# SANTA FE VALLEY CHINESE BIBLE CHURCH OF SAN DIEGO TRAFFIC IMPACT STUDY

March 2017

KOA CORPORATION
PLANNING & ENGINEERING
www.koacorporation.com

# SANTA FE VALLEY CHINESE BIBLE CHURCH OF SAN DIEGO TRAFFIC IMPACT STUDY PREPARED FOR THE COUNTY OF SAN DIEGO

March 2017

Prepared for:
County of San Diego
Department of Planning and Land Use
5201 Ruffin Road, Suite B
San Diego, CA 92123

Prepared by:
**KOA Corporation**
5095 Murphy Canyon Road, Suite 330
San Diego, CA 92123
(619) 683-2933
Fax: (619) 683-7982

Job No.: JB42038

# Table of Contents

# List of Figures

## List of Tables



## Appendices

# GLOSSARY OF TERMS AND ACRONYMS

| Acronyms | Definitions |
|---|---|
| AASHTO | American Association of State Highway and Transportation Officials |
| ADA | Americans with Disabilities Act |
| ADT | Average Daily Traffic |
| AWSC | All-way Stop-Controlled |
| Caltrans | California Department of Transportation |
| CEQA | California Environmental Quality Act |
| CMP | Congestion Management Program |
| HCM | 2000 Highway Capacity Manual |
| ILV | Intersecting Lane Volume |
| TIF | Transportation Impact Fee |
| Pcphgpl | passenger cars per hour of green per lane |
| PCE | Passenger Car Equivalent |
| TISPeMS | Traffic Impact Study Performance Measurement Systems |
| pcphgpl | passenger cars per hour of green per lane |
| TWSC | Two-way Stop Controlled |
| RTP | Regional Transportation Plan |
| PeMS | Performance Measurement Systems |
| SANTEC | San Diego Traffic Engineers' Council |
| SANDAG | San Diego Association of Governments |
| TIF | Transportation Impact Fee |
| SR | State Route |
| TIS | Traffic Impact Study |
| TIF | Transportation Impact Fee |
| TWSC | Two-way Stop Controlled |
| V/C | Volume-to-Capacity ratio |

# EXECUTIVE SUMMARY

The Santa Fe Valley Chinese Bible Church of San Diego development project is proposing to construct a 43,500 square foot Sanctuary and Administration Building A, a 12,934 square foot Christian ED Building B, 5,932 square foot Religious Meeting Building C, 13,812 square foot Fellowship Hall Building D, 13,056 square foot Fellowship Learning Center Building E. All proposed accessory buildings will operate outside the weekday peak hours except for other typical weekday activities associated with church. Trips associated with those uses are shown in Table 3. Currently church members attend other existing church facilities. These facilities are located within the vicinity of the proposed church. The main campus is located south of Camino Del Norte on World Trade Drive and the secondary campus is located just west of Camino Del Sur on Wolverine Way. Church activities at these two locations will be discontinued once the new facility is constructed and operated. The proposed Santa Fe Valley Chinese Bible Church of San Diego project will be located on 4 Gee Road in the County of San Diego.

The project trip generation was calculated using the SANDAG trip rates from the *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002*. Based on SANDAG trip rates, the traffic increase is calculated at 392 ADT, 20 AM peak hour trips, 31 PM peak hour trips for weekday trips, and 2,775 Sunday ADT AND 925 Sunday peak hour trips for weekend trips. The project study area includes 8 roadway segments and 10 intersections including project driveway.

Based on the analysis in this report, there are no direct and cumulative impacts.

# CHAPTER 1.0
# INTRODUCTION

This report describes the existing roadway network in the vicinity of the project site and includes a review of the existing and proposed activities for weekday AM and PM peak hours, Sunday periods, and daily traffic conditions when the project is completed. The format of this study includes the following chapters:

1.0 Introduction
2.0 Existing Conditions
3.0 Project Impact Analysis
4.0 Impacts and Mitigations
5.0 List of Preparers and Persons and Organizations Contacted

## 1.1 PURPOSE OF THE REPORT

This traffic impact analysis has been prepared for the proposed Santa Fe Valley Chinese Bible Church of San Diego development project located in the County of San Diego. The facility will be accessed off 4 Gee Road.

The project is located approximately four miles west of interstate 15 (I-15). I-15 provides regional access to the site.

## 1.2 PROJECT LOCATION AND DESCRIPTION

The Santa Fe Valley Chinese Bible Church of San Diego development project is proposing to construct a 43,500 square foot Sanctuary and Administration Building A, a 12,934 square foot Christian ED Building B, 5,932 square foot Religious Meeting Building C, 13,812 square foot Fellowship Hall Building D, 13,056 square foot Fellowship Learning Center Building E. All proposed accessory buildings will operate outside the weekday peak hours except for the daycare facility and other typical weekday activities associated with church. Trips associated with those uses are shown in Table 3. The project trip generation was calculated using the SANDAG trip rates from the *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, *April 2002*. Based on SANDAG trip rates, the project is expected to generate approximately 392 ADT, 20 AM peak hour trips, 31 PM peak hour trips for weekday trips, and 2,775 Sunday ADT and 925 Sunday peak hour trips for weekend trips.

The study area for this project includes those locations that are expected to be affected by this project. The scope of the study area is based on the County of San Diego Guidelines and a working knowledge of the local transportation system developed through review of on-going traffic studies. The specific study area includes 8 roadway segments and 10 intersections, including one project driveway.

### Roadway Segments

1. 4 Gee Road between Camino Del Norte and the Project Driveway
2. Camino Del Sur between 4 Gee Road and Rancho Bernardo Road
3. Camino Del Norte between Rancho Bernardo Road and 4S Ranch Parkway
4. Camino Del Norte between 4S Ranch Parkway and Dove Canyon Road
5. Camino Del Norte between Dove Canyon Road and Bernardo Center Drive
6. Camino Del Norte between Bernardo Center Drive and Paseo Montanoso
7. Camino Del Norte between Paseo Montanoso and I-15 Ramps
8. Dove Canyon Road between Camino Del Norte and Lone Quail Road

### Intersections

1. Project Driveway at 4 Gee Road (signalized as a project feature)
2. Camino Del Sur at 4 Gee Road (signalized)
3. Camino Del Norte at 4S Ranch Parkway (signalized)
4. Camino Del Norte at Rancho Bernardo Road (signalized)
5. Camino Del Norte at Dove Canyon Road (signalized)
6. Camino Del Norte at Bernardo Center Drive (signalized)
7. Camino Del Norte at Paseo Montanoso (signalized)
8. Camino Del Norte at I-15 Southbound Ramps (signalized)
9. Camino Del Norte at I-15 Northbound Ramps (signalized)
10. Lone Quail Road at Dove Canyon Road (signalized)

Figure 1-1 shows the project vicinity and study area. Figure 1-2 shows the project site plan.

