

APPENDIX G
Traffic Assessment of EIR Alternatives
Traffic Impact Analysis

MEMORANDUM

To:	Paul Garcia Chris Moore Atkins	Date:	March 24, 2016
From:	John Boarman Cara Hilgesen LLG, Engineers	LLG Ref:	3-15-2464
Subject:	Palomar Community College District South Education Center – Traffic Assessment of EIR Alternatives		

Paul and Chris,

Linscott, Law & Greenspan, Engineers (LLG) has reviewed the EIR Alternatives for the subject project. A qualitative assessment was completed for three of the four alternatives. A full level of service analysis was completed for the “No Project” alternative to evaluate potential impacts with development of the entitled office development. This analysis is included in the EIR Traffic Study dated March 24, 2016.

Our findings for the four (4) EIR Alternatives are discussed below.

1. NO PROJECT ALTERNATIVE

The LLG Traffic Study dated March 24, 2016 provides an analysis of the entitled office buildings that would be permitted on the site today based on approved permits. The Rancho Bernardo Lot 11 approved entitlement would allow for three (3) buildings totaling 330,000 SF of office/research and development use on the site. For the office development, the Traffic Study identifies one (1) direct impact and two (2) cumulative impacts at the study area intersections. No street segment impacts were identified. The proposed project results in zero (0) direct impacts and three (3) cumulative intersection impacts.

The entitled office project results in a higher percentage of peak hour trips than the proposed project. An office building generates the majority of its traffic during the morning commute to work and the evening commute home. This is represented in the Opening Day analysis where a direct impact is calculated with the office project given the PM peak is forecasted at 14% for the office use (530 trips) and 9% for the education center (304 trips) with an almost equal amount of daily trips generated (3,300 office ADT; 3,374 education center ADT).

However, in the long-term, the reduced reserve capacity on the street system due to ambient growth in the area from buildout of the surrounding Community Plan land uses results in similar significant impacts to the street system with the development of either the office project or proposed education center.

2. SECOND ACCESS ROAD ALTERNATIVE



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It would be anticipated that impacts would remain the same at Via Del Campo and West Bernardo Drive, as the off-site project distribution and assignment would be unchanged with the secondary access point under the “Second Access Road Alternative”. The Matinal Road access driveway would likely improve to LOS D or better conditions; however, there is the possibility for impacts to Olmeda Way without the installation of a traffic signal by the proposed project.

3. REDUCED PROJECT ALTERNATIVE

With a 25% reduction in the maximum enrollment under the “Reduced Project Alternative”, cumulative significant impacts would be expected to continue to occur given the constrained conditions forecasted along Rancho Bernardo Road, even without the development of the project. Since LOS E and F operations are forecasted in Year 2035 without the development of the project, even a relatively low amount of traffic (500 ADT) would result in long-term cumulative impacts along Rancho Bernardo Road.

4. BERNARDO CENTER DRIVE ALTERNATIVE

With the “Bernardo Center Drive Alternative”, it is likely that cumulative impacts would be reduced with the shift in project traffic from Rancho Bernardo Road to Bernardo Center Drive. However, it is possible that significant traffic impacts could occur within the redesignated study area given the similarities between Rancho Bernardo Road and Bernardo Center Drive: Four-Lane Major Roadways providing access to the 558-acre Bernardo Industrial Park.

Please call us with any questions.

cc: File

TRAFFIC IMPACT ANALYSIS
PALOMAR COMMUNITY COLLEGE DISTRICT
SOUTH EDUCATION CENTER
San Diego, California
March 24, 2016

LLG Ref. 3-15-2464

EXECUTIVE SUMMARY

Linscott, Law & Greenspan, Engineers (LLG) has been retained to assess the traffic impacts associated with the Palomar Community College District South Education Center Project (hereby referred to as the proposed “Project”). The site is located approximately 0.8 miles west of Interstate 15 (I-15) on the southeast corner of the Rancho Bernardo Road/Matinal Road intersection in the City of San Diego. A vacant office building currently occupies the site. The Project proposes to convert the existing 110,000 square foot (SF) vacant office building into a community college specialized education center and utilize the existing parking structure located southwest of the building.

The District plans their facilities using the full-time equivalent student (FTES) projections for an academic year. The academic year represents the Fall, Spring and Summer semesters combined. At Opening Day, the District anticipates a total of 1,000 annual FTES. Based on information provided by the District, this equates to a total of 2,812 enrolled students the first day of Fall semester. The maximum enrollment anticipated by the District by Year 2035 is projected at 2,000 annual FTES which amounts to a Fall semester enrollment of 5,625 students.

The proposed Project campus is different from a typical main community college campus. As an education center, it does not have the full complement of services as a full community college campus. Of particular note are the lack of sports fields and extracurricular activities offered to students, and a much lower school population with fewer course and degree program offerings.

The California Postsecondary Education Commission (CPEC) has established *Guidelines for Proposed University Campuses, Community Colleges, and Education Centers* (August 1992). The guidelines have established several differences in comparing “education center” versus “community college”. The CPEC Guidelines define an educational center as “an off-campus enterprise owned or leased by the parent district and administered by a parent college. The center must...maintain an onsite administration (typically headed by a dean or director, but not by a president, chancellor, or superintendent), and offer programs leading to the certificates or degrees to be conferred by the parent institution.” In contrast, the *Guidelines* define a community college as “A full-service...institution offering a full complement of lower-division programs and services, usually at a single campus location owned by the district; colleges enroll a minimum of 1,000 full-time-equivalent students. A college will have its own administration and be headed by a president or a chancellor.” In addition, the proposed Project will require reduced administrative staff and space, due to the smaller range of classes and facilities, as compared to a community college. Similarly, maintenance staff and facilities needed to serve the Project site would be reduced as compared to that of a typical community college, as extensive maintenance needs are not anticipated.

EXECUTIVE SUMMARY (CONTINUED)

Because the education center would function differently as explained above, the standard SANDAG trip generation rate at 1.2 trips per student likely overstates the future traffic activity at the education center. However, for purposes of being conservative, the SANDAG junior college trip rate was used in the analysis. Using the SANDAG publish rate of 1.2 trips per student (for a community/junior college), at Opening Day with 2,812 students enrolled the education center is calculated to generate approximately 3,371 ADT with 324 inbound / 81 outbound trips during the AM peak hour and 182 inbound / 122 outbound trips during the PM peak hour. At the maximum enrollment amount expected by the Year 2035, approximately 6,750 ADT with 648 inbound / 162 outbound trips during the AM peak hour and 365 inbound / 243 outbound trips during the PM peak hour would be generated by 5,625 enrolled students.

Based on the City of San Diego significance criteria, **three (3) significant cumulative intersection impacts were calculated.** Two (2) of the impacts identify mitigation measures to reduce impacts to below significant levels. The third impact was determined to be significant and unmitigated given the infeasibility of providing improvements needed to reduce the impact to below significant levels.

TABLE OF CONTENTS

SECTION	PAGE
1.0 Introduction.....	1
2.0 Project Description	4
2.1 Project Location	4
2.2 Project Description.....	4
2.3 Project Access	4
3.0 Existing Conditions.....	6
3.1 Study Area	6
3.2 Existing Street System	7
3.3 Existing Bicycle Network	8
3.4 Existing Transit Conditions	8
3.5 Existing Pedestrian Conditions	9
3.6 Existing Traffic Volumes.....	9
4.0 Analysis Approach and Methodology	13
4.1 Analysis Approach.....	13
4.2 Methodology	13
4.2.1 Intersections	13
4.2.2 Street Segments.....	13
4.2.3 Freeway Segments	13
4.2.4 Freeway Ramp Meters	14
5.0 Significance Criteria	15
6.0 Analysis of Existing Conditions	17
6.1 Peak Hour Intersection Operations	17
6.2 Daily Street Segment Operations.....	17
6.3 Freeway Mainline Operations.....	17
6.4 Freeway Ramp Meter Operations	17
7.0 Opening Day Conditions	21
7.1 Description of Cumulative Projects	21
7.2 Network Conditions	22
7.3 Traffic Volumes	22

TABLE OF CONTENTS (CONTINUED)

SECTION	PAGE
8.0 Trip Generation/Distribution/Assignment	26
8.1 Trip Generation	26
8.2 Trip Distribution/Assignment	27
9.0 Analysis of Opening Day Scenarios.....	31
9.1 Opening Day Without Project.....	31
9.1.1 Peak hour Intersection Operations	31
9.1.2 Daily Street Segment Operations.....	31
9.1.3 Freeway Mainline Operations.....	31
9.1.4 Freeway Ramp Meter Operations	31
9.2 Opening Day With Project.....	32
9.2.1 Peak Hour Intersection Operations	32
9.2.2 Daily Street Segment Operations.....	32
9.2.3 Freeway Mainline Operations.....	32
9.2.4 Freeway Ramp Meter Operations	32
10.0 Year 2035 Conditions	37
10.1 Year 2035 Network Conditions	37
10.2 Year 2035 Traffic Volumes	38
11.0 Analysis of Year 2035 Scenarios.....	43
11.1 Year 2035 Without Project	43
11.1.1 Peak Hour Intersection Operations	43
11.1.2 Daily Street Segment Operations.....	43
11.2 Year 2035 With Project	43
11.2.1 Peak Hour Intersection Operations	43
11.2.2 Daily Street Segment Operations.....	44
12.0 Access Assessment.....	47
12.1 Project Access	47
12.2 Cut-Through Traffic.....	47
12.3 Recommendations	48
13.0 Approved Office Entitlement Analysis	51
13.1 Office Traffic	51
13.2 Analysis Results.....	51
13.2.1 Peak Hour Intersection.....	52
13.2.2 Daily Street Segment Operations.....	52
13.3 Comparisons and Conclusions.....	57

TABLE OF CONTENTS (CONTINUED)

SECTION	PAGE
14.0 Transportation Demand Management	58
15.0 Significance of Impacts and Mitigation Measures	59
15.1 Significance of Impacts.....	59
15.2 Mitigation Measures	59

APPENDICES

APPENDIX
A. Intersection and Segment Manual Count Sheets, Caltrans Data
B. City of San Diego Roadway Classification Table
C. Existing Intersection Analysis Worksheets
D. SANDAG Select Zone Assignment and Year 2035 Traffic Volumes and Land Use Data
E. Opening Day Without Project Intersection Analysis Worksheets
F. Opening Day With Project Intersection Analysis Worksheets
G. Rancho Bernardo and Black Mountain Ranch Public Facilities Financing Plan Excerpts
H. Year 2035 Without Project Intersection Analysis Worksheets
I. Year 2035 With Project Intersection Analysis Worksheets
J. Entitled Office Development Traffic Volumes and Intersection Analysis Worksheets
K. Post-Mitigation Intersection Analysis Worksheets

LIST OF FIGURES

SECTION—FIGURE #	PAGE
Figure 1–1 Vicinity Map	2
Figure 1–2 Project Area Map	3
Figure 2–1 Site Plan	5
Figure 3–1 Existing Conditions Diagram.....	11
Figure 3–2 Existing Traffic Volumes.....	12
Figure 7–1 Cumulative Projects Location Map	23
Figure 7–2 Cumulative Projects Traffic Volumes	24
Figure 7–3 Opening Day Without Project Traffic Volumes	25
Figure 8–1 Project Traffic Distribution.....	28
Figure 8–2 Opening Day Project Traffic Volumes	29
Figure 8–3 Opening Day With Project Traffic Volumes	30
Figure 10–1 Year 2035 Without Project Traffic Volumes.....	40
Figure 10–2 Year 2035 (Maximum Enrollment) Project Traffic Volumes.....	41
Figure 10–3 Year 2035 With Project Traffic Volumes.....	42

LIST OF TABLES

SECTION—TABLE #	PAGE
Table 3–1 Existing Traffic Volumes.....	10
Table 4–1 Caltrans District 11 Freeway Segment Level Of Service Definitions	14
Table 5–1 City Of San Diego Traffic Impact Significant Thresholds	16
Table 6–1 Existing Intersection Operations.....	18
Table 6–2 Existing Daily Street Segment Operations	19
Table 6–3 Existing Freeway Mainline Operations	20
Table 6–4 Existing Ramp Meter Operations.....	20
Table 7–1 Cumulative Development Projects Summary	22
Table 8–1 Project Trip Generation.....	27
Table 9–1 Opening Day Intersection Operations.....	33
Table 9–2 Opening Day Street Segment Operations	34
Table 9–3 Opening Day Freeway Mainline Operations	35
Table 9–4 Opening Day Ramp Meter Operations	36
Table 10–1 Community Plan Roadway Classifications.....	38
Table 11–2 Long-Term Intersection Operations.....	45
Table 11–3 Long-Term Street Segment Operations	46
Table 13–1 Office Project Trip Generation	51
Table 13–2 Office Project – Opening Day Intersection Operations	53
Table 13–3 Office Project – Long-Term Intersection Operations	54
Table 13–4 Office Project – Opening Day Street Segment Operations.....	55
Table 13–5 Office Project – Long-Term Street Segment Operations.....	56
Table 13–6 Significantly Impacted Locations Proposed Project vs. Entitled Office Development	57
Table 15–1 Cumulative Intersection Impacts Mitigation Measures & Post-Mitigation Operations.....	61

TRAFFIC IMPACT ANALYSIS
PALOMAR COMMUNITY COLLEGE DISTRICT
SOUTH EDUCATION CENTER

San Diego, California
March 24, 2016

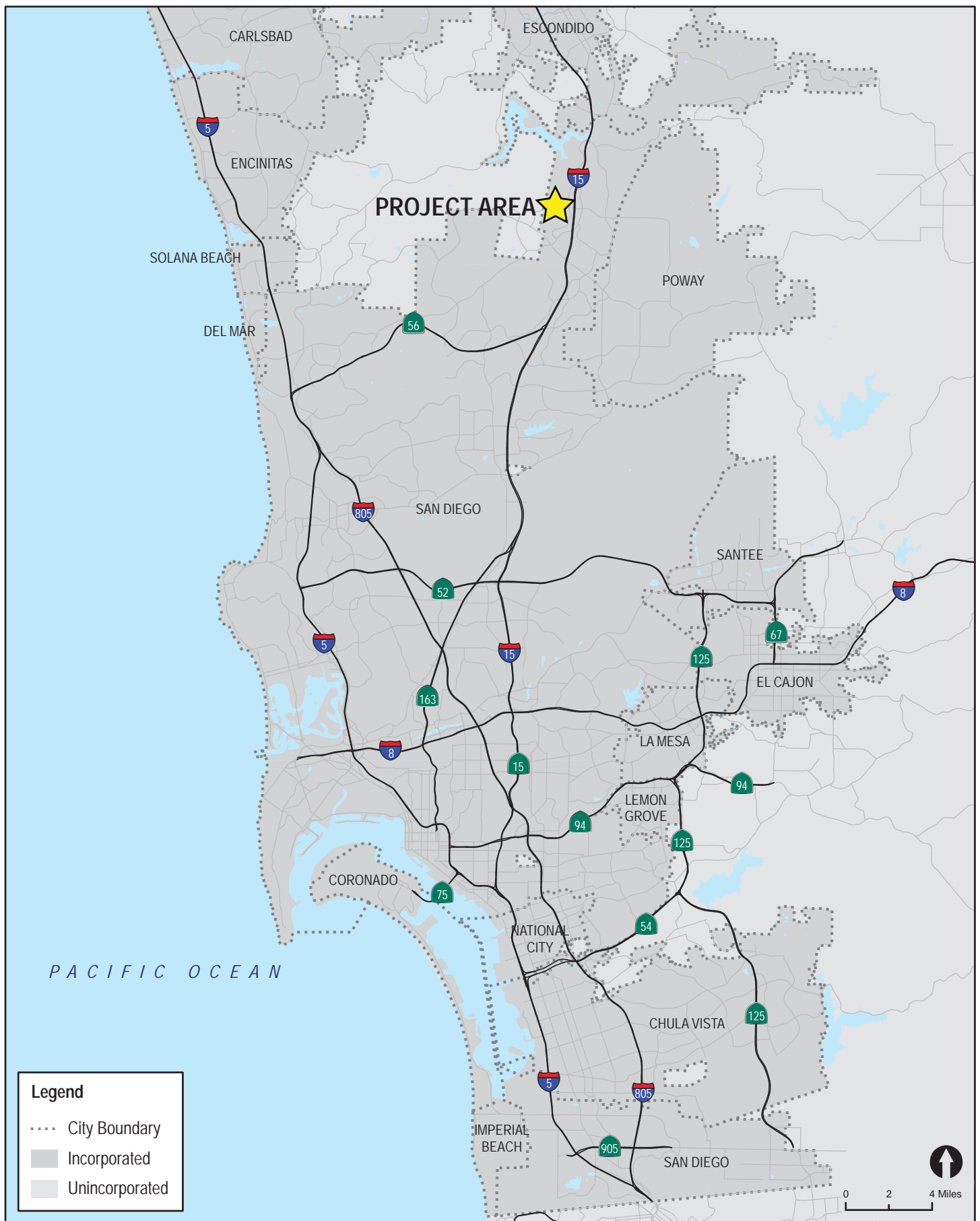
1.0 INTRODUCTION

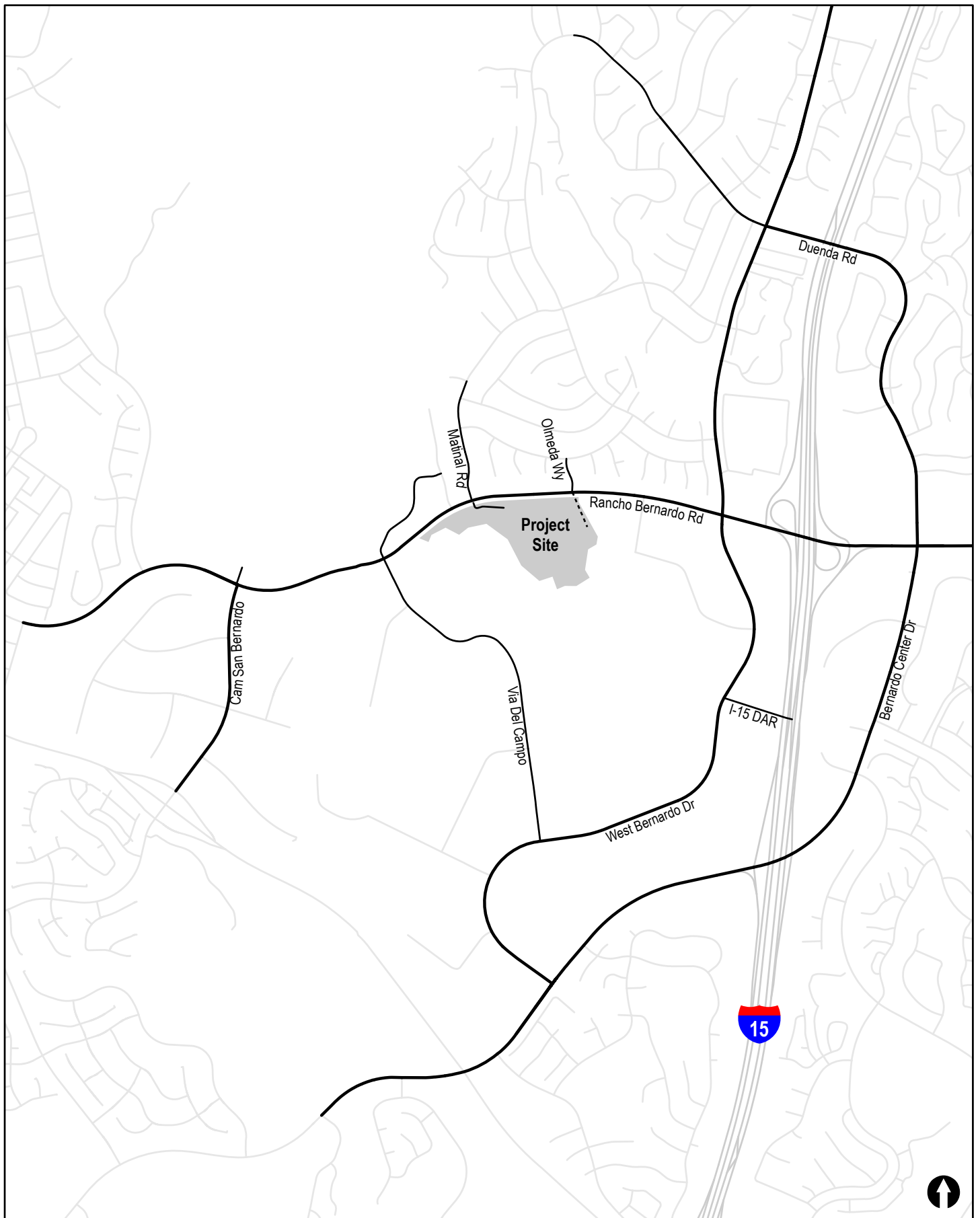
The following traffic study has been prepared to determine and evaluate the traffic impacts on the local circulation system due to the development of the Palomar Community College District South Education Center (proposed “Project”) in the Community of Rancho Bernardo, west of Interstate 15 in the City of San Diego. The purpose of this study is to assess the potential impacts to the local circulation system as a result of the Project.

