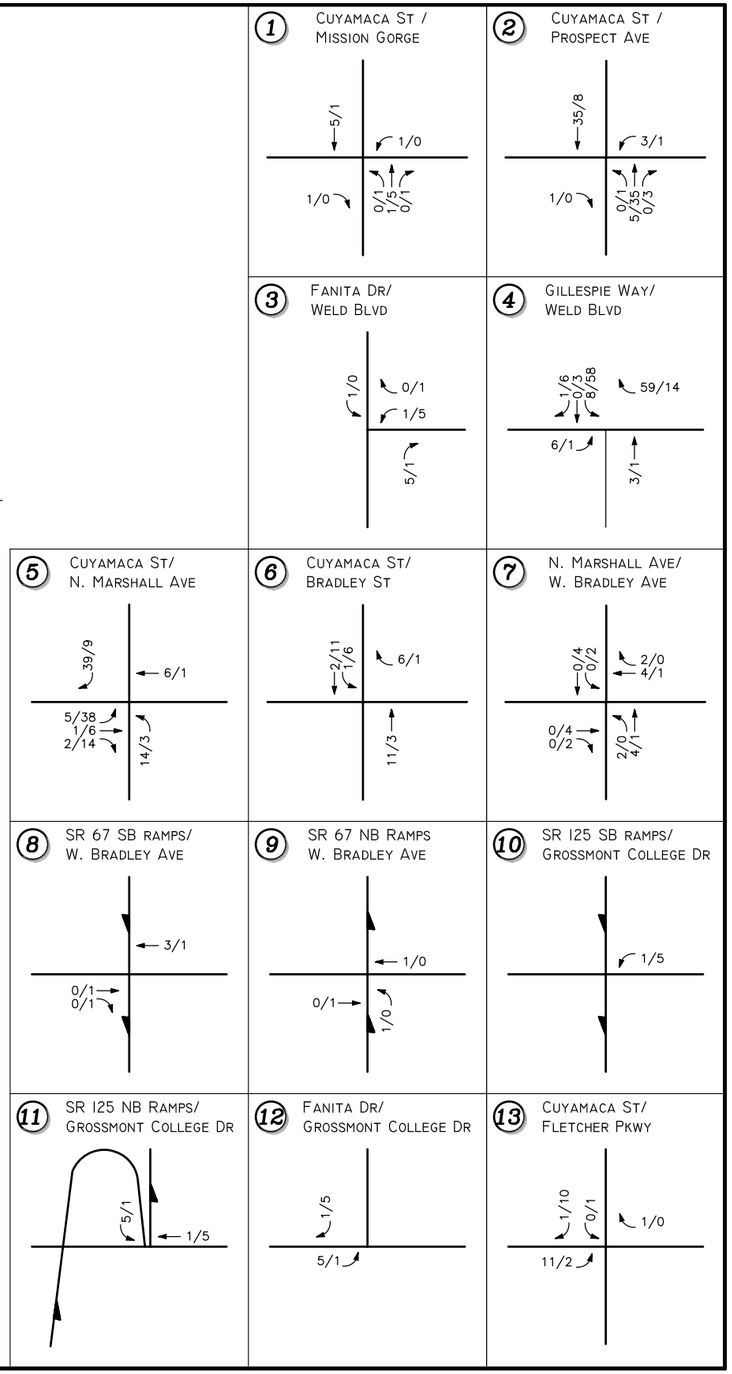


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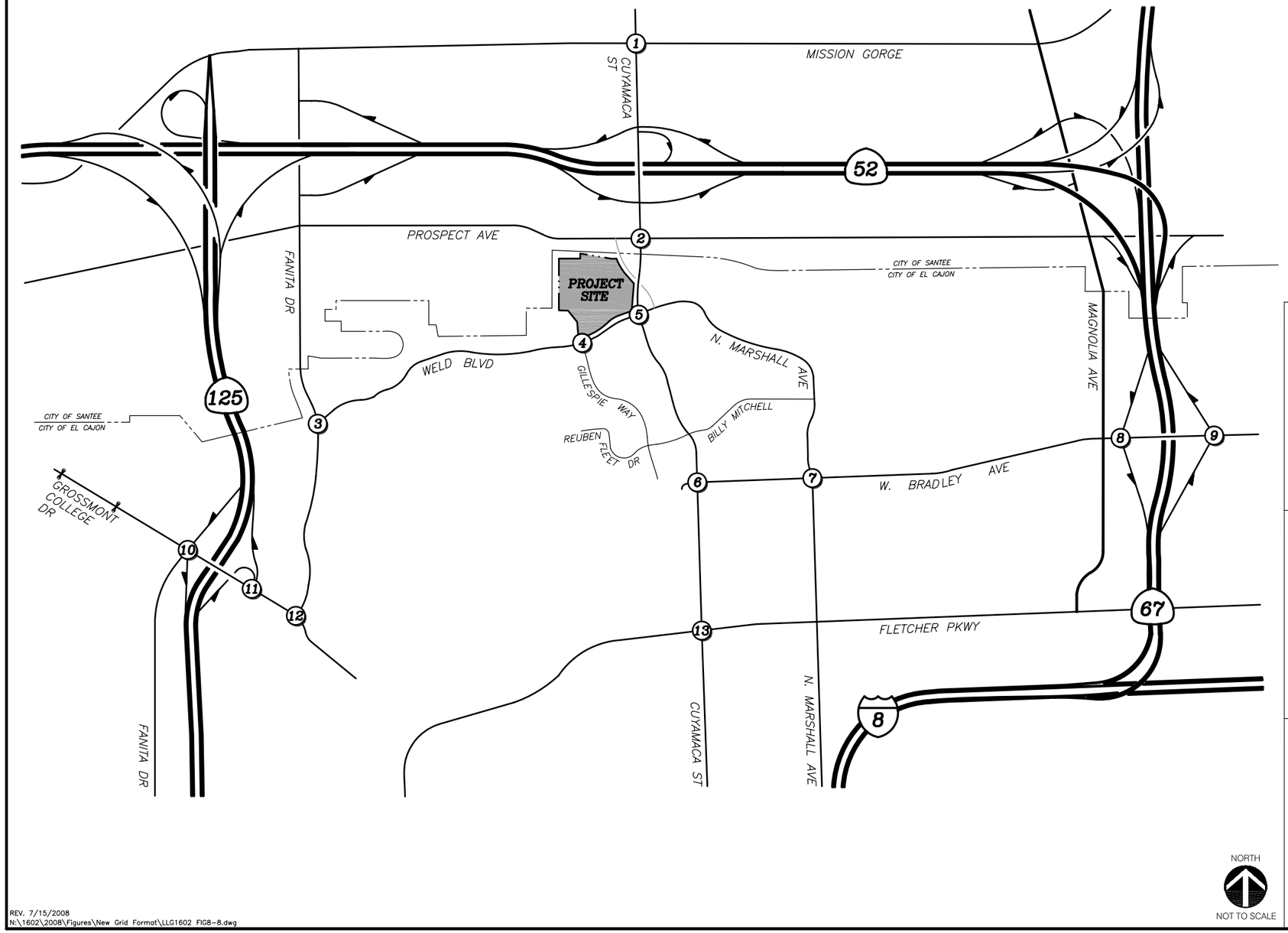
Figure 8-7

Project Phase III Traffic Assignment AM/PM Peak Hours

Forrester Creek Industrial Park

NOTES:

- AM/PM peak hour volumes are shown at the intersections



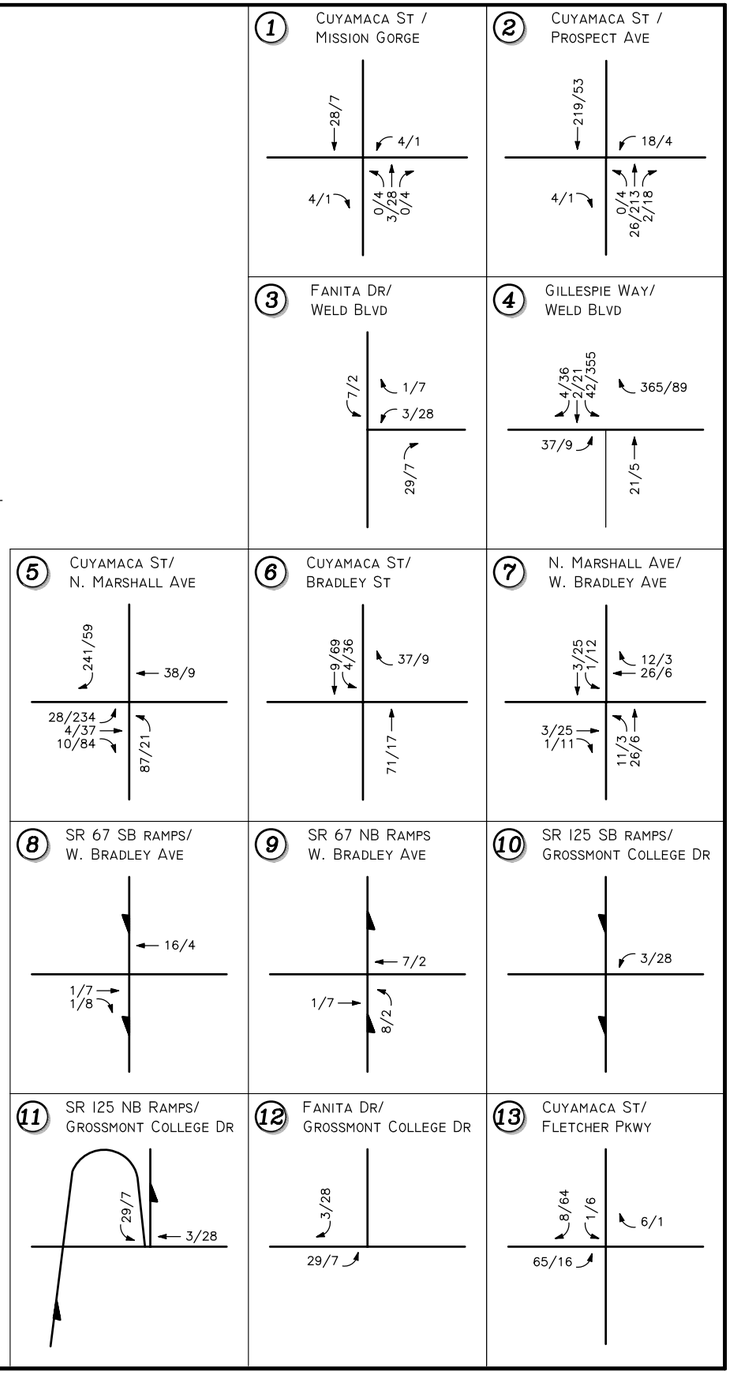


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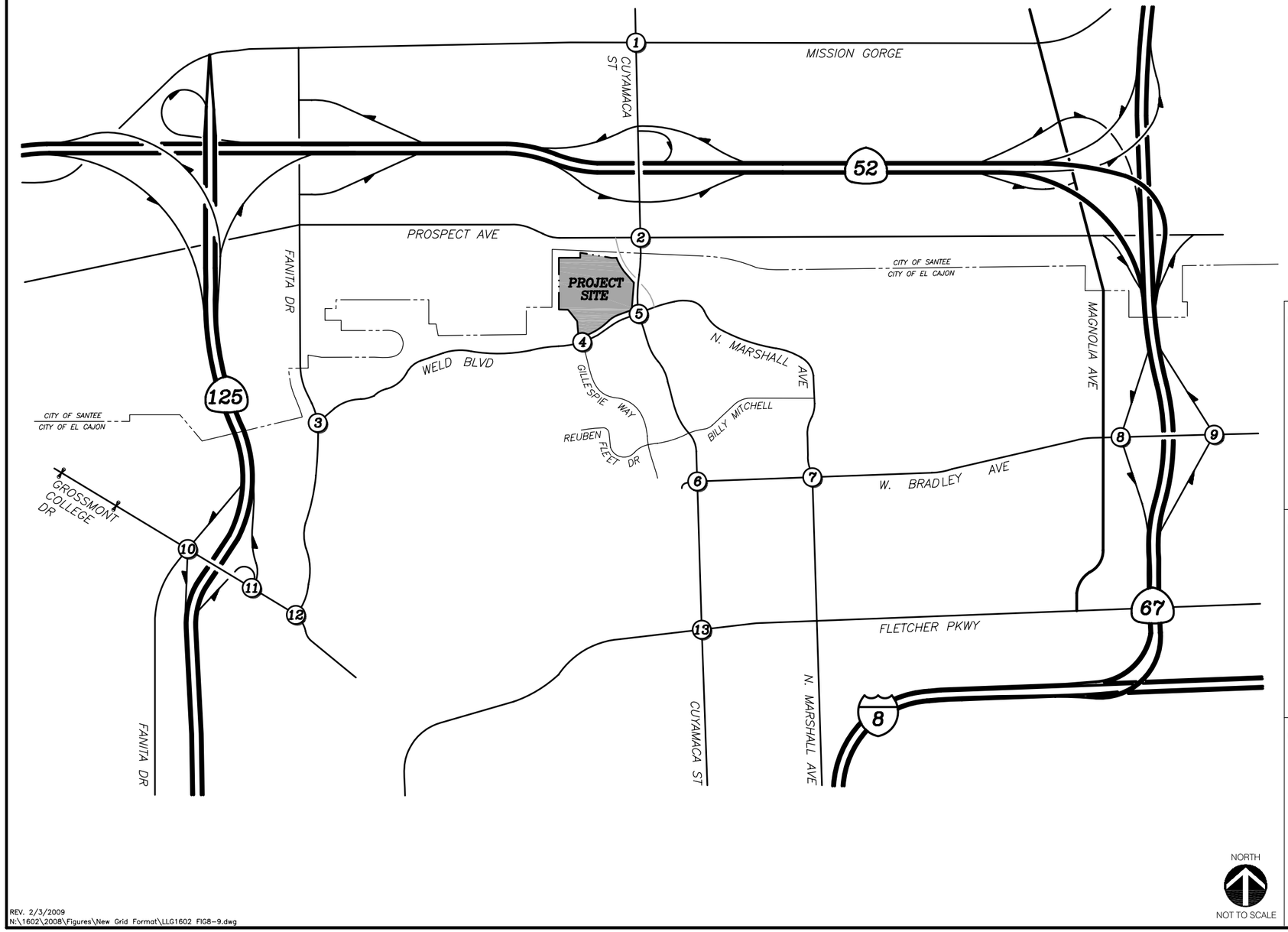
Figure 8-8

Entire Project (Phases I, II & III) Traffic Assignment AM/PM Peak Hours

Forrester Creek Industrial Park

NOTES:

- AM/PM peak hour volumes are shown at the intersections



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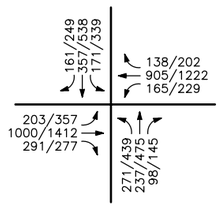
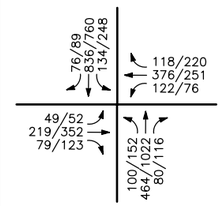
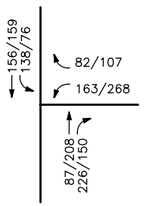
1 Cuyamaca St / Mission Gorge