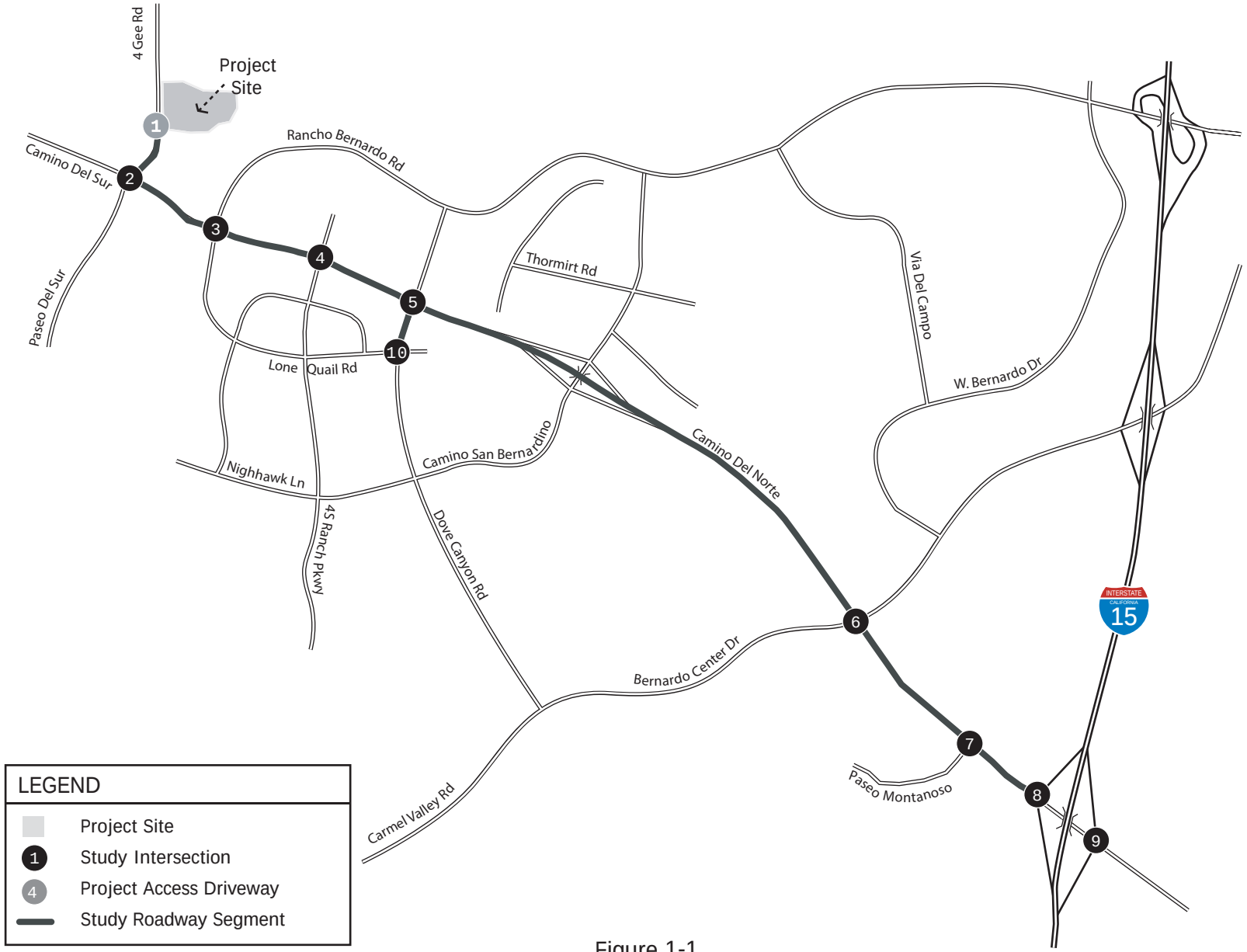


Figure 1-1
Project Study Area

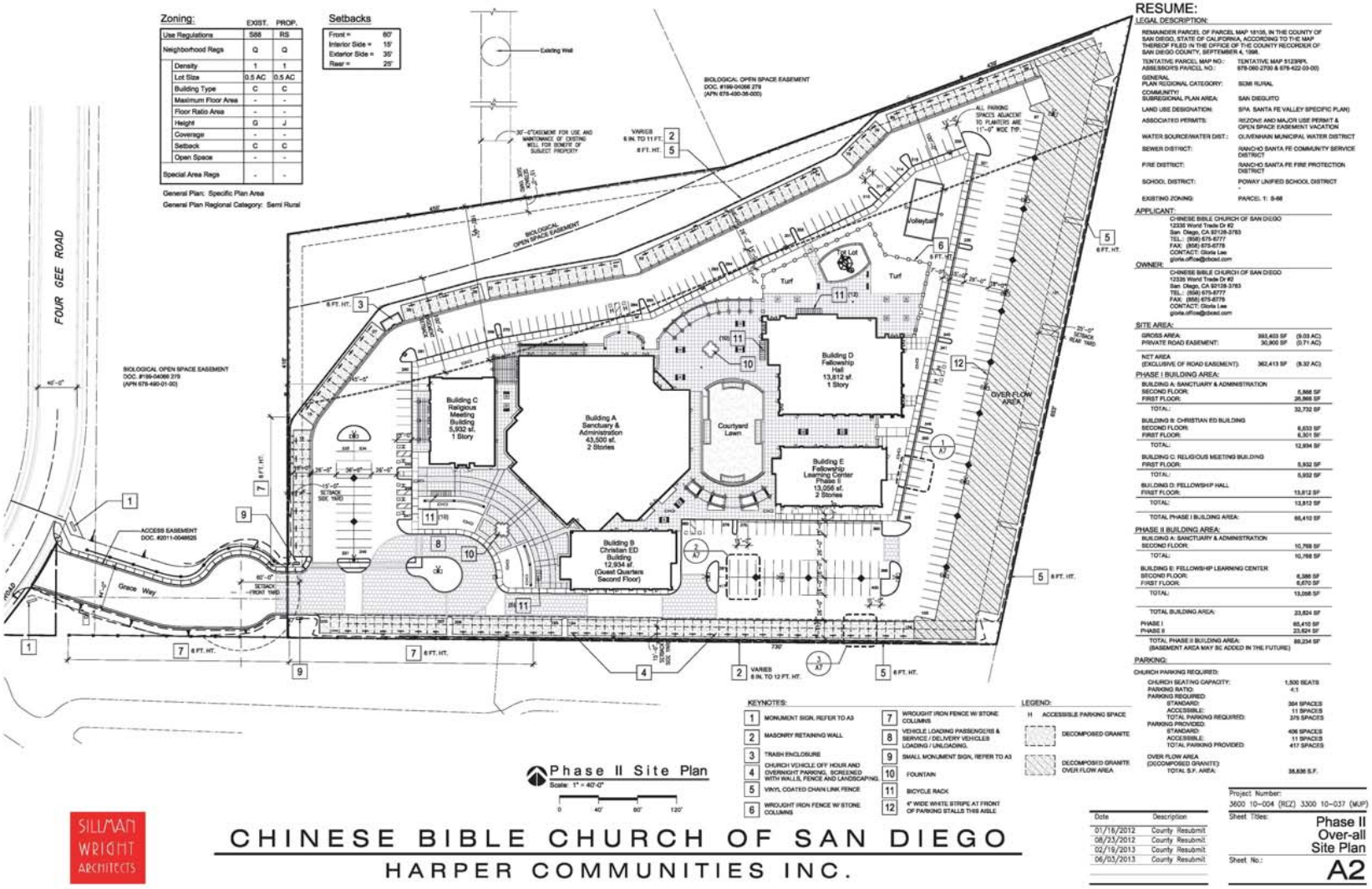


Figure 1-2
Project Site Plan

## 1.3 SUMMARY OF SIGNIFICANCE CRITERIA

This section describes traffic impact significance criteria for the City and County of San Diego. The study area falls within both jurisdictions therefore the criteria was applied to the intersection and segment based on their geographical location. The County of San Diego significance criteria is based on the San Diego County *Report Format & Content Requirements Transportation and Traffic*, August 24, 2011 and the County of San Diego General Plan Public Facilities Element (Part XII). The City of San Diego significance criteria is based on the City of San Diego Significance Determination Threshold (January, 2011).

### 1.3.1 County of San Diego Guidelines for Determining Significance

Based on the San Diego County *Report Format & Content Requirements Transportation and Traffic*, August 24, 2011, a project may have a direct and/or cumulative impact if the significance criteria are exceeded, as shown in Table 1.

**Table 1**
**County of San Diego Significant Traffic Impact Thresholds**

| Measures of Significant Project Impacts to Congestion Allowable Increases on Congested Roads and Intersections | | | | | |
|---|---|---|---|---|---|
| | Road Segments | | | Intersections | |
| Operations | 2-Lane Road | 4-Lane Road | 6-Lane Road | Signalized | Unsignalized |
| LOS E | 200 ADT | 400 ADT | 600 ADT | Delay of 2 seconds | 20 peak hour trips on a critical movement |
| LOS F | 100 ADT | 200 ADT | 300 ADT | Delay of 1 second, or 5 peak hour trips on a critical movement | 5 peak hour trips on a critical movement |

Notes:
1. A Critical movement is one that is experiencing excessive queues.
2. By adding proposed project trips to all other trips from a list of projects, these same tables are used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project that contributes any trips must mitigate a share of the cumulative impacts.
3. The County may also determine impacts have occurred on roads even when a project's traffic or cumulative impacts do not trigger an unacceptable level of service, when such traffic uses a significant amount of remaining road capacity.

A direct impact would occur when the significance criteria are exceeded. If the proposed project exceeds the values provided in the above table, then the individually proposed project would result in a direct traffic impact. In such case, specific improvements to mitigate direct impacts must be identified.