Included in this traffic study are the following:

- Project Description
- Existing Conditions Discussion
- Analysis Approach, Study Area & Methodology
- Significance Criteria
- Analysis of Existing Conditions
- Trip Generation, Distribution & Assignment
- Analysis of Near-Term Scenarios
- Analysis of Long-Term Scenarios
- Access Assessment
- Approved Office Entitlement Analysis
- Transportation Demand Management Plan
- Significance of Impacts & Mitigation Measures

Figure 1–1 shows the vicinity map. *Figure 1–2* shows a more detailed Project area map.





2.0 PROJECT DESCRIPTION

2.1 Project Location

The Project is located at 11111 Rancho Bernardo Road on a 27-acre site approximately 0.8 miles west of Interstate 15 (I-15) on the southeast corner of the Rancho Bernardo Road/Matinal Road intersection within the Community of Rancho Bernardo in the City of San Diego. The site is currently occupied by the Bernardo Terrace Office Complex which consists of an 110,000 SF vacant office building accompanied by a separate four-story parking structure.

See previous *Figures 1–1* and *1–2* for the Project location.

2.2 Project Description

The South Education Center will be the second of two new centers within the District. It has been strategically located in the southern range of the District (Rancho Bernardo vicinity). The South Education Center will target an underserved population within the District. Because of its proximity to the southern and western boundaries of the District, it is also projected to attract out-of-district students from both the Mira Costa and San Diego Districts.

The proposed Project would convert the existing four-story, 110,000-square-foot building into a comprehensive community college education center; make improvements to the existing parking structure; construct an approximately 1,238 foot-long looped road connecting the existing parking lot to the existing parking structure; construct drainage improvements; and install walkways, hardscape areas, and landscaping.

The District plans their facilities using the full-time equivalent student (FTES) projections for an academic year. The academic year represents the Fall, Spring and Summer semesters combined. At Opening Day, the District anticipates a total of 1,000 annual FTES. Based on information provided by the District, this equates to a total of 2,812 enrolled students during the Fall semester. The maximum enrollment anticipated by the District by Year 2035 is projected at 2,000 annual FTES which amounts to a Fall semester enrollment of 5,625 students.

2.3 Project Access

Access to the project site is proposed via an existing ascending access road extending southeast from the existing Rancho Bernardo Road/Matinal Road four-way signalized intersection. A detailed discussion on Project access is included in *Section 11.0* of this report.

Figure 2–1 depicts the conceptual site plan.



3.0 EXISTING CONDITIONS

3.1 Study Area

The study area was based on the criteria identified in the City of San Diego *Traffic Impact Study Manual*, July 1998. Based on these criteria, the traffic study shall evaluate “all adjacent intersections plus the first major signalized intersection in each direction of the site.” In addition, the study area must include “all regionally significant arterial system segments and intersections, including mainline freeway locations, and on/off ramp intersections, where the project will add 50 or more peak hour trips in either direction to the adjacent street traffic.” Using the aforementioned criteria, the Project study area includes the following locations:

Intersections

1. Rancho Bernardo Road / Camino San Bernardo (*signalized*)
2. Rancho Bernardo Road / Via Del Campo (*signalized*)
3. Rancho Bernardo Road / Matinal Road (*signalized*)
4. Rancho Bernardo Road / West Bernardo Drive (*signalized*)
5. Rancho Bernardo Road / I-15 Southbound Ramps (*signalized*)
6. Rancho Bernardo Road / I-15 Northbound Ramps (*signalized*)
7. Rancho Bernardo Road / Bernardo Center Drive (*signalized*)
8. West Bernardo Drive / Duenda Road (*signalized*)
9. West Bernardo Drive / Via Del Campo (*signalized*)
10. West Bernardo Drive / Bernardo Center Drive (*signalized*)

Segments

Rancho Bernardo Road

1. Camino San Bernardo to Via Del Campo
2. Via Del Campo to Olmeda Way
3. Olmeda Way to West Bernardo Drive
4. West Bernardo Drive to the I-15 Southbound Ramps
5. I-15 Northbound Ramps to Bernardo Center Drive
6. Bernardo Center Drive to Bernardo Oaks Drive

West Bernardo Drive

7. Duenda Road to Rancho Bernardo Road
8. Via Del Campo to Bernardo Center Drive

Via Del Campo

9. Rancho Bernardo Road to West Bernardo Drive

Freeway Mainline segments

Interstate 15

1. North of Rancho Bernardo Road
2. South of Rancho Bernardo Road

Ramp Meter Locations

Interstate 15

1. Eastbound Rancho Bernardo Road to Southbound I-15
2. Eastbound Rancho Bernardo Road to Northbound I-15

3.2 Existing Street System

The following provides a brief description of the street system in the Project area. **Figure 3–1** illustrates existing conditions in terms of traffic lanes and intersection controls.

Interstate 15 (I-15) is constructed as a multi-lane freeway including four grade-separated high-occupancy vehicle (HOV) managed lanes. These “Express Lanes” traverse I-15 from State Route (SR) 163 to State Route 78. Concrete barriers separate the Express Lanes from the mainline traffic between SR 163 to Via Rancho Parkway. Double yellow lines separate the Express Lanes from the mainline lanes between Via Rancho Parkway and SR 78. The travel lanes are generally 12 feet in width and the shoulder is generally 10 to 12 feet in width a posted speed limit of 65 miles per hour (mph). A Direct Access Ramp (DAR) is located at the Rancho Bernardo Transit Station within close proximity to the proposed Project. These ramps allow for immediate access to the Express Lanes eliminating the need to travel over multiple lanes of traffic to enter and exit the Express Lanes. According to Caltrans, mainline lanes provide a carrying capacity of 2,000 passenger cars per hour per lane (pc/hr/lane), auxiliary lanes provide for 1,600 pc/hr/lane and HOV lanes provide for a capacity of 1,200 pc/hr/lane.

Rancho Bernardo Road is classified on the *Rancho Bernardo Community Plan* and currently built as a Four-Lane Major Street with an LOS E capacity of 40,000 ADT from the City of San Diego limits east of Via Del Campo to West Bernardo Drive. From West Bernardo Drive to Bernardo Center Drive it is classified as a Six-Lane Major Street. With a speed limit of 50 mph, a curb-to-curb width of approximately 108 feet, a 20-foot landscaped median and no on-street parking permitted, this segment functions as a Primary Arterial with an LOS E capacity of 60,000 ADT.

Via Del Campo is classified and currently built as a Three-Lane Collector with an LOS E capacity of 15,000 ADT on the *Rancho Bernardo Community Plan*. The “third lane” on Via Del Campo is represented by a TWLTL median. The posted speed limit on Via Del Campo is 35 mph with curbside parking generally permitted along some sections of the roadway.

Matinal Road is classified and currently built as a Two-Lane Collector with an LOS E capacity of 8,000 ADT on the *Rancho Bernardo Community Plan*. Curbside parking is permitted along both sides of the roadway. The posted speed limit is 25 mph.

West Bernardo Drive is classified as a Four-Lane Major Street on the *Rancho Bernardo Community Plan*. West Bernardo Drive is currently constructed as a four-lane roadway divided by a TWLTL with an LOS E capacity of 30,000 ADT. Curbside parking is prohibited and Class II bike lanes are provided along both sides of the roadway from Matinal Road continuing south within the study area. The posted speed limit on West Bernardo Drive is 40 mph.

3.3 Existing Bicycle Network

Based on field observations, there are Class II bike lanes provided along Rancho Bernardo Road from West Bernardo Drive continuing west within the study area, on West Bernardo Drive north and south of Rancho Bernardo Road, on Bernardo Center Drive from West Bernardo Drive to Rancho Bernardo Road and from the I-15 freeway ramps to Camino Del Norte.

Additionally, a Class III bike route extends to the east on Rancho Bernardo Road.

3.4 Existing Transit Conditions

Based on the most recent information on the San Diego Metropolitan Transit System (MTS) website, the following transit conditions are noted.

The Rancho Bernardo Transit Station is located on West Bernardo Drive at the I-15 Direct Access Ramps (DAR) to the I-15 Managed Lanes. The DAR provides immediate access to the I-15 Express Lanes for MTS Express Bus Service, carpools and vanpools, permitted clean air vehicles, and solo drivers using a FasTrak[®] account.

The Rancho Bernardo Transit Station is served by MTS Rapid Bus Route 237 (Rancho Bernardo to UC San Diego) Monday through Friday with 15-30 minute headways between 5:27 AM to 7:54 PM, Express Bus Route 270 (Rancho Bernardo to Sorrento Mesa) Monday through Friday with one-hour headways between 6:55 AM and 9:14 AM and 5:00 PM to 7:20 PM, and Rapid Express I-15 Service Route 290 (Rancho Bernardo/Sabre Springs to Downtown) Monday through Friday from 5:15 AM to 6:40 PM with 15-30 minute headways.

Bus Route 20 (Downtown to Rancho Bernardo) provides weekday service between 4:55 AM to 11:26 PM with 15 minute headways and Saturday/Sunday service between 5:40 AM to 9:17 PM with 30-minute headways Saturday and one-hour headways Sunday.

Current local bus transit service is provided in the Rancho Bernardo Community via Route 945 (Rancho Bernardo to Old Poway Park) which has a transit stop just over ½ mile from the Project site at the Rancho Bernardo Road/West Bernardo Drive intersection in addition to the Rancho Bernardo Transit Station. This route primarily travels along Pomerado Road connecting the Rancho Bernardo, Carmel Mountain, Sabre Springs, and City of Poway communities. Stops at the Rancho Bernardo Transit Station occur roughly every 30 minutes from 5:55 AM to 7:15 PM during the week and approximately every 45 minutes between 6:42 AM to 6:30 PM on Saturdays. No service is provided on Sundays.

Transfer service is available from the Rancho Bernardo Transit Center to additional transit routes serving the greater San Diego area.

3.5 Existing Pedestrian Conditions

Based on field observations within the study area, the following pedestrian conditions are noted:

Rancho Bernardo Road: Contiguous sidewalks are provided along the north and south sides of Rancho Bernardo Road. Approximately 100 feet west of Matinal Road, the paved sidewalk on the south side of the roadway terminates for a distance of approximately 650 feet. The paved sidewalk commences at the office building driveway with Rancho Bernardo Road about 450 feet from the Via Del Campo intersection. The signalized intersections along Rancho Bernardo Road within the study area provide controlled pedestrian crosswalks.

Camino San Bernardo: Contiguous sidewalks are provided along the east and west sides of Camino San Bernardo. The signalized intersections along Camino San Bernardo within the study area provide controlled pedestrian crosswalks.

Via Del Campo: Contiguous sidewalks are provided along the east and west sides of Via Del Campo. The signalized intersections along Camino San Bernardo within the study area provide controlled pedestrian crosswalks.

Matinal Road and Olmeda Way: Contiguous sidewalks are provided along both sides of these roadways. Curb cuts are provided along the sidewalks for residential driveways.

West Bernardo Drive: Contiguous sidewalks are provided along the east and west sides of West Bernardo Drive. South of the I-15 Transit Station intersection, the west side of the sidewalk terminates for approximately ½ mile. At an approximate distance of 450 feet from the Bernardo Center Drive intersection, the sidewalk terminates on the east side of the roadway. The signalized intersections along West Bernardo Drive within the study area provide controlled pedestrian crosswalks.

Bernardo Center Drive: Contiguous sidewalks are provided along the east and west sides of Bernardo Center Drive. The paved sidewalk on the north side of the roadway ends approximately 200 feet from the West Bernardo Drive intersection. The signalized intersections along West Bernardo Drive within the study area provide controlled pedestrian crosswalks.

Duenda Road: Contiguous sidewalks are provided along the north and south sides of Duenda Road. Curb cuts are provided along the sidewalks for residential driveways.

3.6 Existing Traffic Volumes

Existing AM and PM peak hour traffic volumes were collected at key area intersections to capture peak commuter activity. Intersections counts were conducted on Tuesday May 19, 2015 while schools were in session.

LLG also commissioned 24-hour street segment counts on Tuesday May 19, 2015 and Tuesday June 9, 2015 while schools were in session. *Table 3–1* shows the existing street segment Average Daily Traffic (ADT) volumes in the Project area. *Figure 3–2* shows the existing AM/PM peak hour

turning movements and ADTs. *Appendix A* contains the peak hour intersection and daily segment count sheets.

Peak hour and daily freeway volumes were taken from the most recent Caltrans Performance Measurement System (PeMS) data. The PeMS software distributes real-time peak hour and average daily traffic volumes and provides a graphical representation of volumes at each PeMS station location. Average daily freeway volumes and peak hour freeway volumes were from May 19, 2015 (the same day as manual traffic data collection at study area intersections and street segments). All study area locations indicated the correct lane configuration and provided data for mainline lanes, managed lanes (high-occupancy vehicles), and auxiliary lanes.

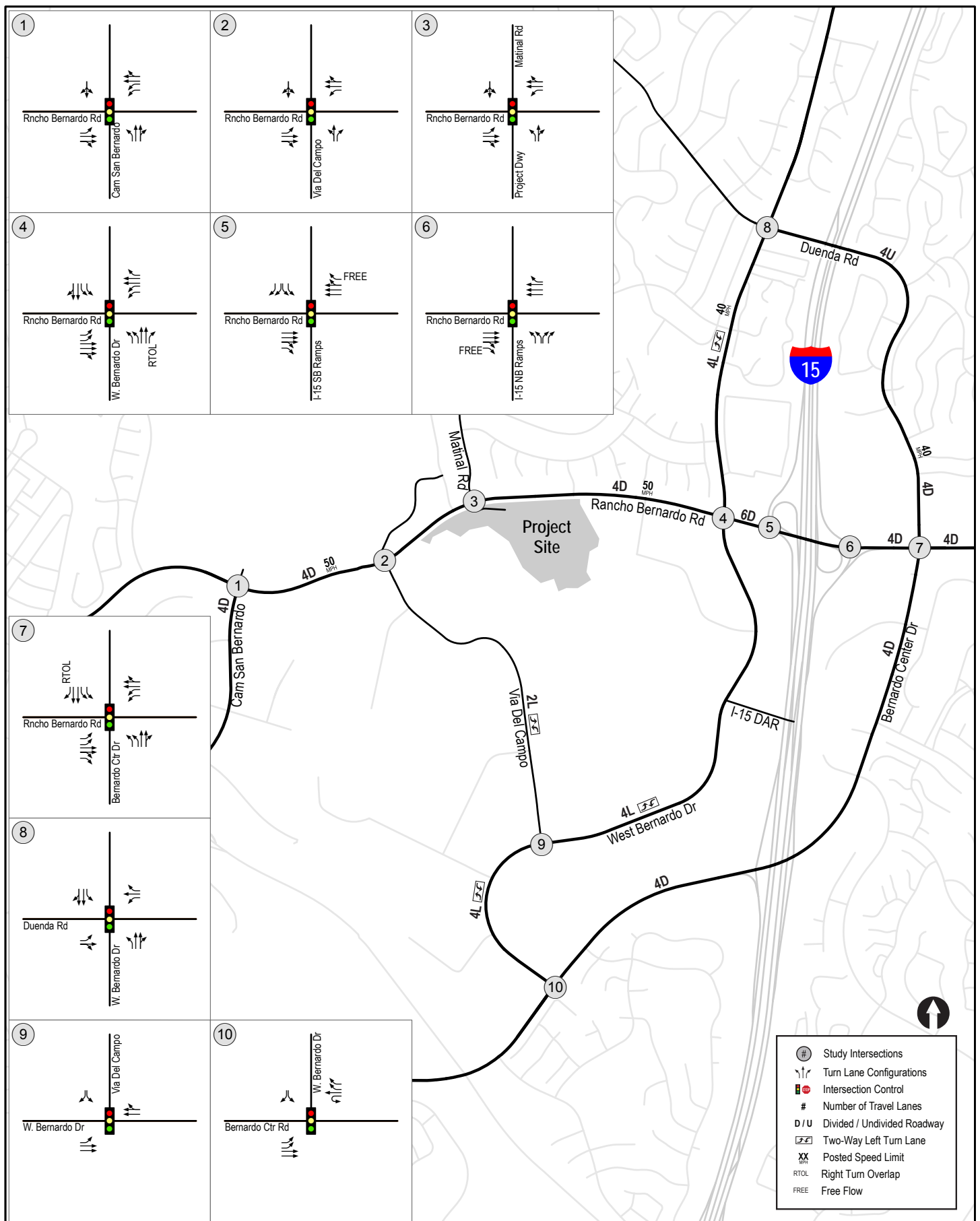
Table 3-1 is a summary for the I-15 freeway mainline available average daily traffic volumes (ADTs). *Appendix A* contains the freeway mainline and on-ramp traffic data.