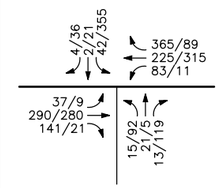
2 Cuyamaca St / Prospect Ave



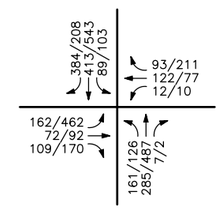
3 Fanita Dr/ Weld Blvd



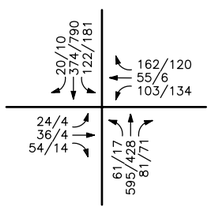
4 Gillespie Way/ Weld Blvd



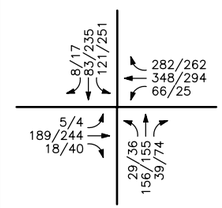
5 Cuyamaca St/ N. Marshall Ave



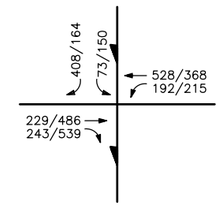
6 Cuyamaca St/ Bradley St



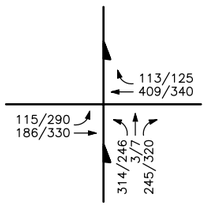
7 N. Marshall Ave/ W. Bradley Ave



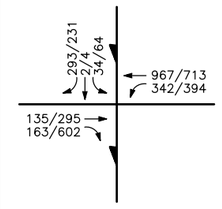
8 SR 67 SB ramps/ W. Bradley Ave



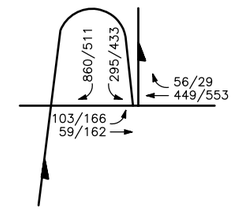
9 SR 67 NB Ramps W. Bradley Ave



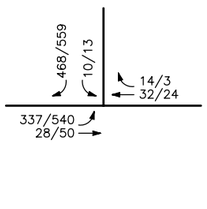
10 SR 125 SB ramps/ Grossmont College Dr



11 SR 125 NB Ramps/ Grossmont College Dr



12 Fanita Dr/ Grossmont College Dr



13 Cuyamaca St/ Fletcher Pkwy

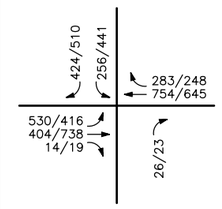


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Figure 8-9

Existing + Cumulative Projects + Entire Project (Phases I, II & III) Traffic Volumes AM/PM Peak Hours

Forrester Creek Industrial Park

9.0 ANALYSIS OF NEAR-TERM SCENARIOS

9.1 Existing + Cumulative Projects

9.1.1 *Intersection Analysis*

Table 9-1 summarizes the near-term intersection operations. As seen in *Table 9-1*, with the addition of Cumulative projects traffic, all study area intersections are calculated to continue to operate at LOS D or better except the following:

- SR 67 SB Ramps / Bradley Avenue (LOS E during the AM peak hour)
- Fanita Drive / Grossmont College Drive intersection (LOS F during the PM peak hour)

The Existing + Cumulative projects intersection analysis worksheets are included in ***Appendix D***.

9.2 Existing + Cumulative Projects + Project Phase I

9.2.1 *Intersection Analysis*

Table 9-1 summarizes the near-term intersection operations. As seen in *Table 9-1*, with the addition of Project Phase I traffic, all study area intersections are calculated to continue to operate at LOS D or better except the following:

- SR 67 SB Ramps / Bradley Avenue (LOS E during the AM peak hour)
- Fanita Drive / Grossmont College Drive intersection (LOS F during the PM peak hour)

The Existing + Cumulative projects + Project Phase I intersection analysis worksheets are included in ***Appendix E***.

TABLE 9–1
PROJECT PHASE I
INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing		Existing + Cumulative Projects		Existing + Cumulative Projects+ Project Phase I		Δ Delay [c]	Impact Type
			Delay [a]	LOS [b]	Delay [a]	LOS [b]	Delay [a]	LOS [b]		
1. Cuyamaca St / Mission Gorge Rd	Signal	AM	24.8	C	25.4	C	25.6	C	0.2	None
		PM	30.5	C	36.1	D	36.2	D	0.1	None
2. Cuyamaca St / Prospect Ave	Signal	AM	21.7	C	22.5	C	23.9	C	1.4	None
		PM	31.1	C	32.7	C	34.1	C	1.4	None
3. Fanita Dr / Weld Blvd	Signal	AM	8.6	A	8.7	A	8.7	A	0.0	None
		PM	9.7	A	9.7	A	9.9	A	0.2	None
4. Weld Blvd / Gillespie Way	TWSC [d]	AM	13.0	B	13.5	B	18.6	C	5.1	None
		PM	11.8	B	12.3	B	33.1	D	20.8	None
5. Cuyamaca St / Weld Blvd	Signal	AM	16.1	B	16.6	B	18.6	B	2.0	None
		PM	20.3	C	20.9	B	21.9	C	1.0	None
6. Cuyamaca St / W. Bradley Ave	Signal	AM	18.7	B	19.9	B	20.2	C	0.3	None
		PM	17.8	B	19.3	B	19.5	B	0.2	None
7. Marshall Ave / W. Bradley Ave	Signal	AM	14.8	B	15.4	B	15.8	B	0.4	None
		PM	17.0	B	17.8	B	18.1	B	0.3	None

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Increase in delay due to additional traffic
d. TWSC - Two-Way Stop Controlled intersection. Minor street left turn delay is reported.

Signalized Intersection		Unsignalized Intersections	
Delay	**LOS**	**Delay**	**LOS**
0.0 < 10.0	A	0.0 < 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
> 80.1	F	> 50.1	F

TABLE 9–1 (CONTINUED)
PROJECT PHASE I
INTERSECTION OPERATIONS

intersection	Control Type	Peak Hour	Existing		Existing + Cumulative Projects		Existing + Cumulative Projects+ Project Phase I		Δ Delay [c]	Impact Type
			Delay [a]	LOS [b]	Delay [a]	LOS [b]	Delay [a]	LOS [b]		
8. SR 67 SB Ramps / W. Bradley Ave	Signal	AM	43.1	D	**56.4**	**E**	**56.8**	**E**	0.4	None
		PM	29.7	C	36.5	D	36.7	D	0.2	None
9. SR 67 NB Ramps / W. Bradley Ave	Signal	AM	23.6	C	26.0	C	26.3	C	0.3	None
		PM	30.8	C	35.4	C	35.8	D	0.4	None
10. Grossmont College Dr / SR 125 SB Ramps	Signal	AM	19.2	B	19.3	B	19.5	B	0.2	None
		PM	19.2	B	19.2	B	19.4	B	0.2	None
11. Grossmont College Dr / SR 125 NB Ramps	Signal	AM	27.0	C	29.7	C	29.9	C	0.2	None
		PM	22.8	C	23.1	C	23.1	C	0.0	None
12. Fanita Dr / Grossmont College Dr	AWSC [e]	AM	17.7	C	17.7	C	18.4	C	0.7	None
		PM	**66.1**	**F**	**66.4**	**F**	**70.3**	**F**	**3.9**	**Cumulative**
13. Cuyamaca St / Fletcher Pkwy	Signal	AM	10.4	B	12.0	B	12.8	B	0.8	None
		PM	9.8	A	11.1	B	11.8	B	0.7	None

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Increase in delay due to additional traffic
d. TWSC - Two-Way Stop Controlled intersection. Minor street left turn delay is reported.
e. AWSC – All-Way Stop Controlled intersection.

Signalized Intersection		**Unsignalized Intersections**	
Delay	**LOS**	**Delay**	**LOS**
0.0 < 10.0	A	0.0 < 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
> 80.1	F	> 50.1	F

9.3 Existing + Cumulative Projects + Project Phases I & II

9.3.1 *Intersection Analysis*

Table 9-2 summarizes the Existing + Cumulative projects + Project Phases I & II intersection operations. As seen in *Table 9-2*, with the addition of Project Phases I & II traffic, all study area intersections are calculated to continue to operate at LOS D or better except the following:

- Weld Boulevard / Gillespie Way intersection (LOS F during the PM peak hour)
- SR 67 SB Ramps / W Bradley Avenue (LOS E during the AM peak hour)
- Fanita Drive / Grossmont College Drive intersection (LOS F during the PM peak hour)

The Existing + Cumulative projects + Project Phases I & II intersection analysis worksheets are included in ***Appendix F***.