A cumulative impact would occur when two conditions are met: 1) build-out of all future projects results in a cumulative traffic impact and 2) the amount of traffic generated by the individual proposed project contributes (even in a small part) to that cumulative impact. Both conditions must be met for an individual project to result in a cumulative traffic impact. If the traffic generated from all the future projects (cumulative projects) would result in a cumulative traffic impact then condition 1 is met. If the total amount of traffic generated exceeds the values provided in the above table, then condition 2 is met and the individually proposed project would result in a cumulative traffic impact. Fair-share contributions toward cumulative impacts may only be provided when a specific transportation improvement project and schedule for completion of the improvement project has been identified.

Potential mitigation measures may include traffic signal improvements, physical road improvements, street re-striping and parking prohibitions, fair share contributions, and transportation demand management programs.

The County of San Diego Guidelines for Determining Significance and *Report Format and Content Requirements Transportation and Traffic*, dated August 24, 2011 includes a summary of how a project's potential traffic impact would be perceptible to the average driver on roadway segments:

> "Based on these criteria [Table 1 above], an impact from new development on an LOS E road would be reached when the increase in average daily trips (ADT) on a two-lane road exceeds 200 ADT. Using SANDAG's "Brief Guide for Vehicular Traffic Generation Rates for the San Diego Region" for most discretionary projects this would generate less than 25 peak hour trips. On average, during peak hour conditions, this would be only one additional car every 2.4 minutes. Therefore, the addition of 200 ADT, in most cases, would result in changes to traffic flow that would not be noticeable to the average driver and therefore would not constitute a significant impact on the roadway. Significance criteria were also established for four-lane and six-lane roads operating at LOS E and are based upon the above 24 hour ADT significance criterion established for two-lane roads. The two-lane road criterion was doubled to determine impacts to four-lane roads and tripled to determine impacts to six-lane roads. This was considered to be conservative since the 24 hour per lane road capacity for a 4-lane road is more than double that of a two-lane road and the per lane capacity of a six-lane road is more than triple that of the two-lane road. For LOS E roads, the additional significance criteria are 400 ADT for a four-lane road and 600 ADT for a six-lane road. Similar to criterion for two-lane road, the 400 ADT for a 4-lane road and 600 ADT for a 6-lane road criteria would generate less than 25 per lane peak hour trips for most discretionary projects. On average, during peak hour conditions, this would be only one additional car per lane every 2.4 minutes. The addition of 200 ADT per lane (400 ADT for a 4 lane road or 600 for a 6-lane road), in most cases, would result in changes to traffic flow that would not be noticeable to the average driver and therefore would not constitute a significant impact on the roadway..."