**TABLE 3-1
EXISTING TRAFFIC VOLUMES**

Street Segments	ADT ^a
Rancho Bernardo Road	
1. Camino San Bernardo to Via Del Campo	26,840
2. Via Del Campo to Matinal Road	27,710
3. Matinal Road to W. Bernardo Drive	27,850
4. W. Bernardo Drive to I-15 SB Ramps	46,260
5. I-15 NB Ramps to Bernardo Center Drive	35,790
6. Bernardo Center Drive to Bernardo Oaks Drive	27,230
West Bernardo Drive	
7. Duenda Road to Rancho Bernardo Road	14,820
8. Via Del Campo to Bernardo Center Drive	13,200
Via Del Campo	
9. Rancho Bernardo Road to West Bernardo Drive	4,880
Freeway Segments	ADT ^b
1. North of Rancho Bernardo Road	209,200
2. South of Rancho Bernardo Road	217,400

Footnotes:

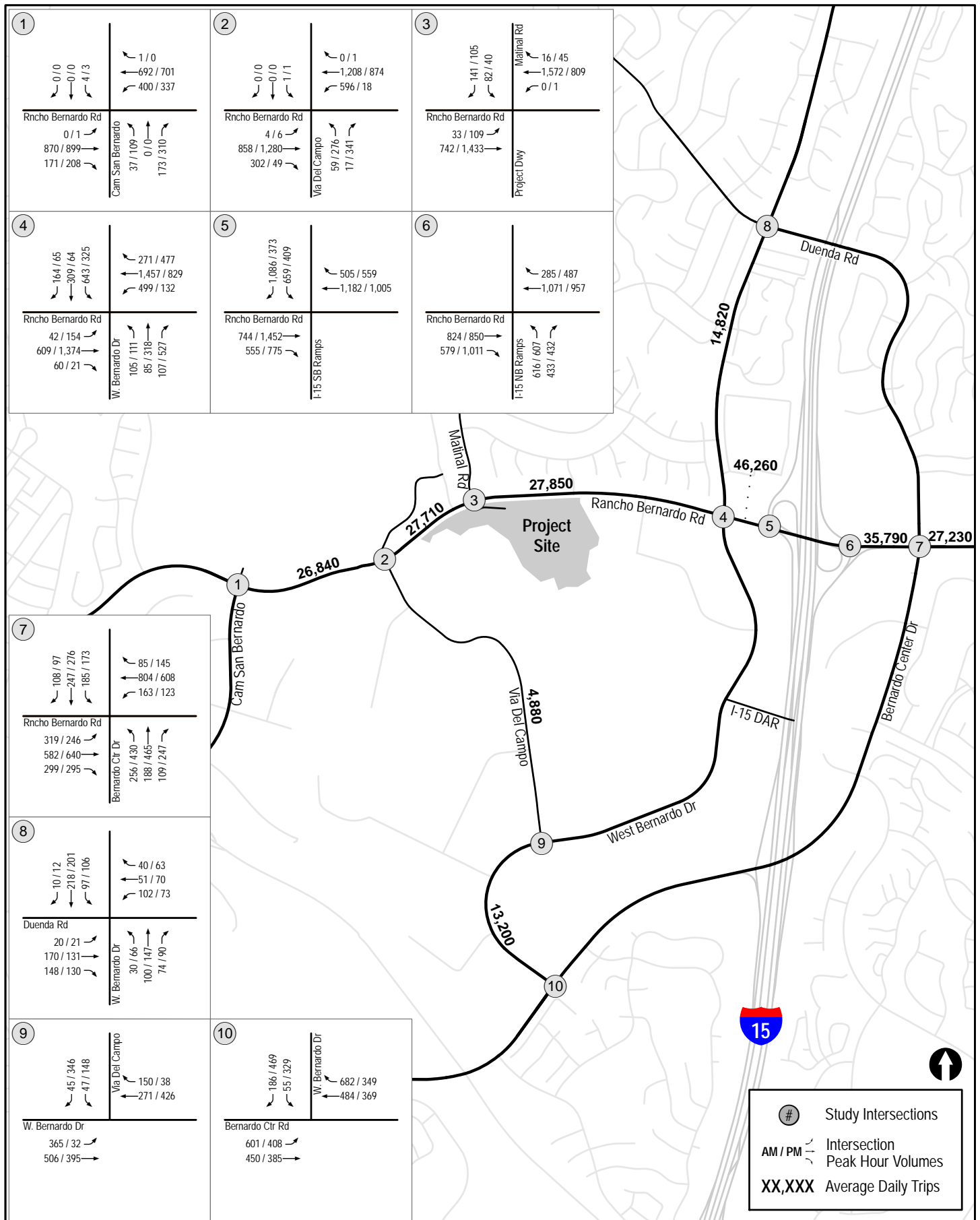
- a. Average Daily Traffic Volumes. Data collected by LLG, Engineers in May and June 2015 while schools were in session.
- b. Caltrans ADT taken from May 19, 2015 PeMS data, rounded to the nearest tenth.



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Figure 3-1

Existing Conditions Diagram



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Figure 3-2

Existing Traffic Volumes

4.0 ANALYSIS APPROACH AND METHODOLOGY

4.1 Analysis Approach

The Project site is currently developed with an existing 110,000 SF office building. The office building has never been occupied and is therefore not generating traffic. As previously stated, the maximum number of enrolled students which could be accommodated by the education center by Year 2035 would be 5,625 students in Fall semester. It is planned, however, for only 2,812 students to enroll in course offerings at Opening Day. Therefore, this report analyzes the traffic conditions at Opening Day (Year 2018) with 2,812 enrolled students and at maximum enrollment (Year 2035) with 5,625 enrolled students.

4.2 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. Level of service provides an index to the operational qualities of a roadway segment or an intersection. Level of service designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. Level of service designation is reported differently for signalized and unsignalized intersections, as well as for roadway segments.

4.2.1 Intersections

Signalized intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay was determined utilizing the methodology found in Chapter 18 of the *2010 Highway Capacity Manual (HCM)*, with the assistance of the *Synchro* (version 9) computer software. The delay values (represented in seconds) were qualified with a corresponding intersection Level of Service (LOS).

4.2.2 Street Segments

Street segment analysis is based upon the comparison of daily traffic volumes (ADTs) to the City of San Diego's and County of San Diego's *Roadway Classification, Level of Service, and ADT Table*. These tables provide segment capacities for different street classifications, based on traffic volumes and roadway characteristics. The roadway classification tables are attached in **Appendix B**.

4.2.3 Freeway Segments

Freeway segments were analyzed during the AM and PM peak hours based on the methodologies as outlined in the SANTEC/ITE Guidelines developed by Caltrans. The freeway segments LOS is based on a Volume to Capacity (V/C) method. Page 5 of Caltrans' *Guide for the Preparation of Traffic Impact Studies*, December 2002 documents a maximum service flow rate of 2,350 passenger cars per hour per lane (pcphpl). However, the standard of practice per Caltrans is to utilize a rate of 2,000 pcphpl for mainline lanes, 1,500 pcphpl for auxiliary lanes, and 1,600 pcphpl for HOV lanes. Counts were taken from the Caltrans Performance Measurement System (PeMS) on the date of May 19, 2015, the same date for which manual street segment and intersection counts were collected. High-occupancy vehicle (HOV) lanes were excluded from the collected traffic volumes and freeway

capacity since these lanes operate at a relatively constant flow and not part of the mainline flow of freeway traffic. The freeway LOS operations are summarized below in *Table 4-1*.

**TABLE 4-1
CALTRANS DISTRICT 11
FREEWAY SEGMENT LEVEL OF SERVICE DEFINITIONS**

LOS	V/C	Congestion/Delay	Traffic Description
USED FOR FREEWAYS, EXPRESSWAYS AND CONVENTIONAL HIGHWAYS			
A	<0.41	None	Free flow
B	0.42-0.62	None	Free to stable flow, light to moderate volumes.
C	0.63-0.80	None to minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted
D	0.81-0.92	Minimal to substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver.
E	0.93-1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor.
USED FOR FREEWAYS AND EXPRESSWAYS			
F(0)	1.01-1.25	Considerable: 0-1 hour delay	Forced flow, heavy congestion, long queues form behind breakdown points, stop and go.
F(1)	1.26-1.35	Severe 1-2 hour delay	Very heavy congestion, very long queues.
F(2)	1.36-1.45	Very Severe: 2-3 hour delay	Extremely heavy congestion, longer queues, more numerous breakdown points, longer stop periods.
F(3)	>1.46	Extremely Severe: 3+ hours of delay	Gridlock

4.2.4 Freeway Ramp Meters

Ramp delays and queues were calculated using, a calculated delay and queue methodology. High occupancy vehicle (HOV) counts were available via the PeMS website and were included in the analysis. The one hour peak period selected from PeMS data represents the peak hour for traffic on the freeway ramps and may differ from the peak hour volume calculated for the entire intersection.

The calculated delay and queue approach is based solely on the specific time intervals at which the ramp meter is programmed to release traffic entering the freeway. The calculated delay and queue approach generally tends to produce unrealistic queue lengths and delays. The results are theoretical and based on the most restrictive (rate code F) ramp meter rate. Furthermore, the fixed rate approach does not take into account driver behavior and trip diversion due to high ramp meter delays.

5.0 SIGNIFICANCE CRITERIA

According to the City of San Diego's *Significance Determination Thresholds* report dated January 2007, a project is considered to have a significant impact if the new project traffic has decreased the operations of surrounding roadways by a City defined threshold. For projects deemed complete on or after January 1, 2011, the City defined threshold by roadway type or intersection is shown in *Table 5-1*.

The impact is designated either a "direct" or "cumulative" impact. According to the City's *Significance Determination Thresholds* report,

"Direct traffic impacts are those projected to occur at the time a proposed development becomes operational, including other developments not presently operational but which are anticipated to be operational at that time (near term)."

"Cumulative traffic impacts are those projected to occur at some point after a proposed development becomes operational, such as during subsequent phases of a project and when additional proposed developments in the area become operational (short-term cumulative) or when affected community plan area reaches full planned Year 2035 (long-term cumulative)."

"It is possible that a project's near term (direct) impacts may be reduced in the long term, as future projects develop and provide additional roadway improvements (for instance, through implementation of traffic phasing plans). In such a case, the project may have direct impacts but not contribute considerably to a cumulative impact."

"For intersections and roadway segments affected by a project, LOS D or better is considered acceptable under both direct and cumulative conditions."

If the project exceeds the thresholds in *Table 5-1*, then the project may be considered to have a significant "direct" or "cumulative" project impact. A significant impact can also occur if a project causes the LOS to degrade from D to E, even if the allowable increases in *Table 5-1* are not exceeded. A feasible mitigation measure will need to be identified to return the impact within the City thresholds, or the impact will be considered significant and unmitigated.

Caltrans currently does not have significance criteria for ramp meter analyses. Therefore, analyses performed at these locations are technically informational at best. However, the City of San Diego has indicated that an impact to a ramp meter is a factor of the mainline operations. When Project traffic results in an increase in the delay at a ramp meter greater than 2.0 minutes for LOS E operating freeway mainline segments and greater than 1.0 minute for LOS F operating freeway mainline segments, a significant ramp meter impact is identified.

It should be noted that the segment of Rancho Bernardo Road between Camino San Bernardo and Via Del Campo is located in both the City of San Diego and County of San Diego. The traffic count data collected along this roadway was located within the City's jurisdiction. Therefore, the City of San Diego significance criteria was applied since the portion of the roadway closest to the Project is within City Limits and the Project is located within the City of San Diego.

**TABLE 5-1
CITY OF SAN DIEGO
TRAFFIC IMPACT SIGNIFICANT THRESHOLDS**

Level of Service with Project ^b	Allowable Increase Due to Project Impacts ^a					
	Freeways		Roadway Segments		Intersections	Ramp Metering ^c
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec.)	Delay (min.)
E	0.010	1.0	0.02	1.0	2.0	2.0
F	0.005	0.5	0.01	0.5	1.0	1.0

Footnotes:

- a. If a proposed project's traffic causes the values shown in the table to be exceeded, the impacts are determined to be significant. The project applicant shall then identify feasible improvements (within the Traffic Impact Study) that will restore/and maintain the traffic facility at an acceptable LOS. If the LOS with the proposed project becomes unacceptable (see note b), 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 the project's direct significant and/or cumulatively considerable traffic impacts.
- b. All LOS measurements are based upon Highway Capacity Manual procedures for peak-hour conditions. However, V/C ratios for roadway segments are estimated on an ADT/24-hour traffic volume basis (using Table 2 of the City's Traffic Impact Study Manual). The acceptable LOS for freeways, roadways, and intersections is generally "D" ("C" for undeveloped locations). For metered freeway ramps, LOS does not apply. However, ramp meter delays above 15 minutes are considered excessive.
- c. The allowable increase in delay at a ramp meter with more than 15 minutes delay and freeway LOS E is 2 minutes. The allowable increase in delay at a ramp meter with more than 15 minutes delay and freeway LOS F is 1 minute.

General Notes:

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

6.0 ANALYSIS OF EXISTING CONDITIONS

The following section presents the analysis of existing study area locations.

6.1 Peak Hour Intersection Operations

Table 6–1 summarizes the existing intersections LOS. As seen in *Table 6–1*, all intersections are calculated to currently operate at LOS D or better.

Appendix C contains the existing intersection analysis worksheets.

6.2 Daily Street Segment Operations

Table 6–2 summarizes the existing roadway segment operations. As seen in *Table 6–2*, the study area segments are calculated to currently operate at LOS D or better except for the following:

- Street Segment #5. Rancho Bernardo Road between the I-15 Northbound Ramps and Bernardo Center Drive – LOS E

6.3 Freeway Mainline Operations

Table 6–3 summarizes the existing freeway mainline operations on I-15. As seen in *Table 6–3*, the northbound and southbound segments of I-15 north and south of Rancho Bernardo Road currently operate at an acceptable LOS D or better during both the AM and PM peak hours except for the segment on I-15 south of Rancho Bernardo Road in the southbound direction which is calculated to operate at LOS E in the AM peak hour.

6.4 Freeway Ramp Meter Operations

Table 6–4 summarizes the operations of the on-ramp meters. As seen in *Table 6–4*, the metered operations of the I-15 on-ramps are calculated to currently operate with zero (0) minutes of delay during the AM peak hour and 8.3 minutes of delay during the PM peak hour.

TABLE 6-1
EXISTING INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing	
			Delay ^a	LOS ^b
1. Rancho Bernardo Road/ Camino San Bernardo	Signal	AM PM	17.1 21.8	B C
2. Rancho Bernardo Road/ Via Del Campo	Signal	AM PM	33.6 21.2	C C
3. Rancho Bernardo Road/ Matinal Road	Signal	AM PM	17.6 11.9	B B
4. Rancho Bernardo Road/ W. Bernardo Drive	Signal	AM PM	37.8 38.1	D D
5. Rancho Bernardo Road/ I-15 SB Ramps	Signal	AM PM	28.7 15.6	C B
6. Rancho Bernardo Road/ I-15 NB Ramps	Signal	AM PM	21.1 21.0	C C
7. Rancho Bernardo Road/ Bernardo Center Drive	Signal	AM PM	29.3 34.1	C C
8. W. Bernardo Drive/ Duenda Road	Signal	AM PM	20.9 21.3	C C
9. W. Bernardo Drive/ Via Del Campo	Signal	AM PM	15.7 19.0	B B
10. W. Bernardo Drive/ Bernardo Center Drive	Signal	AM PM	15.5 17.0	B B

Footnotes:

- a. Average delay expressed in seconds per vehicle.
- b. Level of Service.

General Notes:

1. **Bold** typeface indicates less than acceptable LOS.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
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 6-2
EXISTING DAILY STREET SEGMENT OPERATIONS

Street Segment	Functional Classification	Capacity (LOS E) ^a	ADT ^b	LOS ^c	V/C ^d
Rancho Bernardo Road					
1. Camino San Bernardo to Via Del Campo	4-lane Major Road	40,000	26,840	C	0.671
2. Via Del Campo to Matinal Road	4-lane Major Road	40,000	27,710	C	0.693
3. Matinal Road to West Bernardo Drive	4-lane Major Road	40,000	27,850	C	0.696
4. West Bernardo Drive to I-15 SB Ramps ^e	6-lane Primary Arterial	60,000	46,260	C	0.771
5. I-15 NB Ramps to Bernardo Center Drive	4-lane Major Road	40,000	35,790	E	0.895
6. Bernardo Center Drive to Bernardo Oaks Drive	4-lane Major Road	40,000	27,230	C	0.681
West Bernardo Drive					
7. Duenda Road to Rancho Bernardo Road	4-lane Collector w/ TWLTL	30,000	14,820	C	0.494
8. Via Del Campo to Bernardo Center Drive	4-lane Collector w/ TWLTL	30,000	13,200	B	0.440
Via Del Campo					
9. Rancho Bernardo Road to West Bernardo Drive ^f	3-lane Collector	15,000	4,880	A	0.325

Footnotes:

- a. Capacities based on City of San Diego Roadway Classification Table.
- b. Average Daily Traffic Volumes.
- c. Level of Service.
- d. Volume to Capacity.
- e. With a speed limit of 50 mph, a curb-to-curb width of approximately 108 feet, a 20-foot landscaped median and no on-street parking, the characteristics of this segment functions as a Primary Arterial with an LOS E capacity of 60,000 ADT.
- f. Roadway consists of two travel lanes with a two-way center turn lane. Rancho Bernardo Community Plan 3-Lane Collector equivalent to 2-Lane Collector with TWLTL (third lane).

General Notes:

1. TWLTL = Two-way left-turn lane.

**TABLE 6-3
EXISTING FREEWAY MAINLINE OPERATIONS**

Freeway Segment	Dir.	# of Lanes	Hourly Capacity ^a	Volume ^b	Peak Hour Volume ^c		V/C ^d		LOS ^e	
					AM	PM	AM	PM	AM	PM
Interstate 15										
1. North of Rancho Bernardo Road	NB	5M+2ML	10,000	209,200	5,406	8,874	0.541	0.887	B	D
	SB	5M+2ML+1A	11,500		9,461	6,681	0.823	0.581	D	B
2. South of Rancho Bernardo Road	NB	5M+2ML+1A	11,500	217,400	6,211	9,136	0.540	0.794	B	C
	SB	5M+2ML	10,000		9,352	6,965	0.935	0.697	E	C

Footnotes:

- Capacity calculated at 2000 passenger cars per hour (vph) per lane (pcphpl) for mainline and 1,500 pcphpl for auxiliary lanes per *Caltrans Guide for the Preparation of Traffic Impact Studies, Dec 2002*. Managed Lanes (ML) excluded from the mainline analysis.
- Existing ADT volumes taken from most recent May 19, 2015 PeMS traffic volumes
- Peak hour volumes taken from most recent May 19, 2015 PeMS traffic volumes.
- V/C = (Peak Hour Volume/Hourly Capacity)
- LOS = Level of Service

LOS	V/C
A	<0.41
B	0.62
C	0.80
D	0.92
E	1.00
F(0)	1.25
F(1)	1.35
F(2)	1.45
F(3)	>1.46

General Notes:

- M = Mainline. Peak hour volumes represent mainline traffic volumes only.
- A = Auxiliary Lanes.
- ML = Managed Lanes consisting of High Occupancy Vehicle Lanes (HOV)

**TABLE 6-4
EXISTING RAMP METER OPERATIONS**

Location	Peak Hour ^a	Peak Hour Demand (D) ^b	Flow (F) ^c	Excess Demand (E) (veh)	Delay (min.)	Queue (ft.) ^d
I-15 / Rancho Bernardo Road Interchange						
1. EB Rancho Bernardo Road to SB I-15 (2 SOV + 1 HOV)	AM	333	600	0	0.0	0
2. EB Rancho Bernardo Road to NB I-15 (1 SOV + 1 HOV)	PM	656	576	80	8.3	2,000

Footnotes:

- Peak hours shown during ramp meter operations.
- Peak hour demand in vehicles/hour/lane per SOV lane only. Volumes taken from PeMS May 19, 2015 data.
- Meter Rates obtained from Caltrans.
- Queue calculated assuming vehicle length of 25 feet.