9.4 Existing + Cumulative Projects + Entire Project (Phases I, II & III)

9.4.1 *Intersection Analysis*

Table 9-3 summarizes the Existing + Cumulative projects + Entire Project (Phases I, II & III) intersection operations. As seen in *Table 9-3*, with the addition of the Entire Project traffic, all study area intersections are calculated to continue to operate at LOS D or better except the following:

- Weld Boulevard / Gillespie Way intersection (LOS F during the PM peak hour)
- SR 67 SB Ramps / W Bradley Avenue (LOS E during the AM peak hour)
- Fanita Drive / Grossmont College Drive intersection (LOS F during the PM peak hour)

The Existing + Cumulative projects + Entire Project (Phases I, II & III) intersection analysis worksheets are included in ***Appendix G***.

TABLE 9–2
PROJECT PHASE II
INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing + Cumulative Projects		Existing + Cumulative Projects+ Project Phases I & II		Δ Delay [c]	Impact Type
			Delay [a]	LOS [b]	Delay [a]	LOS [b]		
1. Cuyamaca St / Mission Gorge Rd	Signal	AM	25.4	C	25.8	C	0.4	None
		PM	36.1	D	36.5	D	0.4	None
2. Cuyamaca St / Prospect Ave	Signal	AM	22.5	C	24.3	C	1.8	None
		PM	32.7	C	34.7	C	2.0	None
3. Fanita Dr / Weld Blvd	Signal	AM	8.7	A	8.8	A	0.1	None
		PM	9.7	A	10.0	B	0.3	None
4. Weld Blvd / Gillespie Way	TWSC [d]	AM	13.5	B	25.6	C	12.1	None
		PM	12.3	B	**>100.0**	**F**	**>10.0**	**Direct**
5. Cuyamaca St / Weld Blvd	Signal	AM	16.6	B	19.4	B	2.8	None
		PM	20.9	B	24.0	C	3.1	None
6. Cuyamaca St / W. Bradley Ave	Signal	AM	19.9	B	20.6	C	0.7	None
		PM	19.3	B	19.9	B	0.6	None
7. Marshall Ave / W. Bradley Ave	Signal	AM	15.4	B	16.1	B	0.7	None
		PM	17.8	B	18.3	B	0.5	None

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Increase in delay due to additional traffic
d. TWSC - Two-Way Stop Controlled intersection. Minor street left turn delay is reported.

Signalized Intersection		Unsignalized Intersections	
Delay	**LOS**	**Delay**	**LOS**
0.0 < 10.0	A	0.0 < 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
> 80.1	F	> 50.1	F

TABLE 9–2 (CONTINUED)
PROJECT PHASE II
INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing + Cumulative Projects		Existing + Cumulative Projects+ Project Phases I & II		Δ Delay [c]	Impact Type
			Delay [a]	LOS [b]	Delay [a]	LOS [b]		
8. SR 67 SB Ramps / W. Bradley Ave	Signal	AM	**56.4**	**E**	**57.9**	**E**	1.5	None
		PM	36.5	D	37.0	D	0.5	None
9. SR 67 NB Ramps / W. Bradley Ave	Signal	AM	26.0	C	26.7	C	0.7	None
		PM	35.4	C	36.2	D	0.8	None
10. Grossmont College Dr / SR 125 SB Ramps	Signal	AM	19.3	B	19.8	B	0.5	None
		PM	19.2	B	19.6	B	0.4	None
11. Grossmont College Dr / SR 125 NB Ramps	Signal	AM	29.7	C	30.0	C	0.3	None
		PM	23.1	C	23.1	C	0.0	None
12. Fanita Dr / Grossmont College Dr	AWSC [e]	AM	17.7	C	20.2	C	2.5	None
		PM	**66.4**	**F**	**74.5**	**F**	**8.1**	**Cumulative**
13. Cuyamaca St / Fletcher Pkwy	Signal	AM	12.0	B	13.6	B	1.6	None
		PM	11.1	B	12.8	B	1.7	None

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. TWSC - Two-Way Stop Controlled intersection. Minor street left turn delay is reported.
d. AWSC – All-Way Stop Controlled intersection.

Signalized Intersection		Unsignalized Intersections	
Delay	**LOS**	**Delay**	**LOS**
0.0 < 10.0	A	0.0 < 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
> 80.1	F	> 50.1	F

TABLE 9–3
ENTIRE PROJECT (PHASES I, II & III)
INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing + Cumulative Projects		Existing + Cumulative Projects+ Entire Project (Phases I, II & III)		Δ Delay [c]	Impact Type
			Delay [a]	LOS [b]	Delay [a]	LOS [b]		
1. Cuyamaca St / Mission Gorge Rd	Signal	AM	25.4	C	25.9	C	0.5	None
		PM	36.1	D	36.6	D	0.5	None
2. Cuyamaca St / Prospect Ave	Signal	AM	22.5	C	25.8	C	3.3	None
		PM	32.7	C	35.2	C	2.5	None
3. Fanita Dr / Weld Blvd	Signal	AM	8.7	A	8.8	A	0.1	None
		PM	9.7	A	10.0	B	0.3	None
4. Weld Blvd / Gillespie Way	TWSC [d]	AM	13.5	B	29.7	D	16.2	None
		PM	12.3	B	**>100.0**	**F**	**>10.0**	**Direct**
5. Cuyamaca St / Weld Blvd	Signal	AM	16.6	B	20.1	C	3.5	None
		PM	20.9	B	24.8	C	3.9	None
6. Cuyamaca St / W. Bradley Ave	Signal	AM	19.9	B	20.8	C	0.9	None
		PM	19.3	B	19.9	B	0.6	None
7. Marshall Ave / W. Bradley Ave	Signal	AM	15.4	B	16.4	B	1.0	None
		PM	17.8	B	18.4	B	0.6	None

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Increase in delay due to additional traffic
d. TWSC - Two-Way Stop Controlled intersection. Minor street left turn delay is reported.

Signalized Intersection		Unsignalized Intersections	
Delay	**LOS**	**Delay**	**LOS**
0.0 < 10.0	A	0.0 < 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
> 80.1	F	> 50.1	F

TABLE 9–3 (CONTINUED)
ENTIRE PROJECT (PHASES I, II & III)
INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing + Cumulative Projects		Existing + Cumulative Projects+ Entire Project (Phases I, II & III)		Δ Delay [c]	Impact Type
			Delay [a]	LOS [b]	Delay [a]	LOS [b]		
8. SR 67 SB Ramps / W. Bradley Ave	Signal	AM	**56.4**	**E**	**58.1**	**E**	1.7	None
		PM	36.5	D	37.1	D	0.6	None
9. SR 67 NB Ramps / W. Bradley Ave	Signal	AM	26.0	C	26.8	C	0.8	None
		PM	35.4	C	36.4	D	1.0	None
10. Grossmont College Dr / SR 125 SB Ramps	Signal	AM	19.3	B	19.8	B	0.5	None
		PM	19.2	B	20.8	B	1.6	None
11. Grossmont College Dr / SR 125 NB Ramps	Signal	AM	29.7	C	30.1	C	0.4	None
		PM	23.1	C	24.2	C	1.1	None
12. Fanita Dr / Grossmont College Dr	AWSC [e]	AM	17.7	C	19.6	C	1.9	None
		PM	**66.4**	**F**	**76.0**	**F**	**9.6**	**Cumulative**
13. Cuyamaca St / Fletcher Pkwy	Signal	AM	12.0	B	13.8	B	1.8	None
		PM	11.1	B	14.4	B	3.3	None

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Increase in delay due to additional traffic
d. TWSC - Two-Way Stop Controlled intersection. Minor street left turn delay is reported.
e. AWSC – All-Way Stop Controlled intersection.