> "The second significance criteria listed in [Table 1 above] addresses roadways presently operating at LOS F. Under LOS F congested conditions, small changes and disruptions to the traffic flow on County Circulation Element Road can have a greater effect on traffic operations when compared to other LOS conditions. In order to better account for potential effects of increased traffic on LOS F road more stringent significance criteria was established when compared to that for LOS E. Based on this guidance, an impact from new development on an LOS F road would be reached when the increase in average daily trips (ADT) on a two-lane road exceeds 100. Again, using SANDAG's "Brief Guide for Vehicular Traffic Generation Rates for the San Diego Region" for most discretionary projects this would generate less than 12.5 peak hour trips. On average, during peak hour conditions, this would be only one additional car every 4.8 minutes. The addition of 100 ADT, in most cases, would not be noticeable to the average driver and therefore would not constitute a significant impact on the roadway. The same approach used to determine significance criteria for four-lane and six-lane roads operating at LOS E was used to determine appropriate significance criteria for four-lane and six-lane road operating at LOS F. Based on this approach, the significance criteria for a four-lane road (200 ADT) and for a six-lane road (300 ADT) would generate less than 12.5 per lane peak hour trips for most discretionary projects. On average, during peak hour conditions, this would be only one additional car per lane every 4.8 minutes. The addition of 100 per lane ADT (200 ADT for a 4-lane and 300 ADT for a 6-lane road) would, in most cases, not be noticeable to the average driver and therefore would not constitute a significant impact on the roadway. In summary, under extremely congested LOS F conditions, small changes and disruptions to the traffic flow can significantly affect traffic operations and additional project traffic can increase the likelihood or frequency of these events. Therefore, the LOS F ADT significance criteria was set at 100 ADT (50% of the LOS

> E threshold) to provide a higher level of assurance that the traffic allowed under the threshold would not significantly impact traffic operation on the road segment."

And, a summary of how a project's potential traffic impact would be perceptible to the average driver at intersections:

> The significance criterion for signalized intersections listed in [Table 1 above] allows an increase in the overall delay at an intersection operating at LOS E of two seconds. This is consistent with the capacity threshold contained in the SANDAG' CMP and guidelines established by the City of San Diego. A delay of two seconds is a small fraction of the typical cycle length for a signalized intersection that ranges between 60 and 120 seconds. The likelihood of increased vehicular queues due to the additional two seconds of delay is low. Therefore, an increased wait time of two seconds, on average, would result in changes to traffic flow that would not be noticeable to the average driver. Therefore the significance guideline for intersections operating at LOS E is two seconds."
>
> "The primary significance criterion for signalized intersections operating at LOS F conditions was based upon increased delay at the intersection. Under LOS F congested conditions, small changes and disruptions to the traffic flow to signalized intersection can have a greater effect on overall intersection operations when compared to other LOS conditions. In order to better account for potential effects of increased traffic at signalized intersections operating at LOS F, a more stringent guideline was established when compared to signalized intersection operating at LOS E. A significance guideline of an increased delay of 1 second was established for signalized intersections operating at LOS F. An increase in the overall delay at an intersection of one second, on average, would result in changes to traffic flow that would not be noticeable to the average driver. Therefore the significance guideline for intersections operating at LOS F is 1 second."
>
> "Signalized intersections operating at LOS F also have the potential for substantial queuing at specific turning movements that may detrimentally affect overall intersection and/or road segment operations. Thus, an increase of peak hour trips to a critical movement was also established as a secondary significance criterion for signalized intersections. A critical movement would be a movement or a lane at an intersection that is experiencing queuing or substantial delay and is affecting the overall operation of the intersection. The increase in peak hour trips to a critical movement is a measurement of how many cars can be added to an existing queue. The addition of five trips (peak hour) per critical movement will normally be considered a significant impact. This significance criterion was selected because the five additional trips spread out over the peak hour would not significantly increase the length of an existing queue and would not be noticeable to the average driver (one trip every 12 minutes or 720 seconds). For LOS E intersections, the 5 peak hour trips to a critical movement would not be noticeable to the average driver since the one additional trip during the 12 minute interval on average would clear the traffic signal cycles well within the 12 minute period. It should also be noted that if the 5 additional peak hour trips arrived at the same time these trips would also clear the traffic cycle and existing queue lengths would be re-established."
>
> "The significance guidelines for unsignalized intersections identify a minimum number of trips added to a critical movement at an unsignalized intersection. Since the operations of unsignalized intersections under congested conditions are heavily influenced by traffic volume increases on critical moves, the significance guidelines for unsignalized intersections were based upon the number of trips added to a critical movement. This guideline directly relates to the number of vehicles that can be added to an existing queue that forms at the intersection. A

significance criteria of twenty trips (peak hour) per critical movement was used for LOS E conditions. Although delays drivers experience under LOS E conditions may be noticeable, they are not yet considered unacceptable. The twenty trips spread out over the peak hour would not likely cause the intersection delay or existing queue lengths to become unacceptable. The twenty trips (peak hour) would not be noticeable to the average driver. A significance guideline of five trips (peak hour) per critical movement was used for LOS F conditions. The five trips spread out over the peak hour would not significantly increase the length of an existing queue and would not be noticeable to the average driver."

"The operations of unsignalized intersections under congested conditions are heavily influenced by traffic volumes increases on critical moves. Therefore, the significance guidelines for unsignalized intersections are based upon the number of peak hour trips added to a critical movement at that intersection. This guideline examines the number of vehicles that may be added to an existing queue that forms at the intersection by the additional traffic generated by a project. In LOS E situations, the delays that drivers experience are noticeable, but are not considered excessive. A peak hour increase of twenty trips to the critical movement of an unsignalized intersection would be, on average, one additional car every 3.0 minutes or 180 seconds. Assuming the average wait time for a vehicle in the critical movement queue is less than 3.0 minutes, which is typical for LOS E conditions, this would not be noticeable to the average driver and would not be considered a significant impact."

"For LOS F conditions, a significance threshold of five trips (peak hour) per critical movement was used. The five trips spread out over the peak hour would not significantly increase the length of an existing queue and would not be noticeable to the average driver. Five trips spread out over an hour would be one car every 12 minutes. This typically exceeds the average wait time in the queue and would not be noticeable to the average driver."

### 1.3.2 County of San Diego General Plan Public Facilities Element (Part XII)

The County of San Diego Guidelines for Determining Significance and R*eport Format & Content Requirements Transportation and Traffic*, August 24, 2011, includes a summary of the Public Facilities Element of the San Diego County General Plan as follows:

"The County of San Diego General Plan Public Facilities Element establishes policies and implementation measures regarding the assessment and mitigation of traffic impacts of new development. One of the goals of the Public Facilities Element (PFE) is to provide "A safe, convenient, and economical integrated transportation system including a wide range of transportation modes (PFE, page XH-4-18)." The PFE also identifies an objective in the Transportation Section to provide a "Level of Service C or better on County Circulation Element roads (PFE, page XII-4-18)." The PFE, however, establishes LOS D as an off-site mitigation threshold for discretionary projects. When an existing Level of Service is already D, "a LOS of D may be allowed (PFE, page XII-4-18)." According to the PFE, projects that significantly increase congestion on roads operating at LOS E or LOS F must provide mitigation. According to the PFE, this mitigation can consist of a fair share contribution to an established program or project to mitigate the project's impacts. If impacts cannot be mitigated, the project will be denied unless a specific statement of overriding findings is made pursuant to Sections 15091 and 15093 of the State CEQA Guidelines to approve the project as proposed."