General Notes:

- SOV = Single-Occupancy Vehicle, HOV = High Occupancy Vehicle

7.0 OPENING DAY CONDITIONS

For purposes of this analysis, it was assumed the Project would be constructed and operational by the Year 2018. This timeframe represents the near-term “Opening Day” baseline conditions. By Opening Day, it would be expected that ambient growth would occur within the study area due to other developments projects. “Cumulative” projects are other projects in the study area that are expected to be constructed and occupied between the date of existing data collection (May 2015) and the time of the Project’s expected Opening Day in Year 2018, thus adding traffic to the local circulation system. LLG consulted with City of San Diego staff to identify relevant, pending cumulative projects in the study area that could be constructed and generating traffic in the Project vicinity. Based on information received from City staff and subsequent research, three (3) cumulative development projects were assumed to be developed and generating traffic prior to the Opening Day condition. The following is a brief description of each of the cumulative projects. *Table 7-1* provides a summary of the cumulative project trip generation summary. *Figure 7-1* depicts the Cumulative Projects Location Map.

7.1 Description of Cumulative Projects

1. The **Sharp Rees-Stealy Medical Office Building** project proposes to relocate the existing 57,400 SF facility at 16950 Via Tazon and expand their operations within a 100,000 SF building at 16899 West Bernardo Drive currently under construction and opening in Year 2017. These two locations are within a short distance of one another and therefore, the travel patterns within the study remain relatively unchanged. Given the existing facility on Via Tazon was fully operational at the time of existing data collection, the net increase in traffic generated by the expansion and relocation of the Sharp Rees-Stealy Medical Office Building project was included in the traffic analysis. Using the City of San Diego trip generation rates for medical office at 40 trips per thousand square feet (KSF), the net traffic generated by this project is 2,130 ADT with 102 AM inbound/ 26 AM outbound peak hour trips and 64 PM inbound/ 149 PM outbound trips.
2. The **Del Sur Shopping Center** is located in the northern end of Black Mountain Ranch, over two miles west of the Project site, and will primarily provide commercial and retail amenities to the residents of Black Mountain Ranch (Del Sur) and 4S Ranch. These types of retail uses generally serve the immediate surrounding residents and thus, do not necessarily add a great amount of new trips to the system. It is anticipated that the shopping center will attract pass-by trips from drivers destined to/from work/home that are already on study area roadways. However, a total of 1,000 ADT and 25 AM inbound/outbound and 25 PM inbound/outbound peak hour trips were assigned to the study area as new trips for inclusion in the traffic analysis.
3. The **Phil’s Barbeque** restaurant is a remodel of the former 7,720 SF Elephant Bar Restaurant. At the time of data collection, the former restaurant had already been closed. Therefore, using the City of San Diego trip generation rates for quality

restaurant at 100 trips per KSF, a total of 772 ADT with 5 inbound/ 4 outbound AM peak hour trips and 43 inbound/ 18 outbound PM peak hour trips were assigned to the study area for inclusion in the traffic analysis.

**TABLE 7-1
CUMULATIVE DEVELOPMENT PROJECTS SUMMARY**

No.	Name	Project	ADT ^a	AM		PM		Status
				In	Out	In	Out	
1	Sharp Rees-Stealy Medical Office	100 KSF medical office (Net 46 KSF Relocation)	2,130	102	26	64	149	Under Construction
2	Del Sur Shopping Center	Commercial Shopping Center	1,000	25	25	25	25	Under Construction
3	Phil's BBQ	7.7 KSF Restaurant	772	5	4	43	18	Under Construction
Total Cumulative Projects			3,902	132	55	132	57	—

Footnotes:

a. Average daily traffic.

7.2 Network Conditions

The segment of Rancho Bernardo Road between the I-15 Northbound Ramps to Bernardo Center Drive is planned to be improved to its Community Plan classification as a Six-Lane Major per the *Rancho Bernardo Public Facilities Financing Plan (PFFP) FY 2013*, Project No. T-6. The widening is fully funded by the Black Mountain Ranch Facilities Benefit Assessment (FBA) with a date of completion anticipated for FY 2016/2017.

The intersection of West Bernardo Drive at Bernardo Center Drive is planned to be improved to provide an additional thru lane on Bernardo Center Drive in the southwesterly direction to ultimately provide two right-turn lanes, two thru lanes, one U-turn lane. This is identified as Project No. T-45 in the *Black Mountain Ranch PFFP FY 2015*. The improvements are fully funded by the Black Mountain Ranch FBA with a date of completion anticipated for FY 2016.

However, the completion date for these projects is contingent on the development progress of Black Mountain Ranch. It was therefore decided to conservatively assume these improvements would not be completed by Opening Day Year 2018, but would be completed by Year 2035.

7.3 Traffic Volumes

Cumulative project traffic was assigned to the street system to arrive at Opening Day conditions. **Figure 7-2** depicts the Cumulative Project only traffic volumes. **Figure 7-3** depicts the Opening Day Without Project traffic volumes.

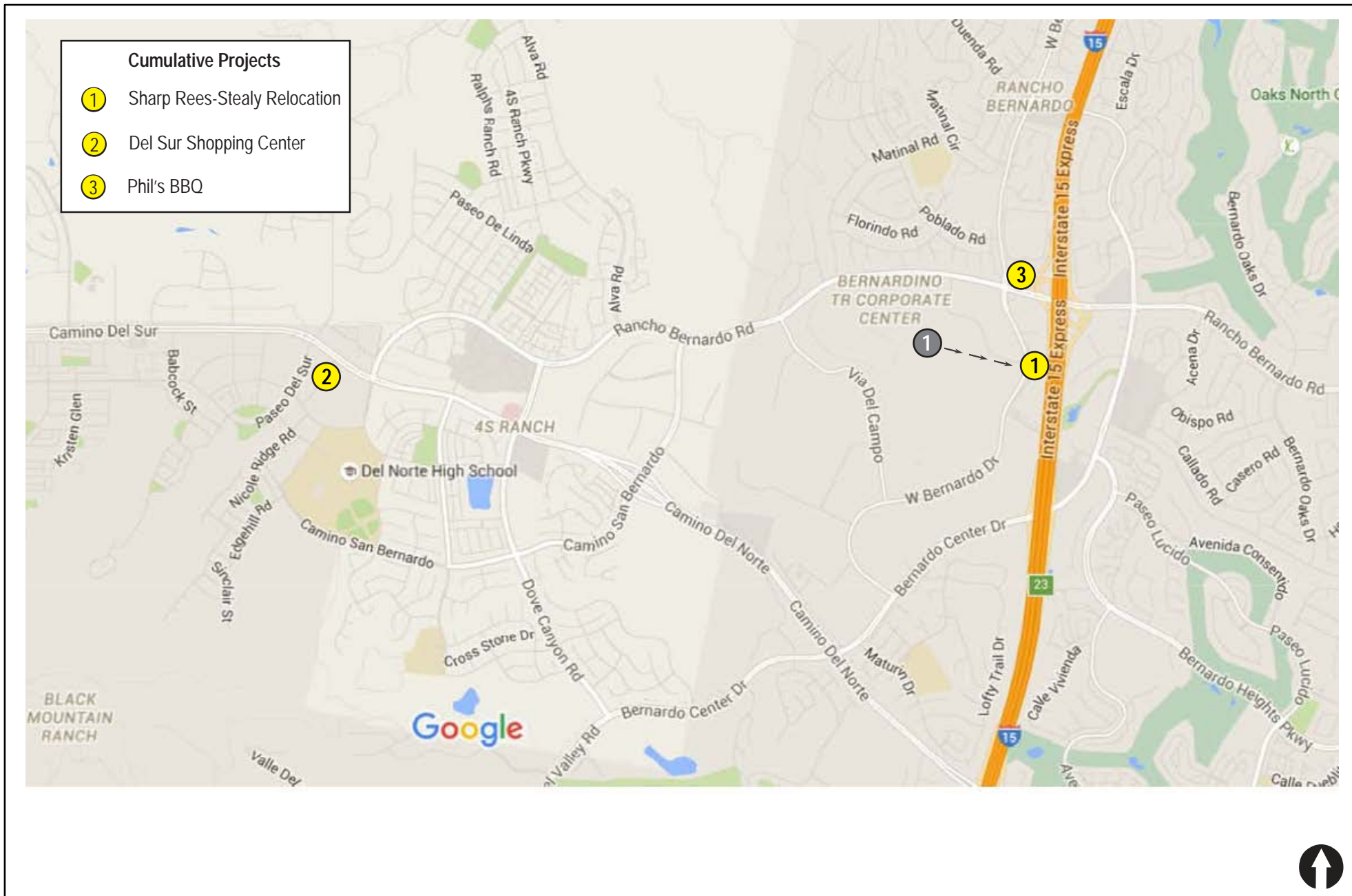
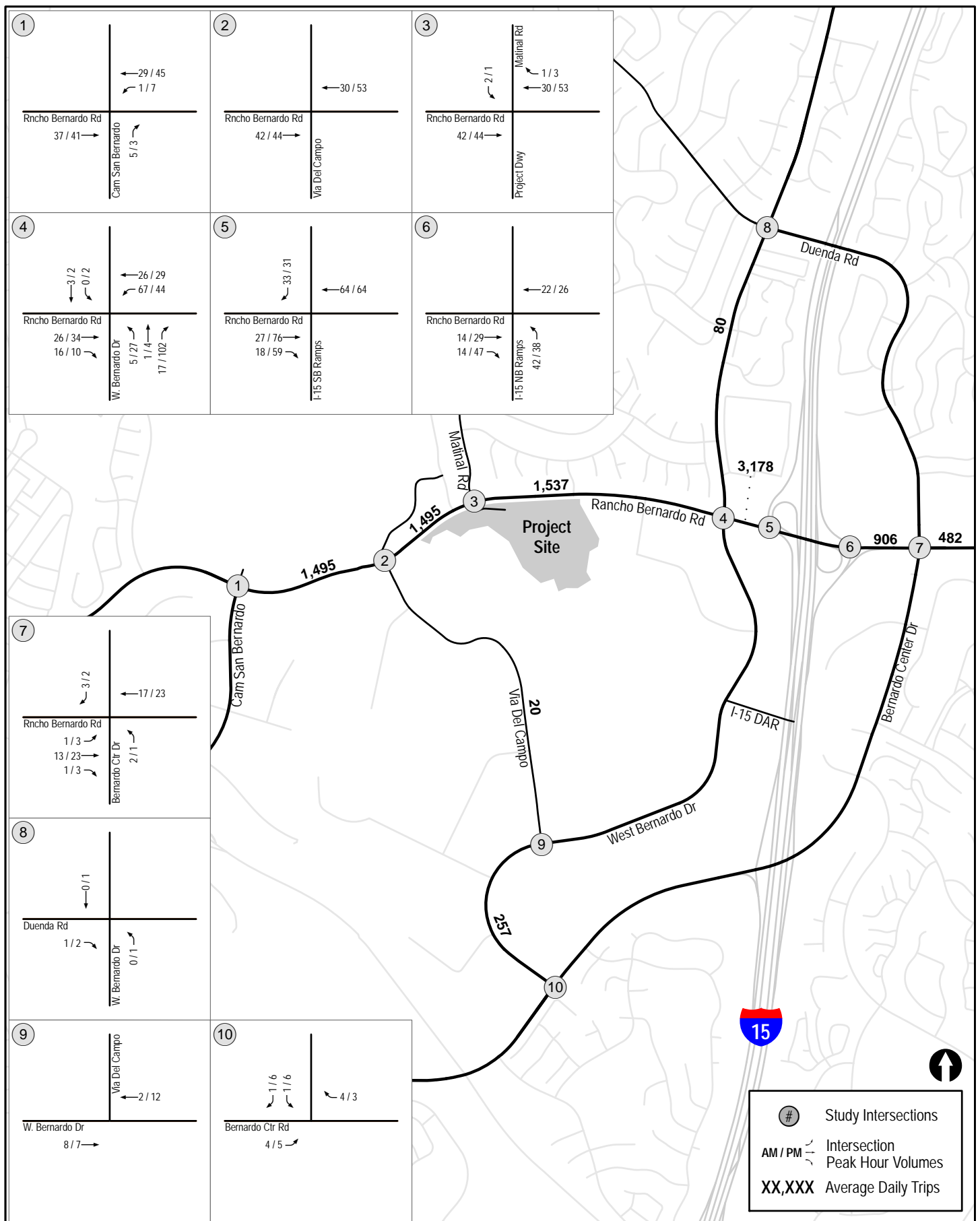


Figure 7-1

Cumulative Projects Location Map

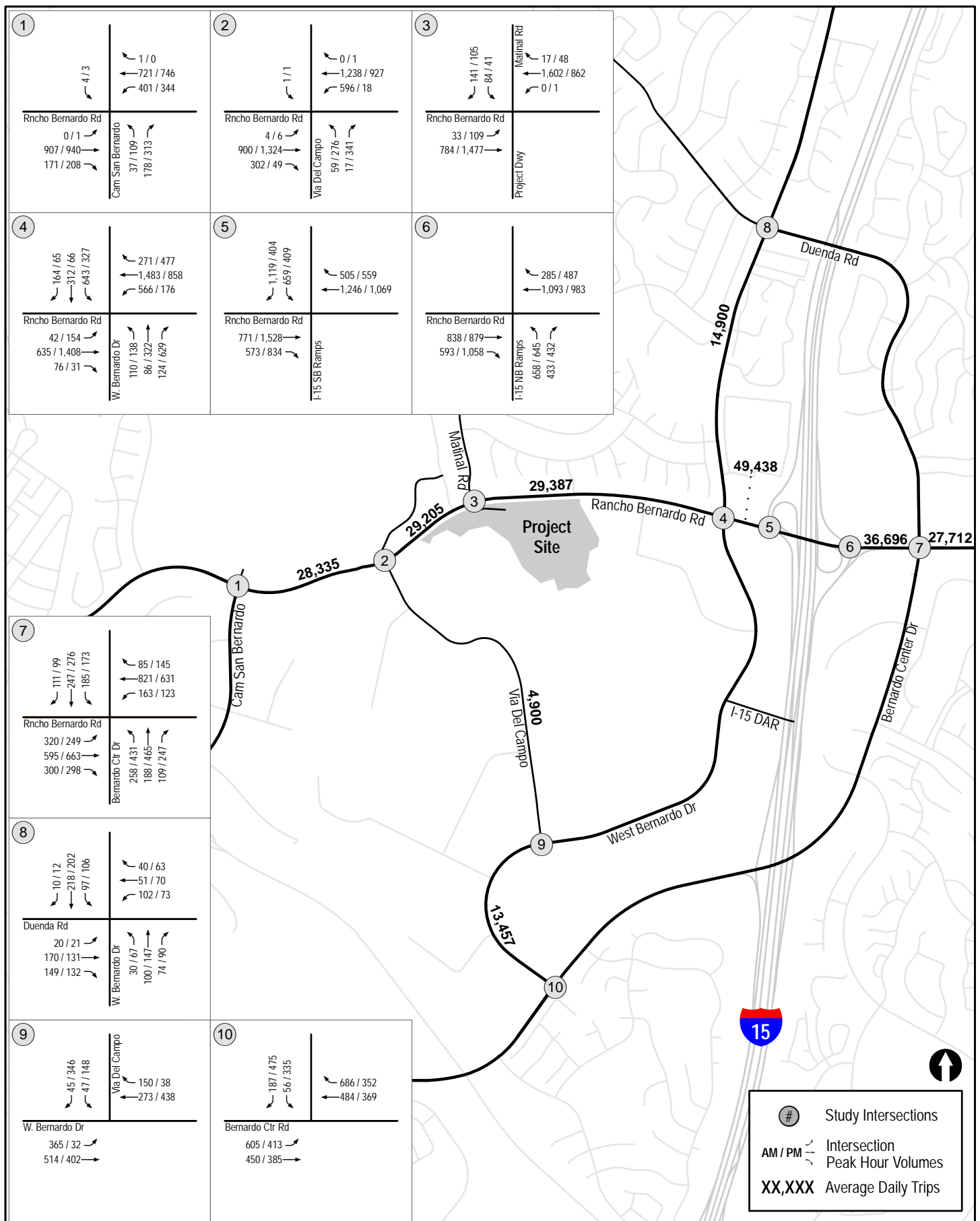
PALOMAR COLLEGE SOUTH EDUCATION CENTER



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Figure 7-2

Cumulative Projects Traffic Volumes



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Figure 7-3
Opening Day Without Project Traffic Volumes

8.0 TRIP GENERATION/DISTRIBUTION/ASSIGNMENT

8.1 Trip Generation

As discussed in *Section 4.1* of this report, the Project anticipates an enrollment of 2,812 students at Opening Day. At maximum enrollment, the site would be able to accommodate up to 5,625 students by Year 2035. The analysis is therefore phased to analyze the effects on network conditions with the traffic generated by the Opening Day enrollment projections and under maximum enrollment conditions in the Year 2035. Trip Generation

Trip generation rates were researched in the SANDAG trip generation manual for an “education center” land use such as the Project. SANDAG has published rates for “Junior College (2 years)”. However, there are specific differences between a community college campus and education center that would affect the traffic generation rates. The education center does not have the full complement of services as a full community college campus. Of particular note are the lack of sports fields and extracurricular activities offered to students, and a much lower school population with fewer course and degree program offerings.

The California Postsecondary Education Commission (CPEC) has established *Guidelines for Proposed University Campuses, Community Colleges, and Education Centers* (August 1992). The guidelines have established several difference in comparing “education center” versus “community college”. The CPEC Guidelines define an educational center as “an off-campus enterprise owned or leased by the parent district and administered by a parent college. The center must...maintain an onsite administration (typically headed by a dean or director, but not by a president, chancellor, or superintendent), and offer programs leading to the certificates or degrees to be conferred by the parent institution.” In contrast, the *Guidelines* define a community college as “A full-service...institution offering a full complement of lower-division programs and services, usually at a single campus location owned by the district; colleges enroll a minimum of 1,000 full-time-equivalent students. A college will have its own administration and be headed by a president or a chancellor.” In addition, the proposed Project will require reduced administrative staff and space, due to the smaller range of classes and facilities, as compared to a community college. Similarly, maintenance staff and facilities needed to serve the Project site would be reduced as compared to that of a typical community college, as extensive maintenance needs are not anticipated.

Because the education center would function differently, and not have the full complement of services as a full community college campus (such as the District’s San Marcos Campus), the standard SANDAG trip generation rate at 1.2 trips per student likely overstates the future traffic activity at the education center. However, for purposes of being conservative, the SANDAG junior college trip rate was used in the analysis.

Table 8–1 shows the Project daily traffic generation using the SANDAG rates. As shown in **Table 8–1**, at Opening Day the Project is calculated to generate 3,374 ADT with 324 inbound / 81 outbound trips during the AM peak hour and 182 inbound / 122 outbound trips during the PM peak hour. By Year 2035, a total of 6,750 ADT with 648 inbound / 162 outbound trips during the AM peak hour and 365 inbound / 243 outbound trips during the PM peak hour would be generated.

Year 2035 maximum enrollment trip generation is discussed in further detail in *Section 10.2* of this report.

TABLE 8-1
PROJECT TRIP GENERATION

Land Use	Size	Daily Trip Ends (ADTs)		AM Peak Hour					PM Peak Hour				
		Rate ^a	Volume	% of ADT ^b	In:Out	Volume			% of ADT ^b	In:Out	Volume		
					Split	In	Out	Total		Split	In	Out	Total
Opening Day (Year 2018)													
Education Center	2,812 students	1.2/student	3,374	12%	80:20	324	81	405	9%	60:40	182	122	304
Buildout (Year 2035)													
Education Center	5,625 students	1.2/student	6,750	12%	80:20	648	162	810	9%	60:40	365	243	608

Footnotes:

- Trip rates taken from the SANDAG (Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002.
- ADT = Average Daily Traffic.