Signalized Intersection		Unsignalized Intersections	
Delay	**LOS**	**Delay**	**LOS**
0.0 < 10.0	A	0.0 < 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
> 80.1	F	> 50.1	F

10.0 ANALYSIS OF LONG-TERM SCENARIOS

10.1 Year 2030 Traffic Volumes

Year 2030 volumes were obtained from the SANDAG model. **The Year 2030 Model assumes the extension of SR 52 to SR 67.** The project traffic volumes were added to the Year 2030 volumes to obtain the Year 2030 with project traffic volumes. Street segments were analyzed in the 2030 time frame, based upon the comparison of ADT to the San Diego County *Average Daily Vehicle Trips* table (*Table 4-4*).

Figure 10-1 depicts the Year 2030 without Project traffic segment volumes, while ***Figure 10-2*** depicts the Year 2030 with Project traffic segment volumes.

10.2 Year 2030 Without Project

Table 10-1 summarizes the Year 2030 segment operations on key Study Area segments. As seen in *Table 10-1*, all key Study Area segments are calculated to operate at LOS D or better in the Year 2030 without the project traffic.

10.3 Year 2030 With Project

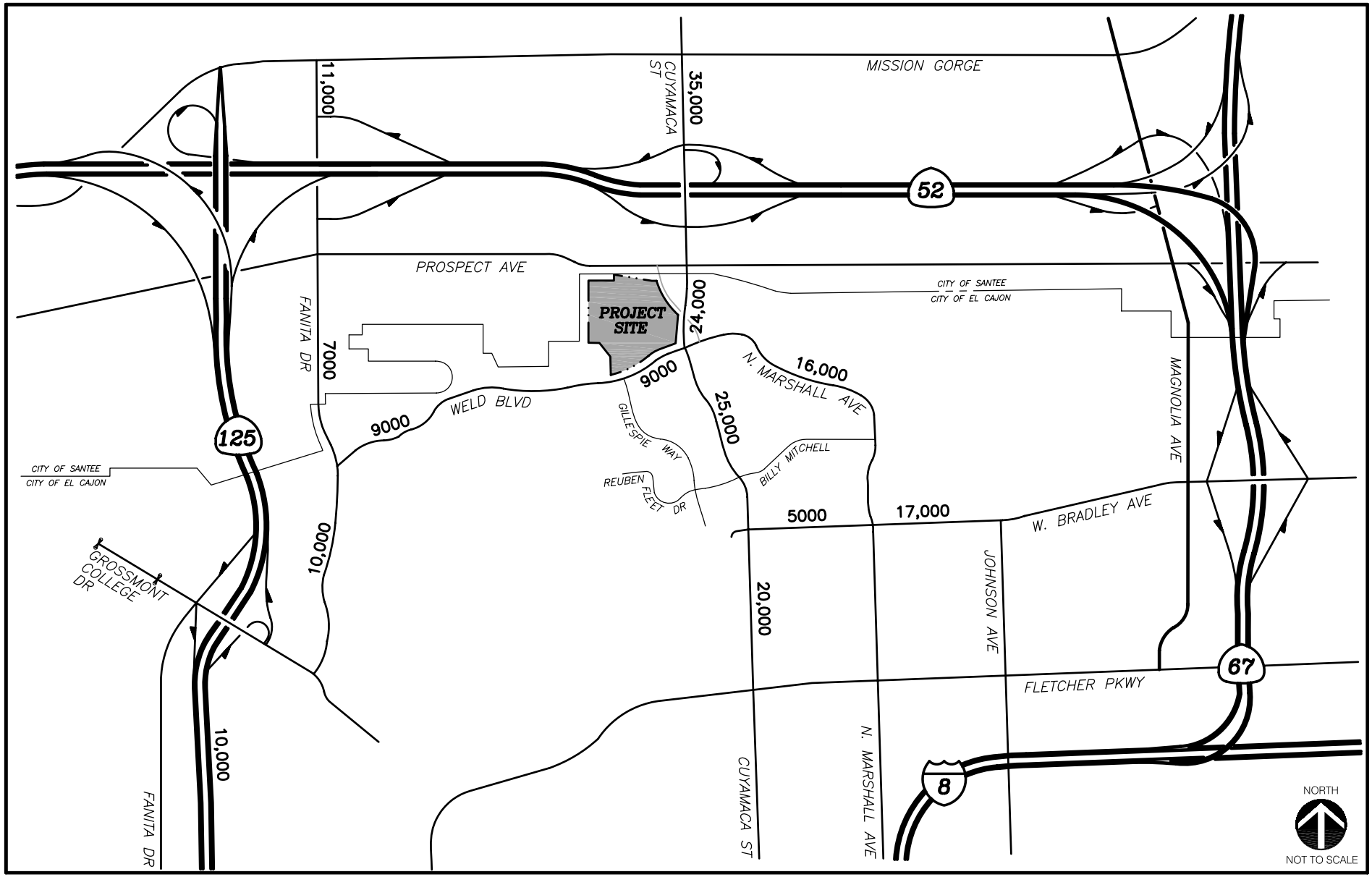
Table 10-1 summarizes the Year 2030 with Project segment operations on key Study Area segments. As seen in *Table 10-1*, with the addition of project traffic, all key Study Area segments are calculated to operate at LOS D or better in the Year 2030 with the addition of project traffic.

TABLE 10–1
LONG-TERM STREET SEGMENT OPERATIONS

Segment	Roadway Classification	LOS E Capacity [a]	Year 2030 Without Project			Year 2030 With Project			Δ V/C [e]	Type of Impact
			Volume [b]	LOS [c]	V/C [d]	Volume [b]	LOS [c]	V/C [d]		
Fanita Dr										
Mission Gorge Rd to Prospect Ave	3-Ln Collector	25,650	11,000	A	0.429	11,070	A	0.432	0.003	None
Prospect Ave to Weld Dr.	2-Ln Collector	16,200	7,000	C	0.432	7,070	C	0.436	0.004	None
Weld Blvd to Gibbons Dr	3-Ln Collector	25,650	10,000	A	0.390	10,270	A	0.400	0.011	None
Gibbons Dr to Grossmont College Dr	Town Collector	19,000	10,000	D	0.526	10,270	D	0.541	0.014	None
Cuyamaca Street										
Mission Gorge Rd to Prospect Ave	6-Ln Prime Arterial	57,000	35,000	B	0.614	35,260	B	0.619	0.005	None
Prospect Ave to Weld Blvd	4-Ln Major Rd	37,000	24,000	B	0.649	26,220	C	0.709	0.060	None
Weld Blvd to Bradley Ave	4-Ln Major Rd	37,000	25,000	C	0.676	25,990	C	0.702	0.027	None
Bradley Ave to Fletcher Pkwy	4-Ln Major Rd	37,000	20,000	B	0.541	20,660	B	0.558	0.018	None
N. Marshall Avenue										
Cuyamaca St to W. Bradley Ave	4-Ln Major Rd	37,000	16,000	B	0.432	16,340	B	0.442	0.009	None
Weld Boulevard										
Fanita Dr to Gillespie Way	4-Ln Major Rd	37,000	9,000	A	0.243	9,330	A	0.252	0.009	None
Gillespie Way to Cuyamaca Street	4-Ln Major Rd	37,000	9,000	A	0.243	12,360	A	0.334	0.091	None
W. Bradley Avenue										
Cuyamaca St to N. Marshall Ave	4-Ln Major Rd	37,000	5,000	A	0.135	5,340	A	0.144	0.009	None
N. Marshall Ave to SR 67	4-Ln Major Rd	37,000	17,000	B	0.459	17,340	B	0.469	0.009	None

Footnotes:

a. Capacity based on roadway classification operating at LOS E.
b. Average Daily Traffic.
c. Level of Service.
d. Volume to Capacity.
e. Δ denotes a project-induced increase in the Volume to Capacity (V/C) ratio.