The County of San Diego significance criteria is consistent with the aforementioned summary of PFE Policy LI, which requires mitigation for projects that significantly increase congestion on roads operating at LOS E or LOS F.

In summary, the County of San Diego traffic impact significance criteria covers the significance criteria identified in PFE policies.

### 1.3.3 City of San Diego Guidelines for Determining Significance

For the City of San Diego, a project is considered to have caused a significant impact if the project traffic degrades a facility from acceptable LOS D to unacceptable LOS E or F, or decrease the operations on the surrounding roadways by the impact thresholds listed in the City of San Diego Significance Determination Threshold (January, 2011). Table 2 shows the City of San Diego traffic impact significance thresholds:

**Table 2**
**City of San Diego Significant Traffic Impact Thresholds**

| Level of Service With Project | Allowable Increase Due to Project Impacts[1] | | | | |
|---|---|---|---|---|---|
| | Freeways | Roadway Segments | | Intersections | Ramp Metering |
| | V/C | V/C | Speed (mph) | Delay (sec.) | Delay (min.) |
| E[2] | 0.010 | 0.02 | 1.0 | 2.0 | 2.0[3] |
| F[2] | 0.005 | 0.01 | 0.5 | 1.0 | 1.0[3] |

Source: City of San Diego, Significance Determination Threshold
Note: Delay measured in seconds. V/C = Volume to Capacity Ratio (capacity at LOS E should be used).
Speed = Arterial speed measured in miles per hour for Congestion Management Program (CMP) arterials.
[1] If a proposed project's traffic impacts exceed the values show in the table, then the impacts are deemed "significant." The project applicant shall identify "feasible mitigations" to achieve LOS or better.
[2] The acceptable Level of Service (LOS) standard for roadways and intersections in San Diego is LOS D. However, for undeveloped locations, the goal is to achieve LOS C.
[3] The impact is only considered significant if the total delay exceeds 15 minutes.

If a significant impact is calculated due to the addition of project traffic, then feasible mitigation is required to reduce the facility to the pre-project conditions or better. The City guideline states that there are two impact thresholds for roadway segments: one threshold for volume-to-capacity (V/C) ratio change and another threshold for travel speed change. For roadway segment that have been identified to have project impacts based on the roadway capacity analysis, the HCM Urban Street peak hour segment analysis will be used in order to verify if the change in travel speeds would exceed the impact thresholds. If the HCM Urban Street peak hour segment analysis shows that there are no project impacts in travel speeds for the roadway segments, it will interpreted that there are no project impacts identified for the study area roadway segments.

## 1.4 CONGESTION MANAGEMENT PROGRAM REQUIREMENTS

State Proposition 111, passed by voters in 1990, established a requirement that urbanized areas prepare a Congestion Management Program (CMP). The purpose of the CMP is to monitor the performance of the region's transportation system, develop programs to address Existing + Ambient + Cumulative and Buildout congestion, and better integrate transportation and land use planning. SANDAG has prepared the CMP for the San Diego region. It establishes significance criteria that

identifies that LOS D is the minimum acceptable LOS for peak hour operation. Any roadway segment operating at LOS E or F is considered to be operating deficiently. The SANDAG Congestion Management Plan 1999 Update (CMP) requires a traffic analysis for all large-scale projects that generate at least 2,400 daily trips or 200 or more peak hour trips. The proposed project does ***not*** meet the daily and peak hour trip generation threshold, so a detailed RSA analysis is ***not*** required.

# CHAPTER 2.0
# EXISTING CONDITIONS

## 2.1 EXISTING TRANSPORTATION CONDITIONS

The principal roadways in the project study area are described briefly below. The description includes the physical characteristics, adjacent land uses, and traffic control devices along these roadways. The existing roadway geometry and control conditions are shown in Figure 2-1.

*Camino Del Norte* runs east/west connecting the major arterials in the unincorporated area of the County of San Diego and City of San Diego. It functions as a 4-lane major road to a 6-lane prime arterial within the project study area. The General Plan recommends an ultimate classification as a 6-lane prime arterial. The roadway has a paved roadway width of approximately 75 to 135 feet with a raised median with median breaks. The roadway has bike lanes and sidewalks. The posted speed limit ranges from 50 to 55 MPH. The roadway provides driveway access to adjacent institutional land uses.

*4 Gee Road* has a functional classification as a Light Collector roadway, which serves a main corridor for project trips originating or destined for areas east or west on Camino Del Norte. 4 Gee Road operates as a north-south roadway and has direct access to the project driveway. There is a speed limit of 25 MPH on in the project vicinity. There are some residential areas along 4 Gee Road and parking and sidewalks exist along both sides of the roadway. The County General Plan Update suggests the ultimate classification of 4 Gee Road as a Light Collector.

*Rancho Bernardo Road* has a functional classification as a 4-lane Major Road within the project area with a posted speed limit of 25 MPH. Rancho Bernardo Road operated as a north/east-south/west roadway. There is no parking on the roadway and sidewalks were observed on both sides of the road during the site field review. The County General Plan Update suggests the ultimate classification of Rancho Bernardo Road as a Major Road.

*4S Ranch Parkway* has a functional classification as a 4-lane Collector, which serves the project area via Camino Del Norte. 4S Ranch Parkway Road operates as a north-south roadway with a posted speed limit of 35 MPH in the project area. There is no parking on the roadway and sidewalks were observed on both sides of the road during the site field review. The County General Plan Update suggests the ultimate classification of 4S Ranch Parkway as a Collector Road.

*Dove Canyon Road* has a functional classification as a 4-lane Major roadway, which serves the project area via Camino Del Norte. Dove Canyon Road operates as a north-south roadway with no posted speed limits in the project area. There is no parking on the roadway and sidewalks were observed on both sides of the road during the site field review. The County General Plan Update suggests the ultimate classification of Dove Canyon Road as a Major Road.

*Bernardo Center Drive* has a functional classification as a 4- to 6-lane roadway which serves the project area via Camino Del Norte for trips in and around the community. Bernardo Center Drive operates as a mostly north-south roadway with a posted speed limit of 45 MPH to 50 MPH in the project area. There is no parking on the roadway and sidewalks were observed on both sides of the road during the site field review. The County General Plan Update suggests the ultimate classification of Bernardo Center Drive as a Major Road.