General Notes:

- Although an Education Center functions quite different from a typical community college land use, the SANDAG community/junior college rates used in the calculations to be conservative.

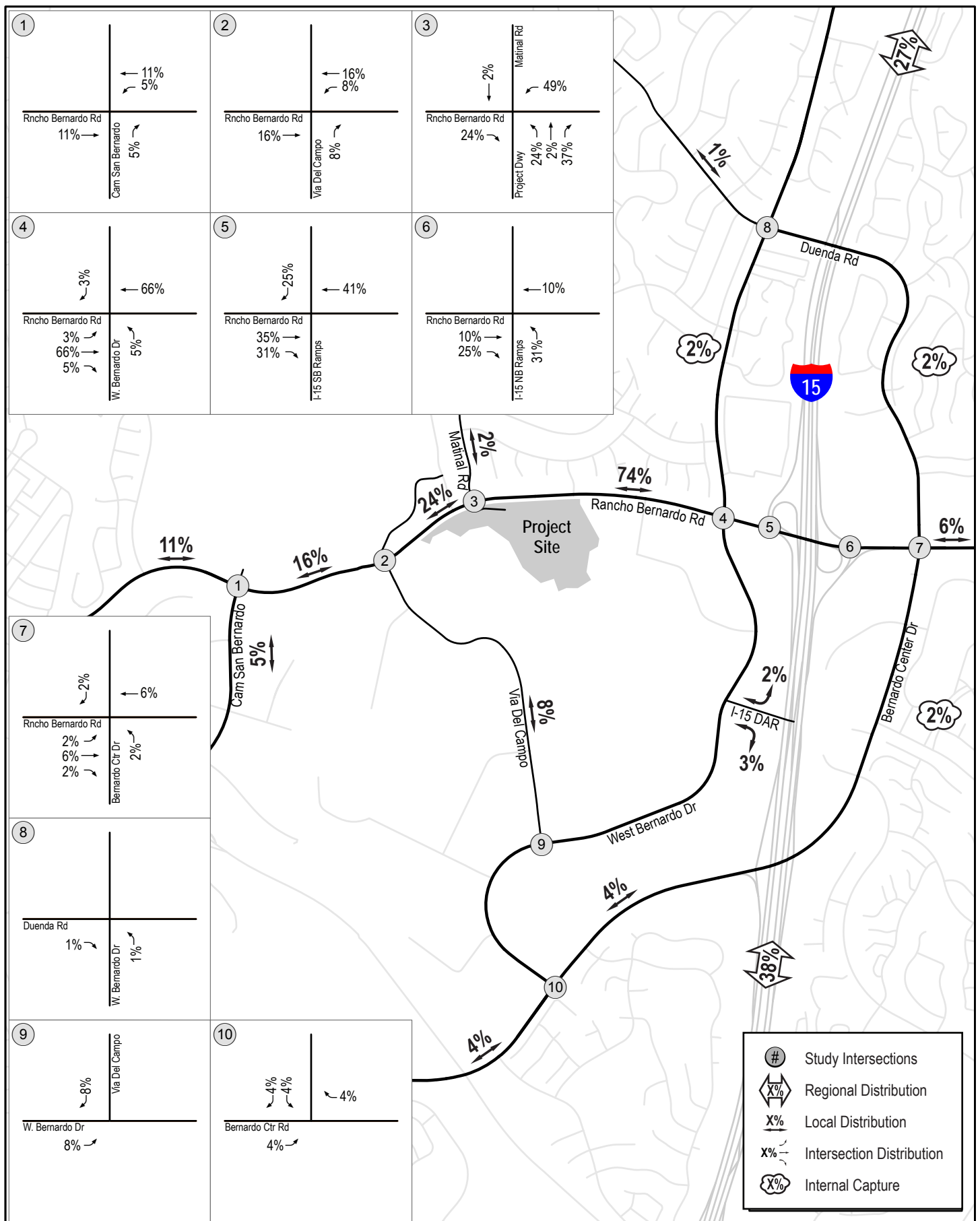
8.2 Trip Distribution/Assignment

Trip distribution percentages were calculated using a select zone assignment (SZA) based on the SANDAG traffic model and using information provided by the applicant. The site has been strategically located in the southern range of the District to target an underserved population within the District boundaries and to attract out-of-district students from both the Mira Costa and San Diego Districts. Using the SANDAG SZA and expected enrollment information provided by the District, approximately 65% of the trips are regionally distributed on I-15, with 27% oriented to the north and 38% to the south. The remaining 35% were distributed to the local network. Once the traffic distribution was established, the Project-generated traffic was assigned to the adjacent street system.

It should be noted that a review of the SZA indicated one percent (1%) of Project traffic (20 ADT) would be oriented to/from the community of Westwood via Matinal Road. However, for purposes of being conservative based upon the potential for “cut through” trips through the residential community, this percentage was doubled to 2% of Project trips. *Section 12.2* provides additional information on the potential for residential cut-through traffic.

Figure 8-1 shows the regional and local distribution of Project trips. **Figure 8-2** depicts the Opening Day Project traffic assignment. **Figure 8-3** shows the Opening Day With Project traffic volumes.

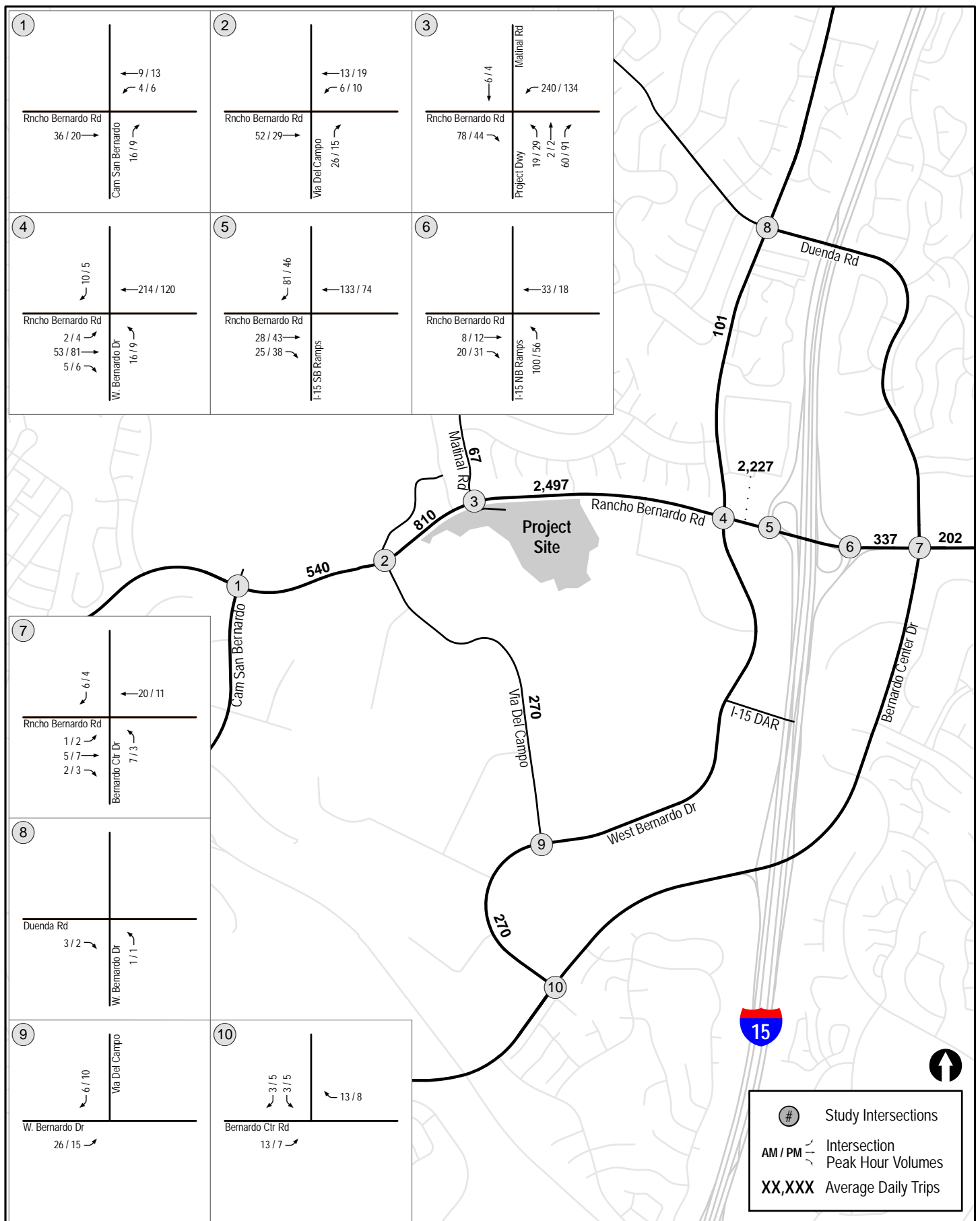
Appendix D contains a copy of the SZA.



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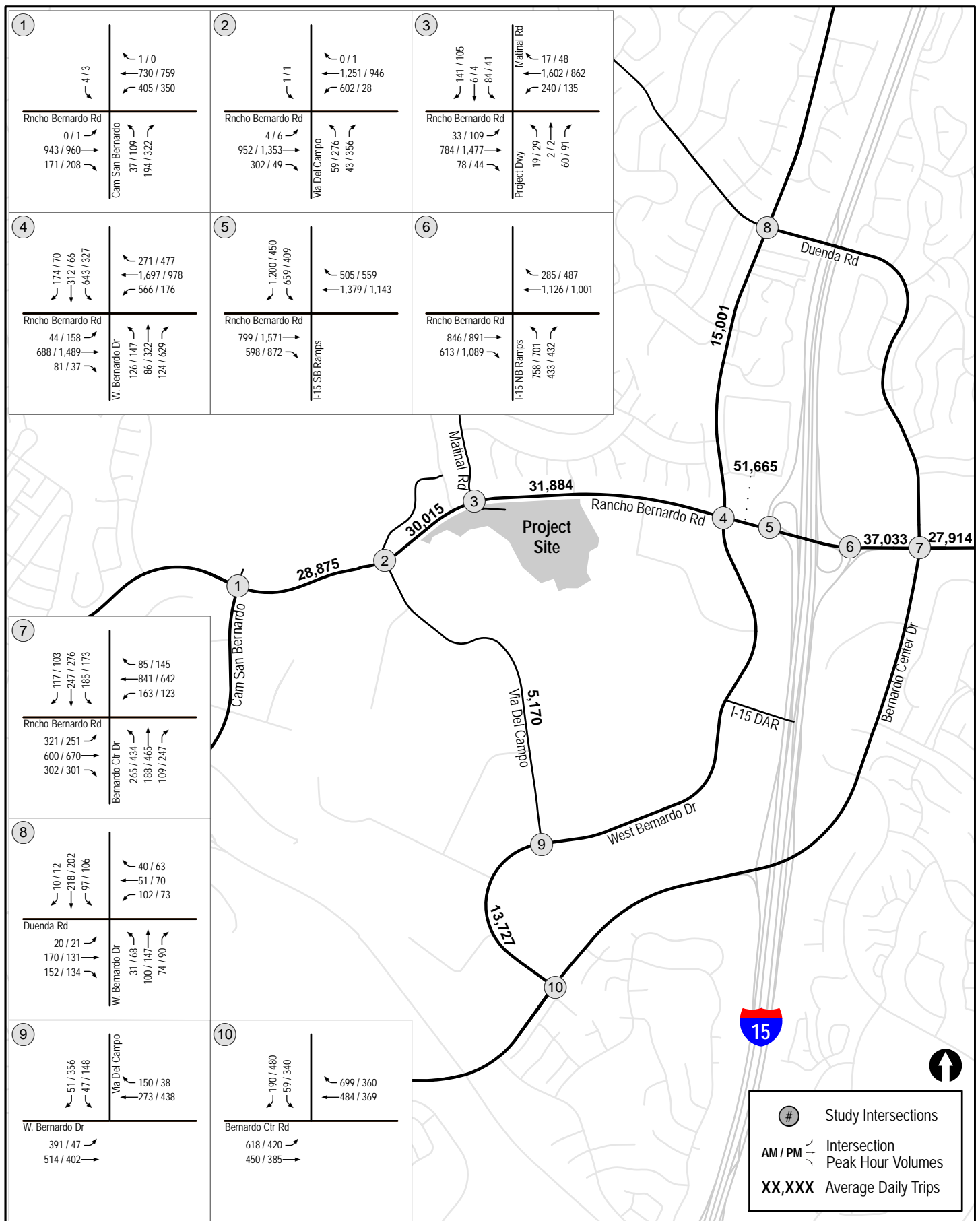
Figure 8-1

Project Traffic Distribution



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Figure 8-2
Opening Day Project Traffic Volumes



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Figure 8-3
Opening Day With Project Traffic Volumes

9.0 ANALYSIS OF OPENING DAY SCENARIOS

9.1 Opening Day Without Project

9.1.1 Peak hour Intersection Operations

Table 9–1 summarizes the peak hour intersection operations for the Opening Day Without Project condition. As seen in *Table 9–1*, all intersections are calculated to continue to operate at LOS D or better.

Appendix E contains the peak hour intersection analysis worksheets for the Opening Day Without Project condition.

9.1.2 Daily Street Segment Operations

Table 9–2 summarizes the key segment operations in the study area for the Opening Day Without Project condition. As seen in *Table 9–2*, the study area segments are calculated to continue operate at LOS D or better except for the following:

- Street Segment #5. Rancho Bernardo Road between the I-15 Northbound Ramps and Bernardo Center Drive – LOS F

9.1.3 Freeway Mainline Operations

Table 9–3 summarizes the freeway mainline operations I-15 for the Opening Day Without Project condition. As seen in *Table 9–3*, the northbound and southbound segments of I-15 north and south of Rancho Bernardo Road continue to operate at LOS C during both the AM and PM peak hours except for the following:

- I-15 south of Rancho Bernardo Road, Southbound direction – LOS E during the AM peak hour

9.1.4 Freeway Ramp Meter Operations

Table 9–4 summarizes the operations of the on-ramp meters for the Opening Day Without Project condition. The results of the ramp meter analysis are shown below.

1. **Eastbound Rancho Bernardo Road to Southbound I-15:** Under the Opening Day Without Project condition, this ramp is calculated to operate with no delay during the AM peak hour.
2. **Eastbound Rancho Bernardo Road to Northbound I-15:** Under the Opening Day Without Project condition, the delay is calculated to operate with a 12.3 minute delay during the PM peak hour with a queue length of 2,950 feet.

9.2 Opening Day With Project

9.2.1 Peak Hour Intersection Operations

Table 9-1 summarizes the peak hour intersection operations for Opening Day With Project conditions. As seen in Table 9-1, with the addition of Project traffic, all intersections are calculated to continue to operate at LOS D or better.

Based on City of San Diego significance criteria, **no significant direct impacts** were calculated with the addition of Project traffic.

Appendix F contains the peak hour intersection analysis worksheets for the Opening Day With Project condition.

9.2.2 Daily Street Segment Operations

Table 9-2 summarizes the key segment operations in the study area for the Opening Day With Project conditions. As seen in Table 9-2, with the addition Project traffic, the study area segments are calculated to continue to operate at LOS D or better except for the following:

- Street Segment #5. Rancho Bernardo Road between the I-15 Northbound Ramps and Bernardo Center Drive – LOS E

Based on City of San Diego significance criteria, **no significant direct impacts** were calculated with the addition of Project traffic since the Project-induced increase in V/C does not exceed 0.02 for LOS E roadway segments.

9.2.3 Freeway Mainline Operations

Table 9-3 summarizes the freeway mainline operations I-15 for the Opening Day With Project condition. As seen in Table 9-3, with the addition of Project traffic, the northbound and southbound segments of I-15 north and south of Rancho Bernardo Road are calculated to operate at LOS D or better during both the AM and PM peak hours except for the following:

- I-15 south of Rancho Bernardo Road, Southbound direction – LOS E during the AM peak hour

Based on City of San Diego significance criteria, **no significant direct impacts** were calculated with the addition of Project traffic since the Project-induced increase in V/C does not exceed 0.01 for LOS E mainline segments.

9.2.4 Freeway Ramp Meter Operations

Table 9-4 summarizes the operations of the on-ramp meters for the Opening Day With Project condition. The results of the ramp meter analysis are shown below.

1. **Eastbound Rancho Bernardo Road to Southbound I-15:** With the addition of Project traffic to the Opening Day condition, this ramp is calculated to continue to operate with no delay during the AM peak hour.

2. **Eastbound Rancho Bernardo Road to Northbound I-15:** With the addition of Project traffic to the Opening Day condition, the delay is calculated to increase by 2.6 minutes (from a 12.3 to 14.9 minute delay) during the PM peak hour with a 625-foot increase in queue length to 3,575 feet.

Based on City of San Diego significance criteria, **no significant direct impacts** were calculated with the addition of Project traffic since delays currently do not exceed 15 minutes.

**TABLE 9-1
OPENING DAY INTERSECTION OPERATIONS**

Intersection	Control Type	Peak Hour	Opening Day Without Project		Opening Day With Project		Delay Δ^c	Sig?
			Delay ^a	LOS ^b	Delay	LOS		
1. Rancho Bernardo Rd/ Camino San Bernardo	Signal	AM PM	17.7 22.8	B C	19.3 23.9	B C	1.6 1.1	No No
2. Rancho Bernardo Rd/ Via Del Campo	Signal	AM PM	35.4 22.0	D C	40.9 24.4	D C	5.5 2.4	No No
3. Rancho Bernardo Rd/ Matinal Rd	Signal	AM PM	18.3 12.3	B B	30.7 24.4	C C	12.4 12.1	No No
4. Rancho Bernardo Rd/ W. Bernardo Dr	Signal	AM PM	38.8 47.4	D D	53.9 50.1	D D	15.1 2.7	No No
5. Rancho Bernardo Rd/ I-15 SB Ramps	Signal	AM PM	29.2 15.8	C B	31.1 16.4	C B	1.9 0.6	No No
6. Rancho Bernardo Rd/ I-15 NB Ramps	Signal	AM PM	21.2 21.1	C C	22.1 21.6	C C	0.9 0.5	No No
7. Rancho Bernardo Rd/ Bernardo Center Dr	Signal	AM PM	29.6 34.8	C C	30.1 34.9	C C	0.5 0.1	No No
8. W. Bernardo Dr/ Duenda Rd	Signal	AM PM	21.0 21.4	C C	21.1 21.4	C C	0.1 0.0	No No
9. W. Bernardo Dr/ Via Del Campo	Signal	AM PM	15.8 19.4	B B	15.9 20.0	B C	0.1 0.6	No No
10. W. Bernardo Dr/ Bernardo Center Dr	Signal	AM PM	15.6 17.2	B B	15.9 17.4	B B	0.3 0.2	No No

Footnotes:

- Average delay expressed in seconds per vehicle.
- Level of Service.
- Δ denotes the increase in delay due to Project.