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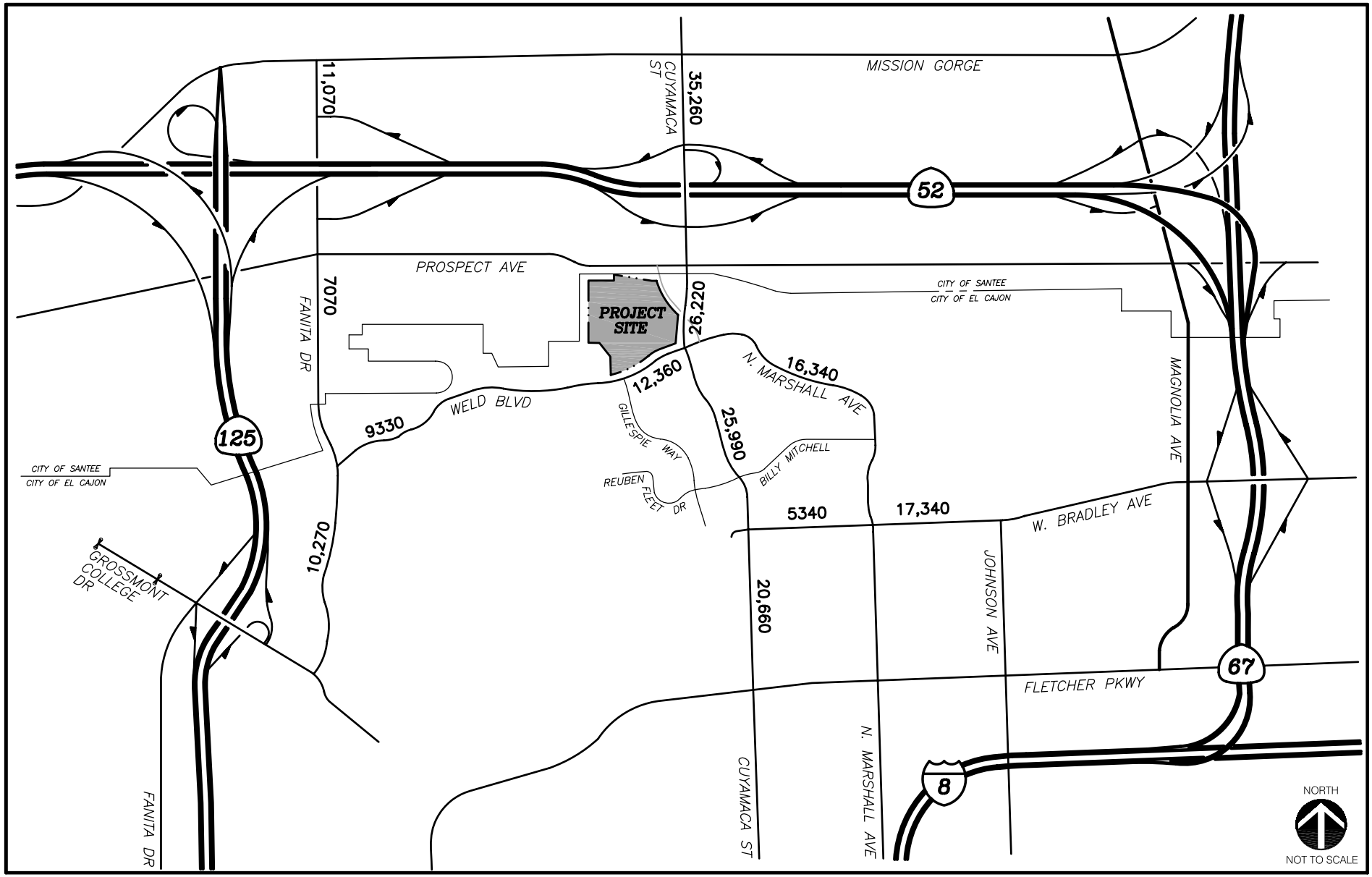
NOTES:

- ADT (Average Daily Traffic) shown midblock

Figure 10-1

Year 2030 Traffic Volume ADT

Forrester Creek Industrial Park



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NOTES:

- ADT (Average Daily Traffic) shown midblock

Figure 10-2

Year 2030 With Project Traffic Volume ADT

Forrester Creek Industrial Park

11.0 CONGESTION MANAGEMENT PROGRAM COMPLIANCE

The Congestion Management Program (CMP), adopted on November 22, 1991, is intended to link land use, transportation and air quality through level of service performance. The CMP requires an Enhanced CEQA Review for projects that are expected to generate more than 2,400 ADT or more than 200 peak hour trips. As the project trip generation exceeds the CMP thresholds a CMP analysis is triggered.

The *SANDAG Congestion Management Program, January 2003* report contains a list of "CMP Arterials" that are to be analyzed if the project exceeds the above mentioned trip generation thresholds. SR 67 and SR 125 are State Routes in the report and are contained within the project study area. The *Caltrans Impact Study Manual* contains criteria which establishes that a project impact is considered significant if the travel speed along an arterial segment, operating at LOS E or lower (with project), decreases by more than one mile per hour or the V/C ratio increases by more than 2%. The study area CMP arterials were analyzed under all future scenarios.

11.1 Freeway Operations

11.1.1 *Existing*

Table 11-1 summarizes the Existing freeway operations. As seen in *Table 11-1*, all freeway segments are calculated to operate at LOS D or better except the SR 67 segment between Prospect Avenue and Woodside Avenue, which is calculated to currently operate at LOS F(2) in the northbound direction during the AM peak hour and LOS F(1) in the southbound direction during the PM peak hour.

11.1.2 *Existing + Cumulative Projects Freeway Operations*

Table 11-2 summarizes the Existing + Cumulative projects freeway operations. As seen in *Table 11-2*, with the addition of Cumulative projects traffic, all freeway segments are calculated to continue operate at LOS D or better except the SR 67 segment between Prospect Avenue and Woodside Avenue, which is calculated to operate at LOS F(2) in the northbound direction during the AM peak hour and LOS F(1) in the southbound direction during the PM peak hour.

11.1.3 *Existing + Cumulative Projects + Entire Project Freeway Operations*

Table 11-3 summarizes the Existing + Cumulative projects + Entire Project freeway operations. As seen in *Table 11-3*, with the addition of the Entire Project traffic, all freeway segments are calculated to continue to operate at LOS D or better except the SR 67 segment between Prospect Avenue and Woodside Avenue, which is calculated to operate at LOS F(2) in the northbound direction during the AM peak hour and LOS F(1) in the southbound direction during the PM peak hour.