*Paseo Montanoso* has a functional classification as a 2-lane roadway which serves the project area via Camino Del Norte for trips in and around the community. Paseo Montanoso operates as a north-south roadway with a posted speed limit of 30 MPH in. Parking on the roadway and sidewalks were

observed on both sides of the road during the site field review. The County General Plan Update suggests the ultimate classification of Paseo Montanoso as a Light Collector.

*Lone Quail Road* has a functional classification as a 2-lane roadway which serves the project area via Dove Canyon Road and 4S Ranch Parkway. Lone Quail Road operates as an east-west roadway with a posted speed limit of 25 MPH in the project area. There is no parking on the roadway and sidewalks were observed on both sides of the road during the site field review. The County General Plan Update suggests the ultimate classification of a Light Collector.

*Interstate 15* is an 8-lane divided highway, which serves the project area via Camino Del Norte, Rancho Bernardo Road, and Bernardo Center Drive on- and off-ramps. Interstate 15 operates as a north-south highway with posted speed limits of 65 MPH.

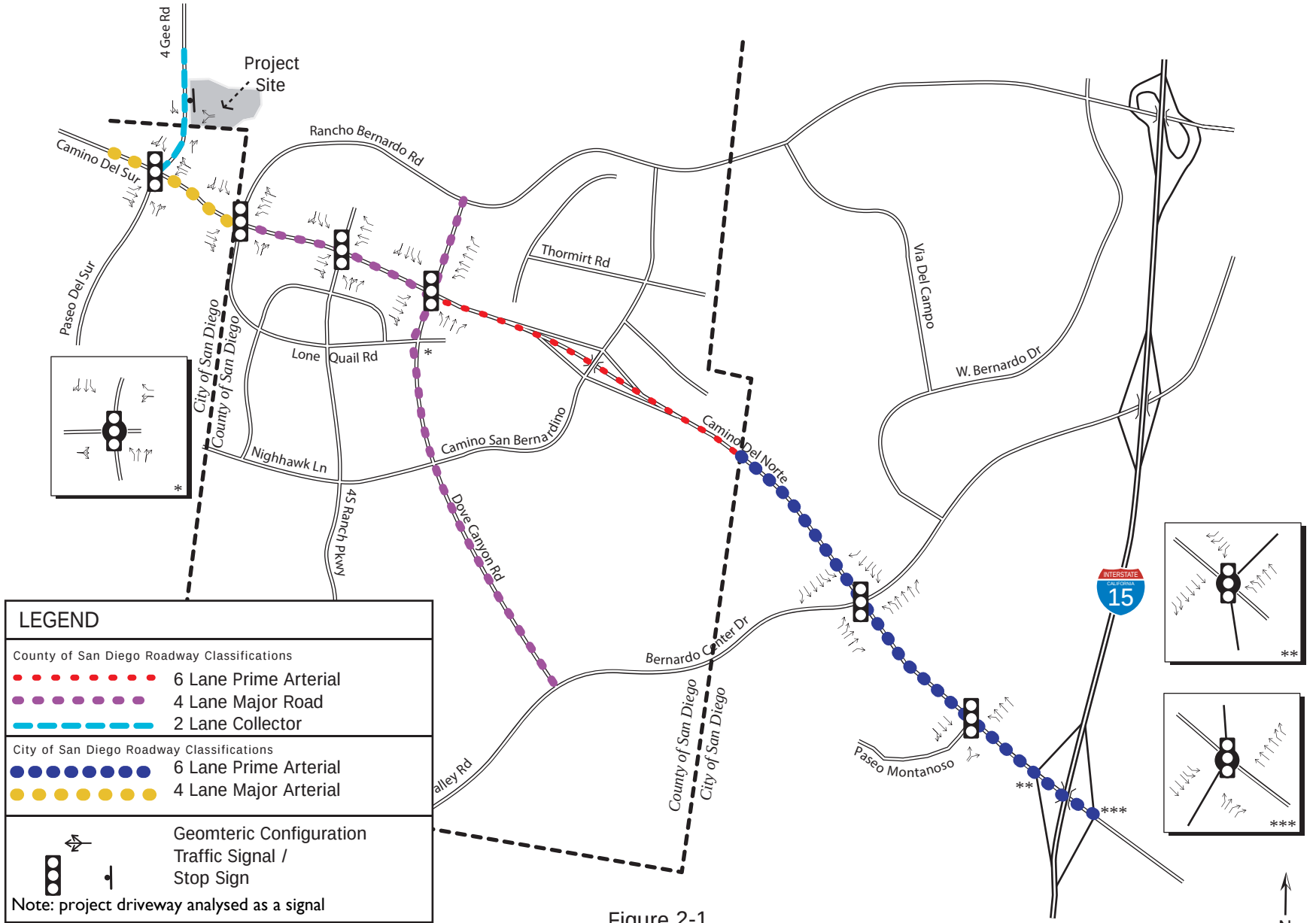


Figure 2-1
Existing Circulation Network

## 2.2 EXISTING PARKING, TRANSIT, AND ON-SITE CIRCULATION

### 2.2.1 Parking

The existing uses on the subject property currently provides adequate parking that is consistent with County of San Diego code requirement

### 2.2.2 Transit

Transit service is offered by the Metropolitan Transit Service (MTS) throughout the urbanized area in the County of San Diego. MTS Express Bus Route 880 currently serves the 4S Ranch and Rancho Bernardo communities with limited stop service to Sorrento Valley and Golden Triangle. MTS Premium Express Bus Service is a commuter service with limited stops in premium coach buses.

Starting at the 4S Commons Town Center, Express Route 880, will stop at the Rancho Bernardo Transit Station and then go directly to Mira Mesa via the Interstate 15 Expressway. The bus will exit I-15 at Mira Mesa Boulevard and go to Sorrento Valley, serving the employment centers there. The service will end at the UTC Transit Center. The bus service will have three morning rush hour trips and three trips in the evening. The proposed project does not directly affect Express Route 880 or its transit stops. The current service would not be affected since road closures and detours are not a feature of the proposed project.

### 2.2.3 On-Site Circulation

The on-site circulation network currently consists of a private driveway that connects existing uses on the subject property to 4 Gee Road.