General Notes:

- Sig = Significant impact, yes or no.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
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
OPENING DAY STREET SEGMENT OPERATIONS

Street Segment	Functional Capacity (LOS E) ^a	Opening Day Without Project			Opening Day With Project			Δ ^e	Sig?
		ADT ^b	LOS ^c	V/C ^d	ADT	LOS	V/C		
Rancho Bernardo Road									
1. Camino San Bernardo to Via Del Campo	40,000	28,335	C	0.708	28,875	C	0.722	0.014	No
2. Via Del Campo to Matinal Road	40,000	29,205	C	0.730	31,702	D	0.793	0.063	No
3. Matinal Road to West Bernardo Drive	40,000	29,387	C	0.735	31,884	D	0.797	0.062	No
4. West Bernardo Drive to I-15 SB Ramps ^f	60,000	49,438	C	0.824	51,665	D	0.861	0.037	No
5. I-15 NB Ramps to Bernardo Center Drive	40,000	36,696	E	0.917	37,033	E	0.926	0.009	No
6. Bernardo Center Drive to Bernardo Oaks Drive	40,000	27,712	C	0.693	27,914	C	0.698	0.005	No
West Bernardo Drive									
7. Duenda Road to Rancho Bernardo Road	30,000	14,900	C	0.497	15,001	C	0.500	0.003	No
8. Via Del Campo to Bernardo Center Drive	30,000	13,457	B	0.449	13,727	B	0.458	0.009	No
Via Del Campo									
9. Rancho Bernardo Road to West Bernardo Drive ^g	15,000	4,900	A	0.327	5,170	B	0.345	0.018	No

Footnotes:

- a. Capacities based on City of San Diego Roadway Classification & LOS table (See *Appendix B*).
- b. Average Daily Traffic.
- c. Level of Service.
- d. Volume to Capacity ratio.
- e. Δ denotes a Project-induced increase in the Volume to Capacity ratio.
- f. With a speed limit of 50 mph, a curb-to-curb width of approximately 108 feet, a 20-foot landscaped median and no on-street parking, the characteristics of this segment functions as a Primary Arterial with an LOS E capacity of 60,000 ADT.
- g. Roadway consists of two travel lanes with a two-way center turn lane. Rancho Bernardo Community Plan 3-Lane Collector equivalent to 2-Lane Collector with TWLTL (third lane).

General Notes:

1. Sig = Significant impact, yes or no.

**TABLE 9-3
OPENING DAY FREEWAY MAINLINE OPERATIONS**

Freeway Segment	Dir.	# of Lanes	Hourly Capacity ^a	Opening Day Without Project Volumes		V/C ^b		LOS ^c		Opening Day With Project Volumes		V/C		LOS		Δ ^d V/C		Sig?
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
Interstate 15																		
1. North of Rancho Bernardo Rd	NB	5M+2ML	10,000	5,445	8,911	0.545	0.891	B	D	5,465	8,942	0.547	0.894	B	D	0.002	0.003	No
	SB	5M+2ML+1A	11,500	9,481	6,733	0.824	0.585	D	B	9,562	6,779	0.831	0.589	D	B	0.007	0.004	No
2. South of Rancho Bernardo Rd	NB	5M+2ML+1A	11,500	6,257	9,188	0.544	0.799	B	C	6,357	9,244	0.553	0.804	B	D	0.009	0.005	No
	SB	5M+2ML	10,000	9,374	7,028	0.937	0.703	E	C	9,399	7,066	0.940	0.707	E	C	0.002	0.004	No

Footnotes:

- Capacity calculated at 2000 passenger cars per hour (vph) per lane (pcphpl) for mainline and 1,500 pcphpl for auxiliary lanes per *Caltrans Guide for the Preparation of Traffic Impact Studies, Dec 2002*. Managed Lanes (ML) excluded from the mainline analysis.
- V/C = (Peak Hour Volume/Hourly Capacity)
- LOS = Level of Service
- " Δ " denotes the Project-induced increase in V/C.

General Notes:

- M = Mainline. Peak hour volumes represent mainline traffic volumes only.
- ML = Managed Lanes consisting of High Occupancy Vehicle Lanes (HOV)
- A = Auxiliary Lane.
- Sig = Significant impact, yes or no.

LOS	V/C
A	<0.41
B	0.62
C	0.80
D	0.92
E	1.00
F(0)	1.25
F(1)	1.35
F(2)	1.45
F(3)	>1.46

TABLE 9-4
OPENING DAY RAMP METER OPERATIONS

Location	Peak Hour ^a	Peak Hour Demand (D) ^b	Flow (F) ^c	Excess Demand (E) (veh)	Delay (min)	Queue (ft) ^d	Sig?
1. EB Rancho Bernardo Road to SB I-15 (2 SOV + 1 HOV)							
Existing	AM	333	600	0	0.0	0	
Opening Day Without Project	AM	341	600	0	0.0	0	
Opening Day With Project	AM	352	600	0	0.0	0	
<i>Project Increase</i>	<i>AM</i>	<i>12</i>	<i>—</i>	<i>0</i>	<i>0.0</i>	<i>0</i>	<i>No</i>
2. EB Rancho Bernardo Road to NB I-15 (1 SOV + 1 HOV)							
Existing	PM	656	576	80	8.3	2,000	
Opening Day Without Project	PM	694	576	118	12.3	2,950	
Opening Day With Project	PM	719	576	143	14.9	3,575	
<i>Project Increase</i>	<i>PM</i>	<i>25</i>	<i>—</i>	<i>25</i>	<i>2.6</i>	<i>625</i>	<i>No</i>

Footnotes:

- Peak hours shown during ramp meter operations.
- Peak hour demand in vehicles/hour/lane per SOV lane only. Existing volumes taken from PeMS May 19, 2015 data.
- Meter Rates obtained from Caltrans.
- Queue calculated assuming vehicle length of 25 feet.

General Notes:

- Sig = Significant impact, yes or no. Impact based on Significance Criteria discussed in *Section 5.0*.
- SOV = Single-Occupancy Vehicle, HOV – High Occupancy Vehicle

10.0 YEAR 2035 CONDITIONS

10.1 Year 2035 Network Conditions

The SANDAG 2050 Regional Transportation Plan (RTP) was adopted by the Board of Directors on October 28, 2011. In developing the RTP, a new traffic forecast model series was prepared termed “Series 12.” The forecast model is completed in two stages. During the first stage, SANDAG produces a region-wide forecast based on existing demographic and economic trends. During the second stage, a sub-regional forecast is developed by working with local jurisdictions to understand existing and general plan land use plans. These land use plans then become an input to a sub-regional, or neighborhood-level, forecast model that utilizes data on existing development, future land use plans, proximity to existing job centers, past development patterns, and travel times to where growth is likely to occur in the future. The Series 12 traffic model contains all County of San Diego *General Plan Update* and City of San Diego community planning area land use and roadway network assumptions. Network changes in the vicinity of the Project study area included the SANDAG model are as follows:

- Rancho Bernardo Road: I-15 Northbound Ramps to Bernardo Center Drive – Improved to Community Plan classification as a Six-Lane Major (*Source: Rancho Bernardo Community Plan and Public Facilities Financing Plan (PFFP) FY 2013, Fully Funded by the Black Mountain Ranch Facilities Benefit Assessment (FBA), date of completion anticipated for FY 2016/2017*)
- West Bernardo Drive: Duenda Road to Rancho Bernardo Road and Via Del Campo to Bernardo Center Drive – Improved to Community Plan classification as a Four-Lane Major (*Source: Rancho Bernardo Community Plan, currently unfunded, date of completion unknown*)

In addition, improvements identified per community plans in the Project vicinity are as follows:

- West Bernardo Drive at Bernardo Center Drive – Improved to provide an additional thru lane on Bernardo Center Drive in the southwesterly direction to ultimately provide two right-turn lanes, two thru lanes, one U-turn lane (*Source: Black Mountain Ranch PFFP FY 2015, Fully Funded by the Black Mountain Ranch FBA, date of completion anticipated for FY 2016*)

Implementation of the Rancho Bernardo Road widening is identified per the PFFPs for both Rancho Bernardo and Black Mountain Ranch as being fully funded by the Black Mountain Ranch FBA with a timeframe for completion. In addition, the improvement to the West Bernardo Drive/ Bernardo Center Drive intersection is fully funded and scheduled for completion by the Black Mountain Ranch FBA. Therefore, these improvements were included in the long-term analysis. The funding and timeframe for implementation of the improvements to West Bernardo Drive is currently unknown. Therefore, existing on-the-ground conditions were assumed in the long-term analysis of this street segment. No other improvements were assumed to study area intersections and street segments in the long-term analysis.

Table 10–1 provides the functional classifications and capacities used in the long-term analysis for study area street segments.

Any Project-related deficiencies on the existing network would be mitigated through a fair share payment into the City of San Diego community PFFPs which would be used toward any future needed improvements.

Appendix G contains the excerpts from the community PFFPs.

**TABLE 10–1
COMMUNITY PLAN ROADWAY CLASSIFICATIONS**

Street Segment	Assumed Functional Classification ^a	LOS E Capacity ^a
Rancho Bernardo Road		
1. Camino San Bernardo to Via Del Campo	4.1A Major Road	37,000
2. Via Del Campo to Matinal Road	4-Ln Major	40,000
3. Matinal Road to West Bernardo Drive	4-Ln Major	40,000
4. West Bernardo Drive to I-15 SB Ramps	6-Ln Primary Arterial	60,000
5. I-15 NB Ramps to Bernardo Center Drive	6-Ln Major ^b	50,000
6. Bernardo Center Drive to Bernardo Oaks Drive	4-Ln Major	40,000
West Bernardo Drive		
7. Duenda Road to Rancho Bernardo Road	4-Ln Collector w/ TWLTL	30,000
8. Via Del Campo to Bernardo Center Drive	4-Ln Collector w/ TWLTL	30,000
Via Del Campo		
9. Rancho Bernardo Road to West Bernardo Drive	3-Ln Collector ^c	15,000

Footnotes:

- a. City of San Diego General Plan Classification based on *Rancho Bernardo Community Plan* and County of San Diego Classifications based on *San Dieguito Mobility Element*, October 2010. Existing functional capacities were used in the analysis except where improvements to roadways are fully funded and scheduled for completion.
- b. Per the Rancho Bernardo PFFP, widening of Rancho Bernardo Road between the I-15 NB Ramps and Bernardo Center Drive is fully funded by the Black Mountain Ranch FBA and scheduled for completion in FY 2016/2017.
- c. *Rancho Bernardo Community Plan* 3-Lane Collector equivalent to 2-Lane Collector with TWLTL (third lane).

General Notes:

1. TWLTL = Two-way left-turn lane

10.2 Year 2035 Traffic Volumes

The Year 2035 volumes were obtained from the SANDAG Series 12 Year 2035 forecast traffic model. The traffic analysis zone (TAZ) for the Project site contains 60.2 acres of commercial office uses generating 14,270 ADT.

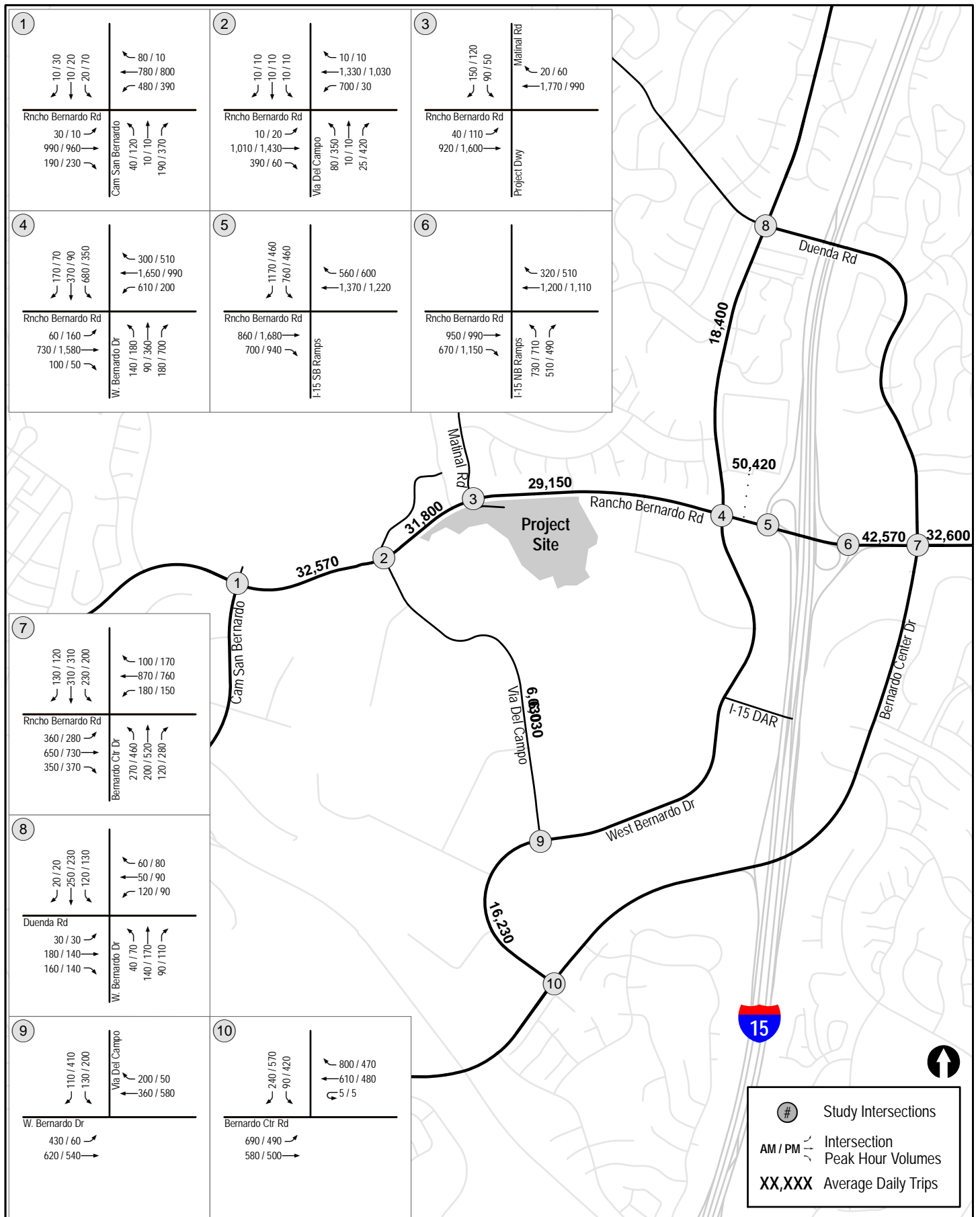
As previously mentioned, the site is currently developed with a vacant office building. This area is included in the Rancho Bernardo Community Plan as part of the 588-acre Bernardo Industrial Park. The Project site makes up 27 acres of the Bernardo Industrial Park and is entitled for a total of 330,000 SF of commercial office. Per the *Bernardo Industrial Park Lot 11 Final MND*, certified October 13, 2005 completed for the 330,000 SF office buildings, 3,300 ADT of the 14,270

commercial office trips are attributable to the existing site. Therefore, the Year 2035 Without Project traffic volumes represent the current zoning in the traffic model including the entitled office buildings. In order to forecast the Year 2035 Without Project traffic volumes, the 3,300 ADT generated by the office land use were removed from the forecast volumes representative of a vacant site. The 6,750 ADT calculated to be generated by the Project at maximum student enrollment were then added to the baseline volumes to arrive at Year 2035 With Project traffic volumes.

The model-generated peak hour volumes are not considered accurate as the primary purpose of the model is to forecast average daily traffic volumes and not predict volumes on an hourly basis. Therefore, the peak hour turning movement volumes at an intersection were estimated from future ADT volumes using the relationship between existing peak hour turning movements and the existing ADT volumes. This same relationship can be assumed to generally continue in the future.

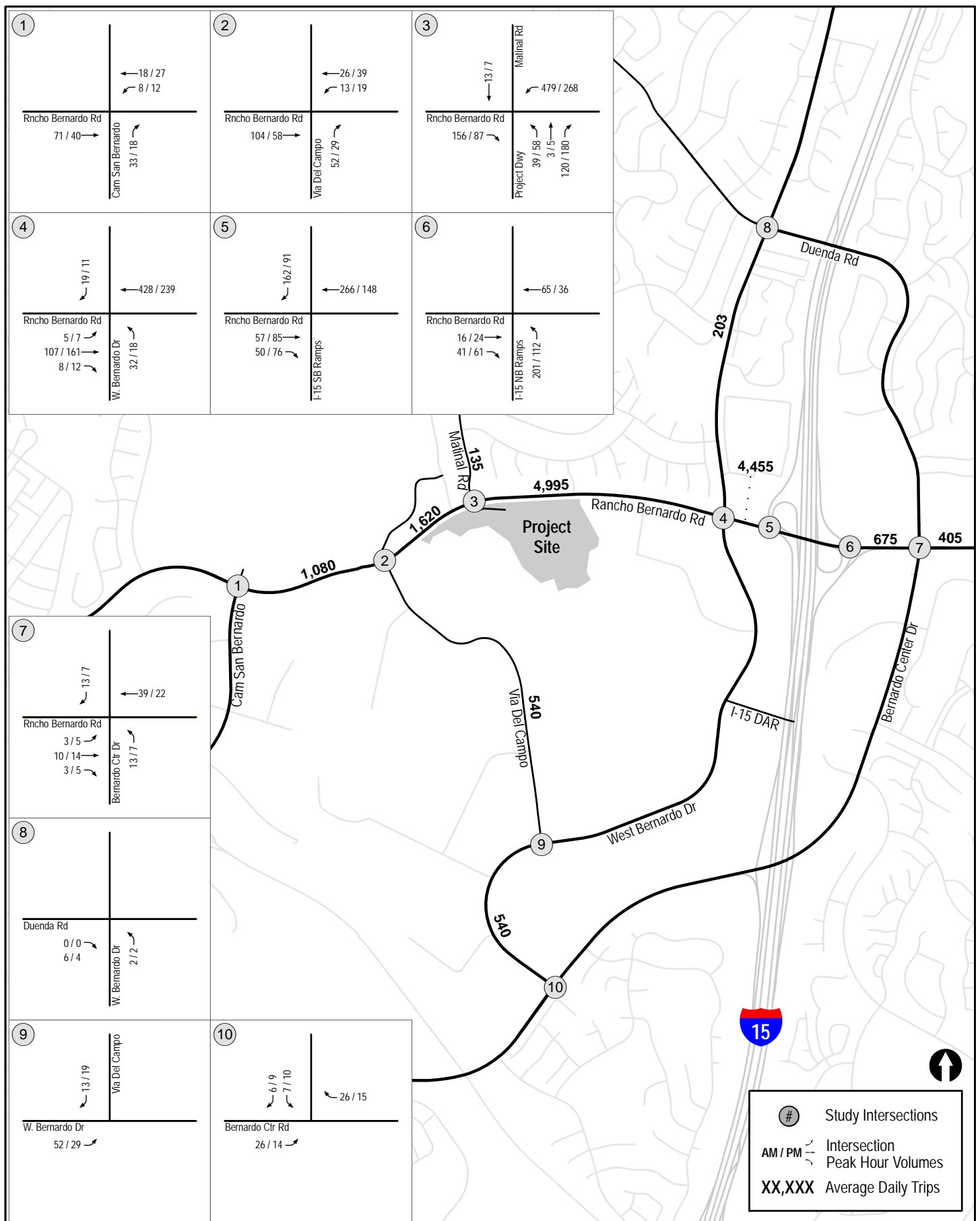
Figure 10–1 depicts the Year 2035 Without Project traffic volumes. **Figure 10–2** shows the Year 2035 (Maximum Enrollment) Project traffic volumes. **Figure 10–3** depicts the Year 2035 With Project traffic volumes.