TABLE 11-1
FREEWAY MAINLINE OPERATIONS
EXISTING

Freeway Segment	Dir.	# of Lanes	Hourly Capacity[a]	ADT [b]	% K [c]		% D[c]		Truck Factor [d]	Peak Hour Volume [e]		V/C [f]		LOS	
					AM	PM	AM	PM		AM	PM	AM	PM	AM	PM
SR 67															
Prospect Avenue to Woodside Avenue	SB	2	4,000	91,000	0.092	0.087	0.363	0.597	0.933	3,257	5,087	0.814	1.272	D	**F(1)**
	NB	2	4,000		0.092	0.087	0.637	0.403		5,716	3,438	1.429	0.859	**F(2)**	D
Bradley Avenue to I-8	SB	3+1 [g]	7,200	51,000	0.066	0.089	0.517	0.476	0.927	1,885	2,321	0.262	0.322	A	A
	NB	3	6,000		0.066	0.089	0.483	0.524		1,754	2,559	0.292	0.426	A	B
SR 125															
Grossmont College Drive to Navajo Drive	SB	3	6,000	76,000	0.087	0.096	0.384	0.568	0.956	2,651	4,314	0.442	0.719	B	C
	NB	3	6,000		0.087	0.096	0.616	0.432		4,249	3,286	0.708	0.548	C	B

Footnotes:

a. Capacity calculated at 2000 vph per lane and 1200 vph per HOV lane
b. Existing Freeway Segment Volumes from Caltrans website
c. "Peak Hour Volume Data" from CALTRANS, June 2008
d. Truck Factor from "2006 Annual Average Daily Truck Traffic on the California State Highway System", December 2007
e. Values calculated in the Existing Conditions table
f. V/C = ((ADT)(K)(D)/Truck Factor/Capacity)
g. 3 general purpose lanes + 1 HOV lane.

LOS	V/C
A	<0.41
B	0.62
C	0.8
D	0.92
E	1
F(0)	1.25
F(1)	1.35
F(2)	1.45
F(3)	>1.46

TABLE 11-2
FREEWAY MAINLINE OPERATIONS
EXISTING + CUMULATIVE PROJECTS

Freeway Segment	Dir.	# of Lanes	Hourly Capacity[a]	ADT	Peak Hour Volumes						V/C [c]		LOS		Δ V/C	
					Existing [b]		Cumulative Projects		Existing + Cumulative Projects							
					AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
SR 67																
Prospect Avenue to Woodside Avenue	SB	2	4,000	91,600	3,257	5,087	43	18	3,300	5,105	0.825	1.276	D	**F(1)**	0.011	0.004
	NB	2	4,000		5,716	3,438	13	33	5,729	3,471	1.432	0.868	**F(2)**	D	0.003	0.008
Bradley Avenue to I-8	SB	3+1	7,200	51,660	1,885	2,321	22	48	1,907	2,369	0.265	0.329	A	A	0.003	0.007
	NB	3	6,000		1,754	2,559	28	22	1,782	2,581	0.297	0.430	A	B	0.005	0.004
SR 125																
Grossmont College Drive to Navajo Drive	SB	3	6,000	76,000	2,651	4,314	0	0	2,651	4,314	0.442	0.719	B	C	0.000	0.000
	NB	3	6,000		4,249	3,286	0	0	4,249	3,286	0.708	0.548	C	B	0.000	0.000

Footnotes:

a. Capacity calculated at 2000 vph per lane and 1200 vph per HOV lane
b. Existing Freeway Segment Volumes from Caltrans website
c. Volume /Capacity ratio
d. 3 general purpose lanes + 1 HOV lane.

LOS	V/C
A	<0.41
B	0.62
C	0.8
D	0.92
E	1
F(0)	1.25
F(1)	1.35
F(2)	1.45
F(3)	>1.46

TABLE 11-3
FREEWAY MAINLINE OPERATIONS
EXISTING + CUMULATIVE PROJECTS + PROJECT

Freeway Segment	Dir.	# of Lanes	Hourly Capacity[a]	ADT	Peak Hour Volume						V/C [c]		LOS		Δ V/C	
					Existing + Cumulative Projects [b]		Project Only		Existing + Cumulative Projects + Project							
					AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
SR 67																
Prospect Avenue to Woodside Avenue	SB	2	4,000	91,614	3,300	5,105	1	0	3,301	5,105	0.825	1.276	D	**F(1)**	0.000	0.000
	NB	2	4,000		5,729	3,471	0	1	5,729	3,472	1.432	0.868	**F(2)**	D	0.000	0.000
Bradley Avenue to I-8	SB	3+1	7,200	52,490	1,907	2,369	9	79	1,916	2,448	0.266	0.340	A	A	0.001	0.011
	NB	3	6,000		1,782	2,581	82	20	1,864	2,601	0.311	0.433	A	B	0.014	0.003
SR 125																
Grossmont College Drive to Navajo Drive	SB	3	6,000	76,400	2,651	4,314	3	28	2,654	4,342	0.442	0.724	B	C	0.001	0.005
	NB	3	6,000		4,249	3,286	29	7	4,278	3,293	0.713	0.549	C	B	0.005	0.001

Footnotes:

a. Capacity calculated at 2000 vph per lane and 1200 vph per HOV lane
b. Existing Freeway Segment Volumes from Caltrans website
c. Volume /Capacity ratio
d. 3 general purpose lanes + 1 HOV lane.

LOS	V/C
A	<0.41
B	0.62
C	0.8
D	0.92
E	1
F(0)	1.25
F(1)	1.35
F(2)	1.45
F(3)	>1.46

11.1.4 *Year 2030 Without Project Freeway Operations*

Table 11-4 summarizes the Year 2030 Without Project freeway operations. As seen in *Table 11-4*, in the Year 2030, the following freeway segments are calculated to operate at worse than LOS D:

- SR 67 between Prospect Avenue and Woodside Avenue, which is calculated to operate at LOS F(0) in the southbound direction during the AM peak hour and LOS F(2) in the northbound direction during the PM peak hour.
- SR 67 between Bradley Avenue and Interstate 8, which is calculated to operate at LOS F(0) in the northbound direction during the AM & PM peak hours.
- SR 125 between Grossmont College Drive and Navajo Drive, which is calculated to operate at LOS F(0) in the southbound direction during the PM peak hour.

11.1.5 *Year 2030 With Project Freeway Operations*

Table 11-2 summarizes the Year 2030 Without Project freeway operations. As seen in *Table 11-2*, in the Year 2030, the following freeway segments are calculated to operate at worse than LOS D:

- SR 67 between Prospect Avenue and Woodside Avenue, which is calculated to operate at LOS F(0) in the southbound direction during the AM peak hour and LOS F(2) in the northbound direction during the PM peak hour.
- SR 67 between Bradley Avenue and Interstate 8, which is calculated to operate at LOS F(0) in the northbound direction during the AM & PM peak hours.
- SR 125 between Grossmont College Drive and Navajo Drive, which is calculated to operate at LOS F(0) in the southbound direction during the PM peak hour.

TABLE 11-4
FREEWAY MAINLINE OPERATIONS
YEAR 2030 NO PROJECT

Freeway Segment	Dir.	# of Lanes	Hourly Capacity [a]	ADT [b]	% K [c]		% D [c]		Truck Factor [d]	Year 2030 Without Project Peak Hour Volume		V/C [e]		LOS	
					AM	PM	AM	PM		AM	PM	AM	PM	AM	PM
SR 67															
Prospect Avenue to	SB	2	4,000	99,000	0.069	0.080	0.622	0.340	0.933	4,577	2,889	**1.144**	0.722	**F(0)**	C
Woodside Avenue	NB	2	4,000		0.069	0.080	0.379	0.660		2,787	5,600	0.697	**1.400**	C	**F(2)**
Bradley Avenue to I-8	SB	3+1 [f]	7,200	160,000	0.065	0.081	0.432	0.468	0.927	4,839	6,524	0.672	0.906	C	D
	NB	3	6,000		0.065	0.081	0.568	0.532		6,363	7,422	**1.060**	**1.237**	**F(0)**	**F(0)**
SR 125															
Grossmont College Drive to	SB	3	6,000	132,000	0.064	0.081	0.436	0.549	0.956	3,848	6,127	0.641	**1.021**	C	**F(0)**
Navajo Drive	NB	3	6,000		0.064	0.081	0.564	0.451		4,975	5,029	0.829	0.838	D	D

Footnotes:

a. Capacity calculated at 2000 vph per lane and 1,200 vph per HOV lane
b. Year 2030 ADT Volumes from SANDAG Series 10.0 Model
c. "Peak Hour Volume Data" from CALTRANS, June 2008
d. Truck Factor from "2006 Annual Average Daily Truck Traffic on the California State Highway System", December 2007
e. V/C = ((ADT)(K)(D)/Truck Factor/Capacity)
f. 3 lanes + 1 HOV lane in each direction.