# CHAPTER 3.0
# PROJECT IMPACT ANALYSIS

## 3.1 EXISTING TRAFFIC VOLUMES AND ANALYSIS

The intersection turning movement counts were conducted during the weekday morning peak period from 7:00 AM to 9:00 AM, evening peak period from 4:00 PM to 6:00 PM, and weekend Sunday peak period from 8:00 AM to 1:00 PM in January of 2017. Average daily traffic volumes were also conducted in January of 2017 and were obtained through machine data collection. The daily traffic volumes are shown in Figures 3-1 and 3-2. The resultant existing weekday morning peak hour, evening peak hour, and weekend Sunday peak hour intersection volumes are shown in Figures 3-3, 3-4, and 3-5. Both intersection and segment count data is included in Appendix B. The LOS calculated for the intersections and street segments are shown in Tables 3 and 4, respectively. Existing LOS calculations are included in Appendix C.

**Table 3**
**Existing Segment ADT Volumes and Level of Service**

| Roadway Segment | Lanes/ Class | LOS E Capacity | Without Project | | |
|---|---|---|---|---|---|
| | | | ADT | LOS | V/C |
| **Weekday** | | | | | |
| 4 Gee Rd | | | | | |
| From Camino Del Sur to Project Driveway[1] | 2-lane Collector | 16,200 | 3,088 | B | 0.191 |
| Camino Del Sur | | | | | |
| From 4 Gee Rd to Rancho Bernardo Rd[2] | 4-lane Major Arterial | 40,000 | 25,523 | C | 0.638 |
| Camino Del Norte | | | | | |
| From Rancho Bernardo Rd to 4S Ranch Pkwy[1] | 4-lane Major | 37,000 | 20,071 | B | 0.542 |
| From 4S Ranch Rd to Dove Canyon Rd[1] | 4-lane Major | 37,000 | 20,839 | B | 0.563 |
| From Dove Canyon Rd to Bernardo Center Dr [1] | 6-lane Prime Arterial | 57,000 | 26,816 | B | 0.470 |
| From Bernardo Center Dr to Paseo Montanoso [2] | 6-lane Prime Arterial | 60,000 | 49,587 | C | 0.826 |
| From Paseo Montanoso to I-15 Ramps[2] | 6-lane Prime Arterial | 60,000 | 51,471 | D | 0.858 |
| Dove Canyon Rd | | | | | |
| From Camino Del Norte to Lone Quail Rd[1] | 4-lane Major | 37,000 | 13,355 | A | 0.361 |
| **Weekend** | | | | | |
| 4 Gee Rd | | | | | |
| From Camino Del Surr to Project Driveway[1] | 2-lane Collector | 16,200 | 2,306 | B | 0.142 |
| Camino Del Sur | | | | | |
| From 4 Gee Rd to Rancho Bernardo Rd[2] | 4-lane Major Arterial | 40,000 | 14,661 | A | 0.367 |
| Camino Del Norte | | | | | |
| From Rancho Bernardo Rd to 4S Ranch Pkwy[1] | 4-lane Major | 37,000 | 12,740 | A | 0.344 |
| From 4S Ranch Rd to Dove Canyon Rd[1] | 4-lane Major | 37,000 | 13,402 | A | 0.362 |
| From Dove Canyon Rd to Bernardo Center Dr [1] | 6-lane Prime Arterial | 57,000 | 19,134 | A | 0.336 |
| From Bernardo Center Dr to Paseo Montanoso [2] | 6-lane Prime Arterial | 60,000 | 29,855 | B | 0.498 |
| From Paseo Montanoso to I-15 Ramps[2] | 6-lane Prime Arterial | 60,000 | 32,566 | B | 0.543 |
| Dove Canyon Rd | | | | | |
| From Camino Del Norte to Lone Quail Rd[1] | 4-lane Major | 37,000 | 8,978 | A | 0.243 |

Note: [1] County of San Diego Jurisdiction, [2] City of San Diego Jurisdiction

**Table 4**
**Existing Intersection Level of Service**

| Traffix | Report | Intersection | Weekday AM Peak Hour | | Weekday PM Peak Hour | | Weekend Sunday Peak Hour | |
|---|---|---|---|---|---|---|---|---|
| | | | Delay | LOS | Delay | LOS | Delay | LOS |
| 601 | 1 | Project Driveway at 4 Gee Rd [1,2] | 1.8 | A | 0.8 | A | 2.4 | A |
| 602 | 2 | Camino Del Sur at 4 Gee Rd [3] | 23.2 | C | 20.9 | C | 23.4 | C |
| 603 | 3 | Camino Del Norte at Rancho Bernardo Rd [2] | 38.2 | D | 35.7 | D | 28.2 | C |
| 604 | 4 | Camino Del Norte at 4S Ranch Pkwy [2] | 22.4 | C | 26.5 | C | 25.4 | C |
| 605 | 5 | Camino Del Norte at Dove Canyon Rd [3] | 28.7 | C | 29.9 | C | 29.5 | C |
| 606 | 6 | Camino Del Norte at Bernardo Center Dr [3] | 44.9 | D | 42.3 | D | 28.4 | C |
| 607 | 7 | Camino Del Norte at Paseo Montanoso [3] | 15.1 | B | 15.9 | B | 14.4 | B |
| 608 | 8 | Camino Del Norte at I-15 SB Ramps [3] | 46.4 | D | 25.6 | C | 22.6 | C |
| 609 | 9 | Camino Del Norte at I-15 NB Ramps [3] | 52.2 | D | 35.8 | D | 21.2 | C |
| 610 | 10 | Lone Quail Rd at Dove Canyon Rd [2] | 26.2 | C | 26.8 | C | 26.8 | C |

Note: [1]Project Driveway is currently unsignalized however is proposed to be signalized as a project feature therefore was analyzed as such