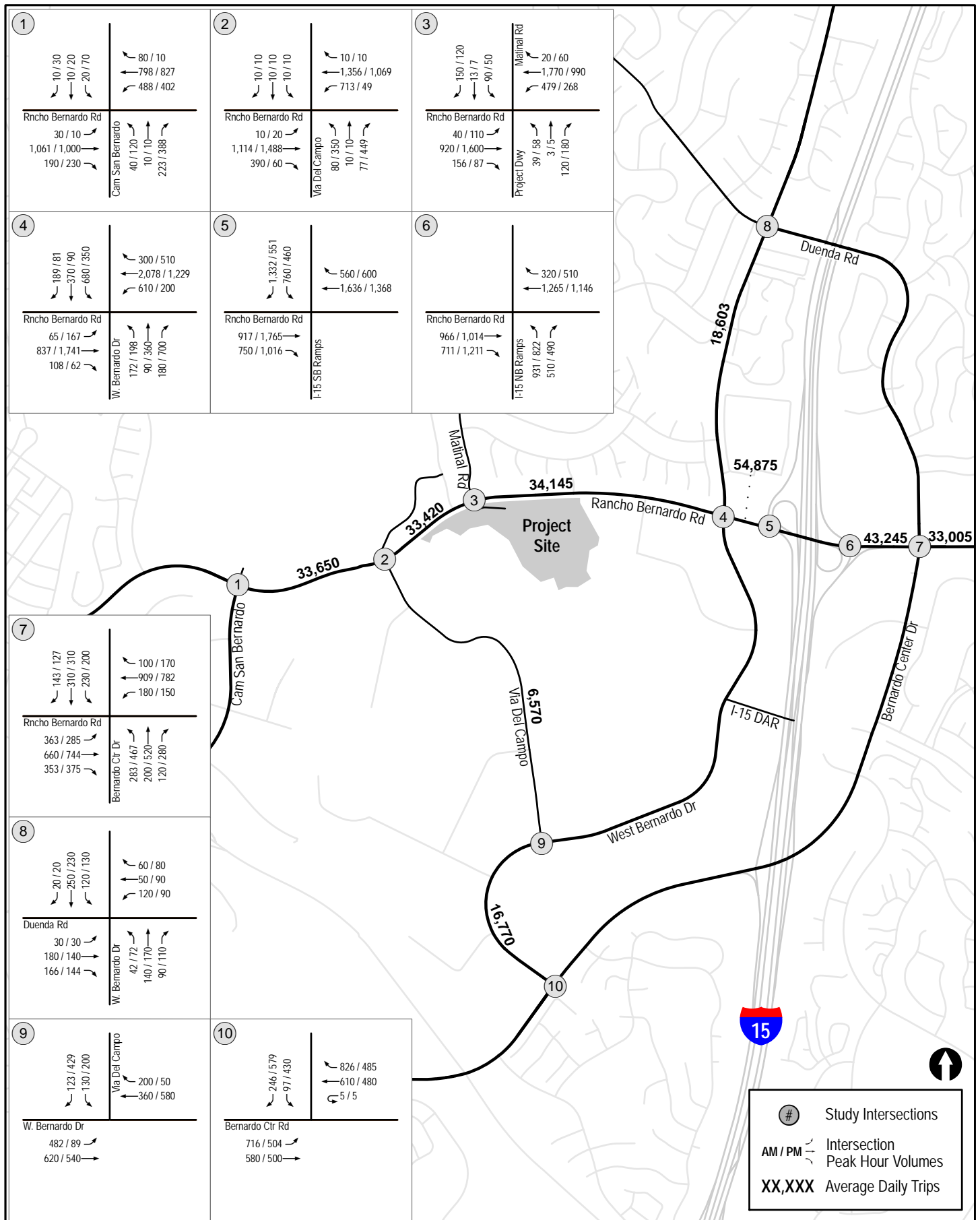
Appendix D contains a copy of the SANDAG Year 2035 traffic volumes and land use report.



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Date: 03/17/16

Figure 10-1
Year 2035 Without Project Traffic Volumes





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Figure 10-3
Year 2035 With Project Traffic Volumes

11.0 ANALYSIS OF YEAR 2035 SCENARIOS

11.1 Year 2035 Without Project

11.1.1 Peak Hour Intersection Operations

Table 11–2 summarizes the peak hour intersection operations for the Year 2035 Without Project condition. As seen in *Table 11–2*, all intersections are calculated to continue to operate at LOS D or better except for the following:

- Intersection #2. Rancho Bernardo Road/Via Del Campo – LOS E/E during the AM/PM peak hours
- Intersection #4. Rancho Bernardo Road/West Bernardo Drive – LOS E during the PM peak hour

Appendix H contains the peak hour intersection analysis worksheets for the Year 2035 Without Project condition.

11.1.2 Daily Street Segment Operations

Table 11–3 summarizes the key segment operations in the study area for the Year 2035 Without Project condition. As seen in *Table 10–3*, the study area segments are calculated to operate at LOS D or better except for the following:

- Street Segment #5. Rancho Bernardo Road between the I-15 Northbound Ramps and Bernardo Center Drive – LOS E
- Street Segment #6. Rancho Bernardo Road between Bernardo Center Drive and Bernardo Oaks Drive – LOS E

11.2 Year 2035 With Project

11.2.1 Peak Hour Intersection Operations

Table 10–2 summarizes the peak hour intersection operations for the Year 2035 With Project condition. As seen in *Table 11–2*, with the addition of Project traffic, all intersections are calculated to continue to operate at LOS D or better except for the following:

- Intersection #2. Rancho Bernardo Road/Via Del Campo – LOS F/E during the AM/PM peak hours
- Intersection #3. Rancho Bernardo Road/Matinal Road – LOS E/E during the AM/PM peak hours
- Intersection #4. Rancho Bernardo Road/West Bernardo Drive – LOS F/E during the PM peak hour

Based on City of San Diego significance criteria, **three (3) significant cumulative impacts** were calculated with the addition of Project traffic since the Project induced increase in delay exceeds 2.0 seconds for LOS E intersections and 1.0 second for LOS F intersections.

Appendix I contains the peak hour intersection analysis worksheets for the Year 2035 With Project condition.

11.2.2 Daily Street Segment Operations

Table 11-3 summarizes the key segment operations in the study area for the Year 2035 With Project condition. As seen in *Table 11-3*, with the addition of Project traffic, the study area segments are calculated to continue to operate at LOS D or better.

Based on City of San Diego significance criteria, **no significant cumulative impacts** were calculated with the addition of Project traffic.

**TABLE 11-2
LONG-TERM INTERSECTION OPERATIONS**

Intersection	Control Type	Peak Hour	Year 2035 Without Project		Year 2035 With Project		Delay Δ^c	Sig?
			Delay ^a	LOS ^b	Delay	LOS		
1. Rancho Bernardo Rd/ Camino San Bernardo	Signal	AM PM	23.3 36.0	C D	27.7 39.4	C D	4.4 3.4	No No
2. Rancho Bernardo Rd/ Via Del Campo	Signal	AM PM	79.8 61.3	E E	93.9 66.7	F E	14.1 5.4	Yes Yes
3. Rancho Bernardo Rd/ Matinal Rd	Signal	AM PM	27.6 11.8	C B	62.4 61.0	E E	34.8 49.2	Yes Yes
4. Rancho Bernardo Rd/ W. Bernardo Dr	Signal	AM PM	51.4 59.9	D E	96.7 66.2	F E	45.3 6.3	Yes Yes
5. Rancho Bernardo Rd/ I-15 SB Ramps	Signal	AM PM	21.9 13.4	C B	29.6 15.2	C B	7.7 1.8	No No
6. Rancho Bernardo Rd/ I-15 NB Ramps	Signal	AM PM	16.4 16.5	B B	17.6 17.7	B B	1.2 1.2	No No
7. Rancho Bernardo Rd/ Bernardo Center Dr	Signal	AM PM	34.1 44.0	C D	35.4 45.0	D D	1.3 1.0	No No
8. W. Bernardo Dr/ Duenda Rd	Signal	AM PM	23.2 22.7	C C	23.5 22.8	C C	0.3 0.1	No No
9. W. Bernardo Dr/ Via Del Campo	Signal	AM PM	22.5 22.0	B C	23.0 23.8	C C	0.5 1.8	No No
10. W. Bernardo Dr/ Bernardo Center Dr	Signal	AM PM	16.0 18.5	B B	16.7 19.0	B B	0.7 0.5	No No

Footnotes:

- Average delay expressed in seconds per vehicle.
- Level of Service.
- Δ denotes the increase in delay due to Project.

General Notes:

- Sig = Significant impact, yes or no.
- Bold** typeface and **shading** represents a significant cumulative impact.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
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 11-3
LONG-TERM STREET SEGMENT OPERATIONS**

Street Segment	Functional Capacity (LOS E) ^a	Year 2035 Without Project			Year 2035 With Project			Δ ^e	Sig?
		ADT ^b	LOS ^c	V/C ^d	ADT	LOS	V/C		
Rancho Bernardo Road									
1. Camino San Bernardo to Via Del Campo	40,000	32,570	D	0.814	33,650	D	0.841	0.027	No
2. Via Del Campo to Matinal Road	40,000	31,800	D	0.795	33,420	D	0.836	0.041	No
3. Matinal Road to West Bernardo Drive	40,000	29,150	C	0.729	34,145	D	0.854	0.125	No
4. West Bernardo Drive to I-15 SB Ramps ^f	60,000	50,420	D	0.840	54,875	D	0.915	0.075	No
5. I-15 NB Ramps to Bernardo Center Drive	50,000	42,570	D	0.851	43,245	D	0.865	0.014	No
6. Bernardo Center Drive to Bernardo Oaks Drive	40,000	32,600	D	0.815	33,005	D	0.825	0.010	No
West Bernardo Drive									
7. Duenda Road to Rancho Bernardo Road	30,000	18,400	C	0.613	18,603	C	0.620	0.007	No
8. Via Del Campo to Bernardo Center Drive	30,000	16,230	C	0.541	16,770	C	0.559	0.018	No
Via Del Campo									
9. Rancho Bernardo Road to West Bernardo Drive	15,000	6,030	B	0.402	6,570	B	0.438	0.036	No

Footnotes:

- a. Capacities based on City of San Diego Roadway Classification Table.
- b. Average Daily Traffic Volumes.
- c. Level of Service.
- d. Volume to Capacity.
- e. Δ denotes a Project-induced increase in the Volume to Capacity ratio.
- f. With a speed limit of 50 mph, a curb-to-curb width of approximately 108 feet, a 20-foot landscaped median and no on-street parking, the characteristics of this segment functions as a Primary Arterial with an LOS E capacity of 60,000 ADT.

General Notes

1. Sig = Significant impact, yes or no.

12.0 ACCESS ASSESSMENT

12.1 Project Access

The Rancho Bernardo Road/Matinal Road signalized intersection was previously constructed to provide access to the vacant office building. With the increase in traffic expected with the change in land use for the proposed Project, this intersection is forecasted to operate at LOS E by the Year 2035 with the maximum number of students enrolled. In order to accommodate the increase in traffic with the buildout of the campus and achieve acceptable LOS D operations, the northbound approach (exiting the site) should be restriped to provide a shared left-turn/thru lane and a dedicated right-turn lane. **Table 12-1** at the end of this section shows the LOS results of the recommended access mitigation.

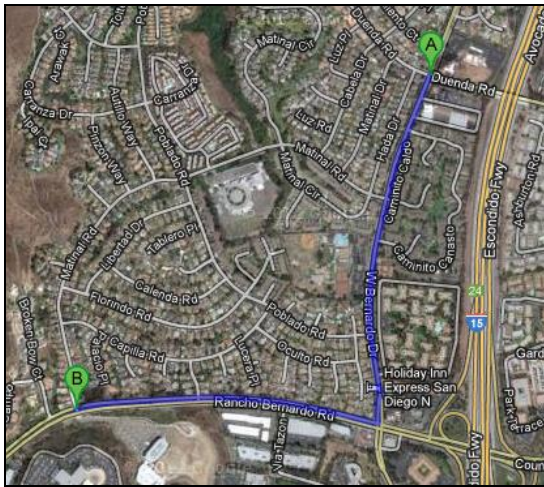
12.2 Cut-Through Traffic

The Project proposes to take access from the Matinal Road intersection onto Rancho Bernardo Road. Currently, this location primarily serves as access to the Westwood residential community located north of Rancho Bernardo Road.

A review of the SANDAG select zone assignment (SZA) computer model indicated one percent (1%) of Project traffic (33 ADT in Opening Day and 68 ADT at maximum enrollment in Year 2035) would be oriented to/from the community of Westwood via Matinal Road. However, for purposes of being conservative based upon the potential for “cut through” trips through the residential community, this percentage was doubled to 2% of Project trips.

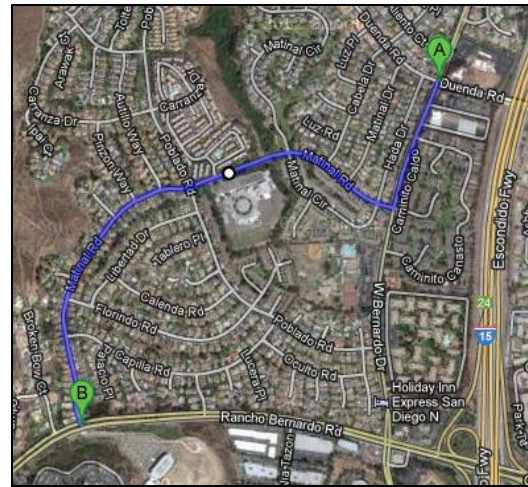
The likelihood of trips utilizing Matinal Road would be the result of one of two factors: 1) People living in the Westwood community who would attend the North Education Center; or 2) People oriented further north that would “cut-through” the Westwood community to reach the Project site. Matinal Road serves as a residential roadway providing local access for homes within the area. West Bernardo Drive is the main Collector road in the community lined with feeder roads connecting Westwood residents to their ultimate destination. LLG conducted a travel time study for two optional routes between the Project site and the Duenda Road/West Bernardo Drive intersection in the northern part of the community. The travel time study was conducted to determine the amount of time it would take to travel between these two points during the 4:30-5:30 PM peak hour using the Collector road route on West Bernardo Drive and the residential route via Matinal Road. The results of the study are shown below.

Route 1 – West Bernardo Drive



Direction	A-B	B-A
Time (min:sec)	3:29	4:01
	3:22	4:39
	2:53	3:35
Average	3:14	4:05

Route 2 – Matinal Road



Direction	A-B	B-A
Time (min:sec)	3:20	3:20
	3:23	3:27
	3:17	3:42
Average	3:20	3:29

While the travel time study shows a slight increase in the amount of time it would take to travel from Point B to Point A using Route 1, it would be unlikely that a large amount of drivers located outside the Westwood community would utilize Matinal Road as a “cut-through” route since they would need to be familiar with the local streets. For drivers who are familiar with the area, a reduction in travel time of 36 seconds is relatively small.

12.3 Recommendations

The Rancho Bernardo Road/Matinal Road intersection is calculated to operate poorly with the addition of Project traffic at maximum student enrollment in Year 2035. Mitigation measures are recommended above in *Section 12.1* and in *Section 15.2* to improve operations to LOS D.

Given the possibility of cut-through traffic in the Westwood community, additional recommendations are provided to modify the lane configuration at this intersection. In order to avoid the disturbance that could be experienced by local residents in the Westwood community with the addition of Project traffic, the following is recommended for the Matinal Road access intersection:

- **Rancho Bernardo Road/Matinal Road Intersection** – Install signage and modify the signal to prohibit northbound and southbound through movements at this signalized intersection. An example of this type of intersection control is the Marengo Avenue/Fletcher Parkway intersection in the City of La Mesa.

Stripe the northbound approach with one (1) dedicated left-turn and one (1) dedicated right-turn lane, stripe the southbound approach with a shared left-turn/right-turn lane, and maintain north/south permissive signal phasing. The graphic below shows the proposed recommendation and the example intersection.

With these recommendations, acceptable LOS operations continue to be calculated under Year 2035 conditions. *Table 12-1* also shows the LOS with the modified lane geometry restricting northbound and southbound thru movements.

**TABLE 12-1
ACCESS OPERATIONS**

Intersection	Control Type	Peak Hour	Year 2035 With Project	
			Delay ^a	LOS ^b
Rancho Bernardo Road/ Matinal Road/Project Access				
Existing Geometry	Signal	AM PM	62.4 61.0	E E
Mitigated Geometry: Northbound Approach <ul style="list-style-type: none">– 1 Shared Left-Turn/Thru Lane– 1 Dedicated Right-Turn Lane	Signal	AM PM	52.8 54.0	D D
Eliminated NB/SB Thru Geometry: Northbound Approach <ul style="list-style-type: none">– 1 Exclusive Left-Turn Lane– 1 Dedicated Right-Turn Lane Southbound Approach <ul style="list-style-type: none">– 1 Shared Left-Turn/Right-Turn Lane	Signal	AM PM	30.9 35.0	C D

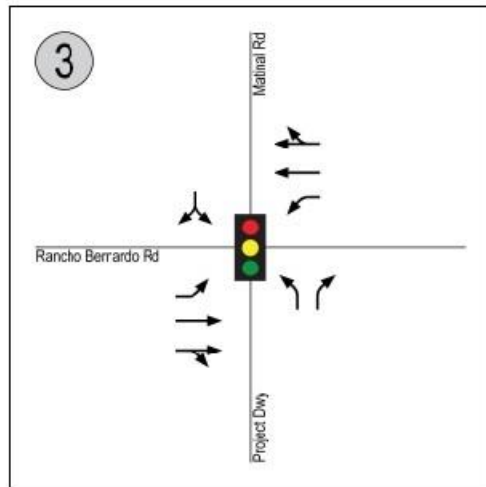
Footnotes:

- a. Average delay expressed in seconds per vehicle.
- b. Level of Service

General Notes:

- 1. NB = Northbound movement
- 2. SB = Southbound movement

Recommended Lane Configuration – No Northbound/Southbound Through Movements



Rancho Bernardo Road/ Matinal Road



Marengo Avenue/Fletcher Parkway – Aerial View



Marengo Avenue/Fletcher Parkway – Street View

13.0 APPROVED OFFICE ENTITLEMENT ANALYSIS

As previously mentioned, the Project site is included in the Rancho Bernardo Community Plan as part of the 588-acre Bernardo Industrial Park. The approximately 27-acre site is specifically included as “Lot 11” in the 57.9-acre Bernardo Industrial Park North area which is made up of 11 individual lots for future industrial park development. Prior to the District acquiring the site, the site was entitled for a total of 330,000 SF of commercial office uses. From this approved development, one of the three 110,000 SF buildings has been permitted and constructed with the potential to be occupied. The remaining two (2) buildings have yet to be completed, but could be constructed at any time with issuance of grading permits. Given the site could be built out with the approved commercial office use today as allowed by City permits, an analysis has been included in this report showing the potential traffic impacts that would be expected with the approved development.

13.1 Office Traffic

Per the *Rancho Bernardo Lot 11 Final MND*, certified October 13, 2005 completed for the 330,000 SF office buildings, 3,300 ADT would be generated by the entitled project. **Table 13–1** below shows the trips generated by the approved development.