LOS	V/C
A	<0.41
B	0.62
C	0.8
D	0.92
E	1
F(0)	1.25
F(1)	1.35
F(2)	1.45
F(3)	>1.46

TABLE 11-5
FREEWAY MAINLINE OPERATIONS
YEAR 2030 WITH PROJECT

Freeway Segment	Dir.	# of Lanes	Hourly Capacity [a]	ADT [b]	Peak Hour Volumes						V/C [c]		LOS [d]		Δ V/C	
					Year 2030 [b]		Project Only		Year 2030 With Project							
					AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
SR 67																
Prospect Avenue to	SB	2	4,000	99,014	4577	2889	1	0	4578	2889	**1.144**	0.722	**F(0)**	C	0.000	0.000
Woodside Avenue	NB	2	4,000		2787	5600	0	1	2787	5601	0.697	**1.400**	C	**F(2)**	0.000	0.000
Bradley Avenue to I-8	SB	3+1 [e]	7,200	160,830	4839	6524	9	79	4848	6603	0.673	0.917	C	D	0.001	0.011
	NB	3	6,000		6363	7422	82	20	6445	7442	**1.074**	**1.240**	**F(0)**	**F(0)**	0.014	0.003
SR 125																
Grossmont College	SB	3	6,000	132,400	3848	6127	3	28	3851	6155	0.642	**1.026**	C	**F(0)**	0.000	0.005
Drive to Navajo Drive	NB	3	6,000		4975	5029	29	7	5004	5036	0.834	0.839	D	D	0.005	0.001

Footnotes:

a. Capacity calculated at 2,000 vph per lane and 1,200 vph per HOV lane
b. Year 2030 ADT Volumes from *Table 11-4*
c. Volume/Capacity ratio
d. Level of Service
e. 3 lanes + 1 HOV lane in each direction.

LOS	V/C
A	<0.41
B	0.62
C	0.8
D	0.92
E	1
F(0)	1.25
F(1)	1.35
F(2)	1.45
F(3)	>1.46

12.0 ACCESS AND OTHER ISSUES

The project proposes one access on Weld Boulevard at Gillespie Way as shown on ***Figure 12-1***. Currently, this is a T-intersection. The project access driveway will form a new fourth leg of this intersection. The PM peak hour operation of this intersection is calculated to deteriorate to LOS F at the implementation of the Phase II development of this project. Thus, the project should install a traffic signal and provide the following intersection geometry:

- **Southbound** – two left-turn lanes with storage of 125 feet each and one shared 20-foot wide through / right-turn lane.
- **Northbound** – one left-turn lane and one shared through / right-turn lane.
- **Eastbound** – one left-turn lane, one thru lane, and one shared through / right-turn lane.
- **Westbound** - one left-turn lane, one thru lane, and one shared 20-foot wide through / right-turn lane.

It may be noted that signalization would be required prior to implementing Phase II of the project.

In addition, the project should dedicate right-of-way and construct, half-width improvements on Weld Boulevard and Cuyamaca Street along the project frontage to City of El Cajon standards.

LEGEND

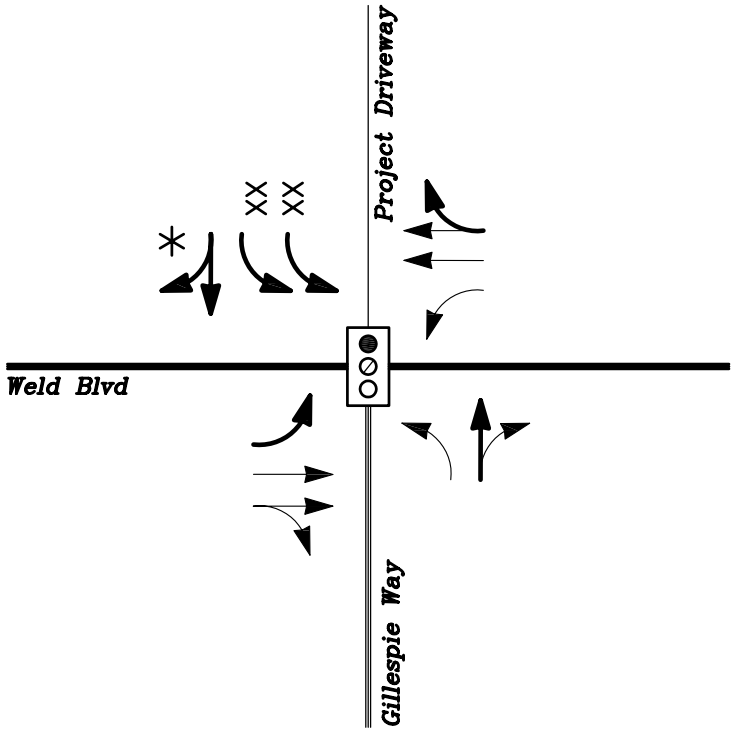
– Traffic Signal

∗ – 20 foot wide lane

xx – Provide 125 foot storage length

→ – Existing geometry

→ – Proposed improvements



NORTH

NOT TO SCALE

REV. 12/22/2008
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LINSCOTT LAW & GREENSPAN engineers

Figure 12-1

Recommended Project Driveway Intersection Geometry

Forrester Creek Industrial Park

13.0 SIGNIFICANCE OF IMPACTS AND MITIGATION MEASURES

13.1 Significance of Impacts

Based on the analysis, the following significant impacts were calculated:

1. Weld Boulevard / Gillespie Way / Project driveway intersection (Direct Impact)
2. Fanita Drive / Grossmont College Drive intersection (Cumulative Impact)

As explained in Section 9.0, the extension of SR 52 from SR 125 to SR 67 is currently under construction and is scheduled to be completed and open for traffic by the end of 2010. The proposed project is likely to open around this time. An analysis of the SR 67 / Bradley Avenue interchange with the extension of SR 52 to SR 67 indicates that the project does not have a significant impact, with the addition of Cumulative projects and proposed Project traffic.

13.2 Mitigation Measures

The following are recommended to mitigate the significant impacts to below a level of significance:

1. **Weld Boulevard / Gillespie Way / Project driveway intersection**

   Install a traffic signal and provide the following geometry:

   - **Southbound** – two left-turn lanes with storage of 125 feet each and one shared 20-foot wide through / right-turn lane.
   - **Northbound** – one left-turn lane and one shared through / right-turn lane.
   - **Eastbound** – one left-turn lane, one thru lane, and one shared through / right-turn lane.
   - **Westbound** - one left-turn lane, one thru lane, and one shared 20-foot wide through / right-turn lane.

   The signalization would be required prior to implementing Phase II of the project. The second left-turn lane on southbound Gillespie way will remain closed to traffic until the traffic signal commences operation. A signal warrant analysis was performed and the worksheets are included in ***Appendix H***. The analysis shows that the peak hour warrant is satisfied at the Weld Boulevard / Gillespie Way / Project driveway intersection.

2. **Fanita Drive / Grossmont College Drive intersection**

   Contribute a fair share towards the future signalization of this intersection. The project contributes 35 trips at this intersection with a total traffic of 1,190 trips during the PM Peak hour. Therefore, fair share percentage is (35/1189) = 2.94%. The fair share amount will be $5,880 assuming that the cost of installing the signal is approximately $200,000.

   A signal warrant analysis was performed and the worksheets are included in ***Appendix H***. The analysis shows that the peak hour warrant is satisfied at the Fanita Drive / Grossmont College Drive intersection.

In addition, part of the project shall be to dedicate right-of-way and construct, half-width improvements on Weld Boulevard and Cuyamaca Street along the project frontage to City of El Cajon Standards.