**TABLE 13–1
OFFICE PROJECT TRIP GENERATION**

Land Use	Size	Daily Trip Ends (ADTs) ^b		AM Peak Hour					PM Peak Hour				
		Rate	Volume	% of ADT	In:Out	Volume			% of ADT	In:Out	Volume		
					Split	In	Out	Total		Split	In	Out	Total
Commercial Office	330 KSF	^a	3,300	–	–	445	50	495	–	–	105	425	530
Proposed Project Opening Day	2,812 students	1.2/student	3,374	12%	80:20	324	81	405	9%	60:40	182	122	304
Proposed Project Year 2035	5,625 students	1.2/student	6,750	12%	80:20	648	162	810	9%	60:40	365	243	608

Footnotes:

- Trip generation taken from the *Rancho Bernardo Lot 11 Final MND*, certified October 13, 2005. Approximately 75% of the development was identified as industrial uses (research & development and regional and corporate office) with 25% of the site approved for multi-tenant office space.
- ADT = Average Daily Traffic.

For purposes of developing the “With Office Project” traffic volumes, office trips were distributed to the street system using the SANDAG model. The office trips were then added to the Opening Day and Year 2035 baseline conditions to arrive at “With Office Project” traffic volumes. **Appendix J** contains the traffic volumes for both scenarios.

13.2 Analysis Results

A level of service analysis was conducted to identify the potential impacts within the study area with the completion and occupancy of the approved office development under Opening Day and Year 2035 conditions. Below are the results of the analysis.

13.2.1 Peak Hour Intersection

Tables 13–2 and 13–3 summarize the peak hour intersection operations for the Opening Day and Year 2035 With Office Project conditions, respectively. As seen in these tables, significant impacts are calculated as follows:

Direct Impacts

- Intersection #4. Rancho Bernardo Road/West Bernardo Drive – LOS E/E during the AM/PM peak hours (*Opening Day With Project*)

Cumulative Impacts

- Intersection #2. Rancho Bernardo Road/Via Del Campo – LOS F/E during the AM/PM peak hours (*Year 2035 With Project*)
- Intersection #4. Rancho Bernardo Road/West Bernardo Drive – LOS F/E during the AM/PM peak hours (*Year 2035 With Project*)

Appendix J contains the peak hour intersection analysis worksheets for the Opening Day and Year 2035 With Office Project conditions.

13.2.2 Daily Street Segment Operations

Tables 13–4 and 13–5 summarize the key segment operations in the study area for the Opening Day and Year 2035 With Project conditions, respectively. As seen in these tables, the study area segments are calculated to continue to operate at LOS D or better.

TABLE 13-2
OFFICE PROJECT – OPENING DAY INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Opening Day Without Project		Opening Day With Office Project		Delay Δ^c	Sig?
			Delay ^a	LOS ^b	Delay	LOS		
1. Rancho Bernardo Rd/ Camino San Bernardo	Signal	AM PM	17.7 22.8	B C	19.8 23.9	B C	2.7 2.1	No No
2. Rancho Bernardo Rd/ Via Del Campo	Signal	AM PM	35.4 22.0	D C	41.7 25.5	D C	8.1 4.3	No No
3. Rancho Bernardo Rd/ Matinal Rd	Signal	AM PM	18.3 12.3	B B	29.3 38.4	C D	11.7 26.5	No No
4. Rancho Bernardo Rd/ W. Bernardo Dr	Signal	AM PM	38.8 47.4	D D	62.1 60.9	E E	24.3 22.8	Yes Yes
9. Rancho Bernardo Rd/ I-15 SB Ramps	Signal	AM PM	29.2 15.8	C B	31.7 16.0	C B	3.0 0.4	No No
10. Rancho Bernardo Rd/ I-15 NB Ramps	Signal	AM PM	21.2 21.1	C C	22.4 21.1	C C	1.3 0.1	No No
11. Rancho Bernardo Rd/ Bernardo Center Dr	Signal	AM PM	29.6 34.8	C C	30.3 35.2	C D	1.0 1.1	No No
12. W. Bernardo Dr/ Duenda Rd	Signal	AM PM	21.0 21.4	C C	21.1 21.4	C C	0.2 0.1	No No
11. W. Bernardo Dr/ Via Del Campo	Signal	AM PM	15.8 19.4	B B	16.0 21.7	B C	0.3 2.7	No No
12. W. Bernardo Dr/ Bernardo Center Dr	Signal	AM PM	15.6 17.2	B B	16.0 17.7	B B	0.5 0.7	No No

Footnotes:

- Average delay expressed in seconds per vehicle.
- Level of Service.
- Δ denotes the increase in delay due to Project.

General Notes:

- Sig = Significant impact, yes or no.
- Bold** typeface and shading represents a significant direct impact.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
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 13-3
OFFICE PROJECT – LONG-TERM INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Year 2035 Without Project		Year 2035 With Office Project		Delay Δ^c	Sig?
			Delay ^a	LOS ^b	Delay	LOS		
1. Rancho Bernardo Rd/ Camino San Bernardo	Signal	AM PM	23.3 36.0	C D	26.0 37.9	C D	2.7 1.9	No No
2. Rancho Bernardo Rd/ Via Del Campo	Signal	AM PM	79.8 61.3	E E	88.6 66.3	F E	8.8 5.0	Yes Yes
3. Rancho Bernardo Rd/ Matinal Rd	Signal	AM PM	27.6 11.8	C B	33.2 39.2	C D	6.8 28.2	No No
4. Rancho Bernardo Rd/ W. Bernardo Dr	Signal	AM PM	51.4 59.9	D E	80.8 76.0	F E	29.4 16.1	Yes Yes
5. Rancho Bernardo Rd/ I-15 SB Ramps	Signal	AM PM	21.9 13.4	C B	25.8 14.0	C B	3.9 0.6	No No
6. Rancho Bernardo Rd/ I-15 NB Ramps	Signal	AM PM	16.4 16.5	B B	17.5 16.6	B B	1.1 0.1	No No
7. Rancho Bernardo Rd/ Bernardo Center Dr	Signal	AM PM	34.1 44.0	C D	35.0 44.6	D D	0.9 0.6	No No
8. W. Bernardo Dr/ Duenda Rd	Signal	AM PM	23.2 22.7	C C	23.4 22.7	C C	0.2 0.0	No No
9. W. Bernardo Dr/ Via Del Campo	Signal	AM PM	22.5 22.0	B C	22.6 24.1	C C	0.1 2.1	No No
10. W. Bernardo Dr/ Bernardo Center Dr	Signal	AM PM	16.0 18.5	B B	16.4 19.1	B B	0.4 0.6	No No

Footnotes:

- Average delay expressed in seconds per vehicle.
- Level of Service.
- Δ denotes the increase in delay due to Project.

General Notes:

- Sig = Significant impact, yes or no.
- Bold** typeface and **shading** represents a significant cumulative impact.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
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 13-4
OFFICE PROJECT – OPENING DAY STREET SEGMENT OPERATIONS

Street Segment	Functional Capacity (LOS E) ^a	Opening Day Without Project			Opening Day With Office Project			Δ ^e	Sig?
		ADT ^b	LOS ^c	V/C ^d	ADT	LOS	V/C		
Rancho Bernardo Road									
1. Camino San Bernardo to Via Del Campo	40,000	28,335	C	0.708	28,865	C	0.722	0.014	No
2. Via Del Campo to Matinal Road	40,000	29,205	C	0.730	30,005	D	0.750	0.020	No
3. Matinal Road to West Bernardo Drive	40,000	29,387	C	0.735	31,837	D	0.796	0.061	No
4. West Bernardo Drive to I-15 SB Ramps ^f	60,000	49,438	C	0.824	51,618	D	0.860	0.036	No
5. I-15 NB Ramps to Bernardo Center Drive	40,000	36,696	E	0.917	37,026	E	0.926	0.009	No
6. Bernardo Center Drive to Bernardo Oaks Drive	40,000	27,712	C	0.693	27,912	C	0.698	0.005	No
West Bernardo Drive									
7. Duenda Road to Rancho Bernardo Road	30,000	14,900	C	0.497	15,000	C	0.500	0.003	No
8. Via Del Campo to Bernardo Center Drive	30,000	13,457	B	0.449	13,727	B	0.458	0.009	No
Via Del Campo									
9. Rancho Bernardo Road to West Bernardo Drive ^g	15,000	4,900	A	0.327	5,170	B	0.345	0.018	No

Footnotes:

- a. Capacities based on City of San Diego Roadway Classification & LOS table (See *Appendix B*).
- b. Average Daily Traffic.
- c. Level of Service.
- d. Volume to Capacity ratio.
- e. Δ denotes a Project-induced increase in the Volume to Capacity ratio.
- f. With a speed limit of 50 mph, a curb-to-curb width of approximately 108 feet, a 20-foot landscaped median and no on-street parking, the characteristics of this segment functions as a Primary Arterial with an LOS E capacity of 60,000 ADT.
- g. Roadway consists of two travel lanes with a two-way center turn lane. Rancho Bernardo Community Plan 3-Lane Collector equivalent to 2-Lane Collector with TWLTL (third lane).

General Notes:

1. Sig = Significant impact, yes or no.

TABLE 13-5
OFFICE PROJECT – LONG-TERM STREET SEGMENT OPERATIONS

Street Segment	Functional Capacity (LOS E) ^a	Year 2035 Without Project			Year 2035 With Office Project			Δ ^e	Sig?
		ADT ^b	LOS ^c	V/C ^d	ADT	LOS	V/C		
Rancho Bernardo Road									
1. Camino San Bernardo to Via Del Campo	40,000	32,570	D	0.814	33,100	D	0.828	0.014	No
2. Via Del Campo to Matinal Road	40,000	31,800	D	0.795	32,600	D	0.815	0.020	No
3. Matinal Road to West Bernardo Drive	40,000	29,150	C	0.729	31,600	D	0.790	0.061	No
4. West Bernardo Drive to I-15 SB Ramps ^f	60,000	50,420	D	0.840	52,600	D	0.877	0.037	No
5. I-15 NB Ramps to Bernardo Center Drive	50,000	42,570	D	0.851	42,900	D	0.858	0.007	No
6. Bernardo Center Drive to Bernardo Oaks Drive	40,000	32,600	D	0.815	32,800	D	0.820	0.005	No
West Bernardo Drive									
7. Duenda Road to Rancho Bernardo Road	30,000	18,400	C	0.613	18,500	C	0.617	0.004	No
8. Via Del Campo to Bernardo Center Drive	30,000	16,230	C	0.541	16,500	C	0.550	0.009	No
Via Del Campo									
9. Rancho Bernardo Road to West Bernardo Drive	15,000	6,030	B	0.402	6,300	B	0.420	0.018	No

Footnotes:

- a. Capacities based on City of San Diego Roadway Classification Table.
- b. Average Daily Traffic Volumes.
- c. Level of Service.
- d. Volume to Capacity.
- e. Δ denotes a Project-induced increase in the Volume to Capacity ratio.
- f. With a speed limit of 50 mph, a curb-to-curb width of approximately 108 feet, a 20-foot landscaped median and no on-street parking, the characteristics of this segment functions as a Primary Arterial with an LOS E capacity of 60,000 ADT.

General Notes

1. Sig = Significant impact, yes or no.

13.3 Comparisons and Conclusions

For the office development, the tables above identify one (1) direct impact and two (2) cumulative impacts at the study area intersections. No street segment impacts were identified. The proposed Project results in zero (0) direct impacts and three (3) cumulative intersection impacts.

The entitled office project results in a higher percentage of peak hour trips than the proposed Project. An office building generates the majority of its traffic during the morning commute to work and the evening commute home. This is represented in the Opening Day analysis where a direct impact is calculated with the office project given the PM peak is forecasted at 14% for the office use (530 trips) and 9% for the education center (304 trips) with an almost equal amount of daily trips generated (3,300 office ADT; 3,374 education center ADT).

However, in the long-term, the reduced reserve capacity on the street system due to ambient growth in the area from buildout of the surrounding Community Plan land uses results in similar significant impacts to the street system with the development of either the office project or proposed education center.

Table 13–6 shows a comparison of the impacts calculated between the approved entitlements and the proposed Project.

TABLE 13–6
SIGNIFICANTLY IMPACTED LOCATIONS
PROPOSED PROJECT VS. ENTITLED OFFICE DEVELOPMENT

Intersection	Opening Day Impact		Year 2035 Impact	
	Proposed Project	Entitled Office Development	Proposed Project	Entitled Office Development
2. Rancho Bernardo Road/ Via Del Campo	None	None	Cumulative	Cumulative
3. Rancho Bernardo Road/ Matinal Road/ Project Access	None	None	Cumulative	None
4. Rancho Bernardo Road/ West Bernardo Drive	None	Direct	Cumulative	Cumulative

14.0 TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) plans are comprised of features, practices and incentives to encourage staff/faculty, visitors, and students to use alternate forms of transportation other than single-occupancy vehicles. The goal of these plans is to reduce and/or remove vehicle trips out of peak hours, thereby relieving congestion. The Project is offering the TDM plan as a benefit to both the enrolled students and the community in addition to the mitigation measures included in this report.

The Project's TDM program will include the following measures, and will be finalized prior to the approval of the Project:

1. The Project will coordinate with the Metropolitan Transit System (MTS) to determine the feasibility of providing a bus stop on campus.
2. Bicycle racks will be provided for student and staff/faculty use and the provision of bike lockers and showers will be explored at a future date.
3. Transportation information will be displayed in common areas accessible to students, faculty and staff. Transportation Information Displays should include, at a minimum, the following materials:
 - Ridesharing promotional material;
 - Bicycle route and parking including maps and bicycle safety information;
 - Materials publicizing internet and telephone numbers for referrals on transportation information;
 - Promotional materials supplied by NCTD, MTS, and/or other publicly supported transportation organizations; and
 - A listing of facilities at the site for carpoolers/vanpoolers, transit riders, bicyclist and pedestrians, including information on the availability of preferential carpool/vanpool parking spaces and the methods for obtaining these spaces.
4. Carpool/vanpool parking spaces will be provided in preferentially located areas (closest to building entrances). These spaces will be signed and striped "Car/Vanpool Parking Only". Information about the availability of and the means of accessing the car/vanpool parking spaces will be posted on Transportation Information Displays located in common areas and the campus website.
5. Provide charging station(s) for electric vehicles.
6. Balance class schedules by spreading classes throughout the course of the day to reduce peak hour volumes during the peak hours of the adjacent street system.

15.0 SIGNIFICANCE OF IMPACTS AND MITIGATION MEASURES

15.1 Significance of Impacts

Per City of San Diego significance thresholds and the analysis methodology presented in this report, Project-related traffic is calculated to result in three (3) *cumulative* significant intersection impacts. Zero (0) *direct* impacts were calculated.

The following section identifies the significance of impacts and recommended mitigation to address the identified cumulative intersection impacts.

INTERSECTIONS

- TRA-1. Intersection #2. Rancho Bernardo Road/ Via Del Campo
- TRA-2. Intersection #3. Rancho Bernardo Road/ Matinal Road/ Project Access
- TRA-3. Intersection #4. Rancho Bernardo Road/ West Bernardo Drive

15.2 Mitigation Measures

The following mitigation measures are recommended to mitigate the cumulative intersection impacts. Post-mitigation analyses are provided in **Table 15-1**.

Appendix K provides the post-mitigation intersection analysis worksheets.

INTERSECTIONS

- TRA-1. **Intersection #2. Rancho Bernardo Road/ Via Del Campo** – The Project shall reconstruct the median on the south leg of the intersection and restripe the northbound approach within the existing paved width to provide a third lane (an exclusive left-turn lane), thru lane, and dedicated right-turn lane. Implementation of this improvement reduces the cumulative impact to below significant levels.
- TRA-2. **Intersection #3. Rancho Bernardo Road/ Matinal Road/ Project Access** – Restripe the northbound approach to provide a shared left-turn/thru lane and a dedicated right-turn lane. Implementation of these improvements reduces this cumulative impact to below significant levels.

Alternatively, the northbound approach can be restriped with dedicated left-turn and right-turn lanes (with northbound thru movements prohibited) and the southbound approach with a shared left-turn/right-turn lane and southbound thru movement prohibited.
- TRA-3. **Intersection #4. Rancho Bernardo Road/ West Bernardo Drive** – The Rancho Bernardo Road/ West Bernardo Drive intersection has recently been improved to its ultimate Community Plan classification. Improvements per the *Rancho Bernardo Public Facilities Financing Plan (PFFP)* Project No. T-14 widened Rancho Bernardo Road to its current six-lane cross-section, which included additional lanes at the westbound

approach to West Bernardo Drive. Extensive research was conducted to determine the feasibility of providing capacity-enhancing improvements at this intersection.

All intersection approaches provide dual left-turn lanes. The westbound and northbound approach provide dedicated right-turn lanes. Consideration was given toward providing a right-turn overlap phase for the westbound right-turn lane. With this improvement, the intersection was calculated to continue to operate at significant LOS F conditions.

In addition, there is no available right-of-way along these roadways. Even if it was feasible to widen Rancho Bernardo Road and/or West Bernardo Drive to include dedicated right-turn lanes at the eastbound and southbound approaches, the analysis proved these improvements would not reduce the impact to below significant levels. Field observations, a review of the available right-of-way, and operational analyses completed with the improvements suggested above conclude that improvements including additional lanes, signal timing modifications, right-turn overlap phasing, etc. are physically infeasible and/or do not reduce levels of service to below a level of significance. Therefore, the cumulative impact at this intersection would remain significant and unmitigated.

It should be noted that the Project proposes to implement a Transportation Demand Management Plan help alleviate peak hour congestion along the study area street system.

TABLE 15-1
CUMULATIVE INTERSECTION IMPACTS
MITIGATION MEASURES & POST-MITIGATION OPERATIONS

MM#	Intersection	Traffic Control	Peak Hour	Year 2035 Without Project		Year 2035 With Project Pre-Mitigation		Existing + Cumulative Projects + Project Post-Mitigation			Fully Mitigated?
				Delay	LOS	Delay	LOS	Recommended Improvements	Delay	LOS	
TRA-1	Intersection #2: Rancho Bernardo Rd/ Via Del Campo	Signal	AM PM	79.8 61.3	E E	93.9 66.7	F E	Reconstruct the median on the south leg of the intersection and restripe the northbound approach within the existing paved width to provide an exclusive left-turn lane, thru lane, and dedicated right-turn lane.	72.0 55.4	E E	Yes
TRA-2	Intersection #3: Rancho Bernardo Rd/ Matinal Rd/ Project Access	Signal	AM PM	27.6 11.8	C B	62.4 61.0	E E	Restripe the northbound approach to provide a shared left-turn/thru lane and a dedicated right turn lane.	52.8 54.0	D D	Yes
TRA-3	Intersection #3: Rancho Bernardo Rd/ West Bernardo Dr	Signal	AM PM	51.4 59.9	D E	96.7 66.2	F E	Not applicable.	— —	— —	No

General Notes:

1. MM# = Mitigation measure number.
2. Sig = Significant impact post-mitigation.
3. Pre-mitigation and post-mitigation analysis shown is for the Year 2035 With Project condition.
4. Mitigation provided for locations currently operating at LOS E or F are required to improve operations to better than or equal to pre-Project conditions only.
5. Intersections operating at LOS E with a change in delay of less than 2.0 seconds and intersections operating at LOS with a change in delay of less than 1.0 seconds are considered mitigated to below a level of significance.
6. Fully mitigated indicates the cumulative impacts is reduced to below significant levels.

End of Report