[2] County of San Diego Jurisdiction

[3] City of San Diego Jurisdiction

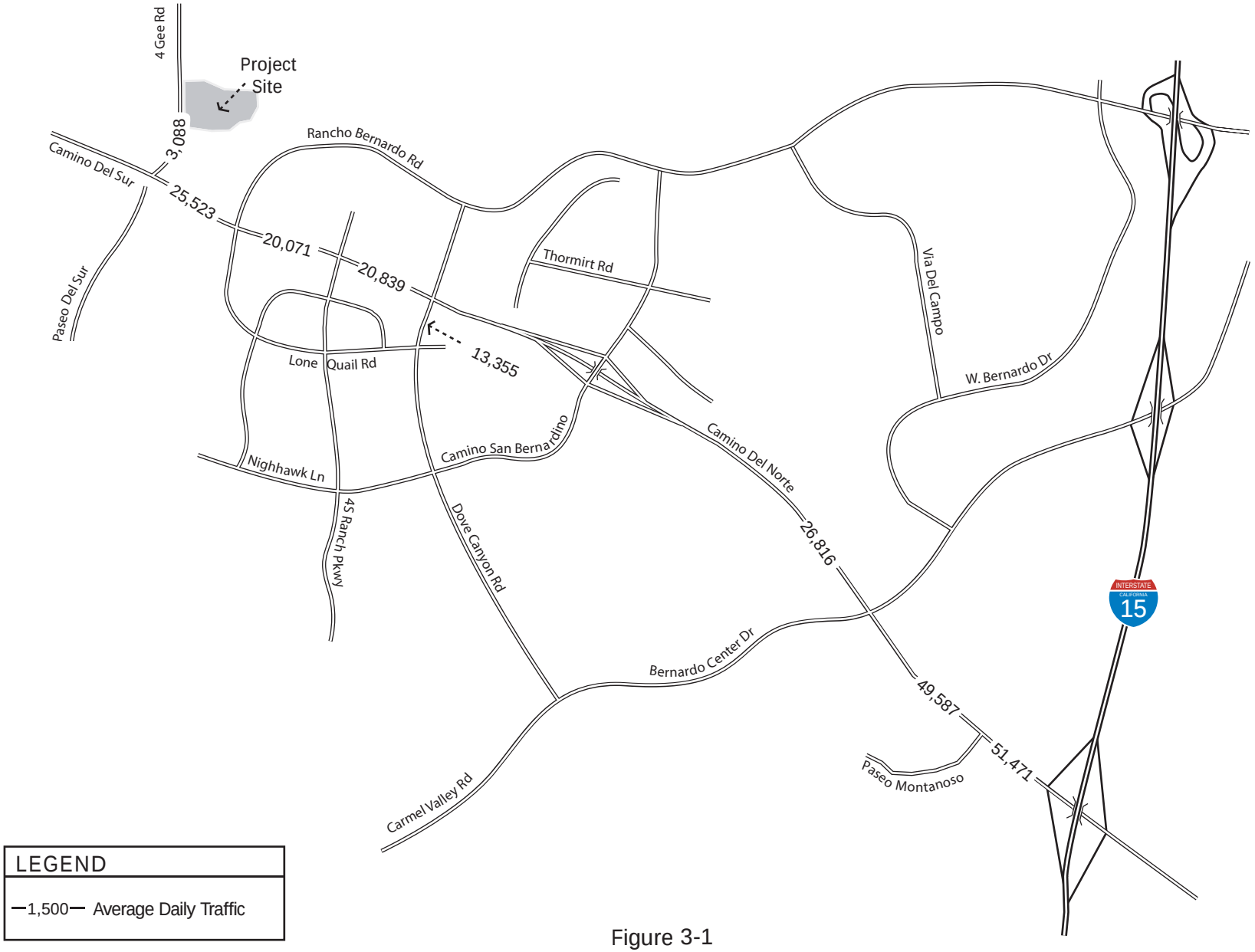


Figure 3-1
Existing Weekday Roadway Segment Volumes

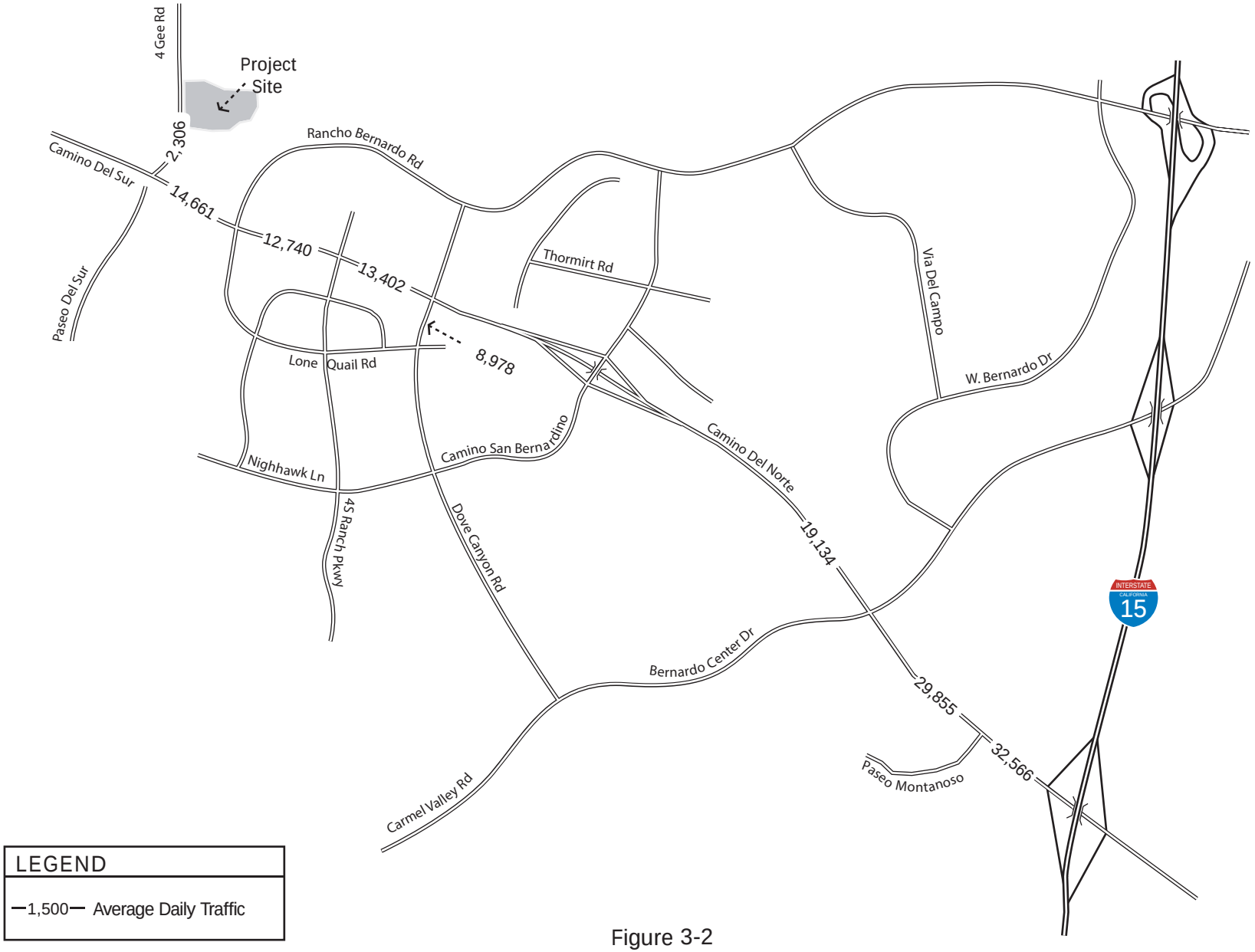


Figure 3-2
Existing Weekend Roadway Segment Volumes

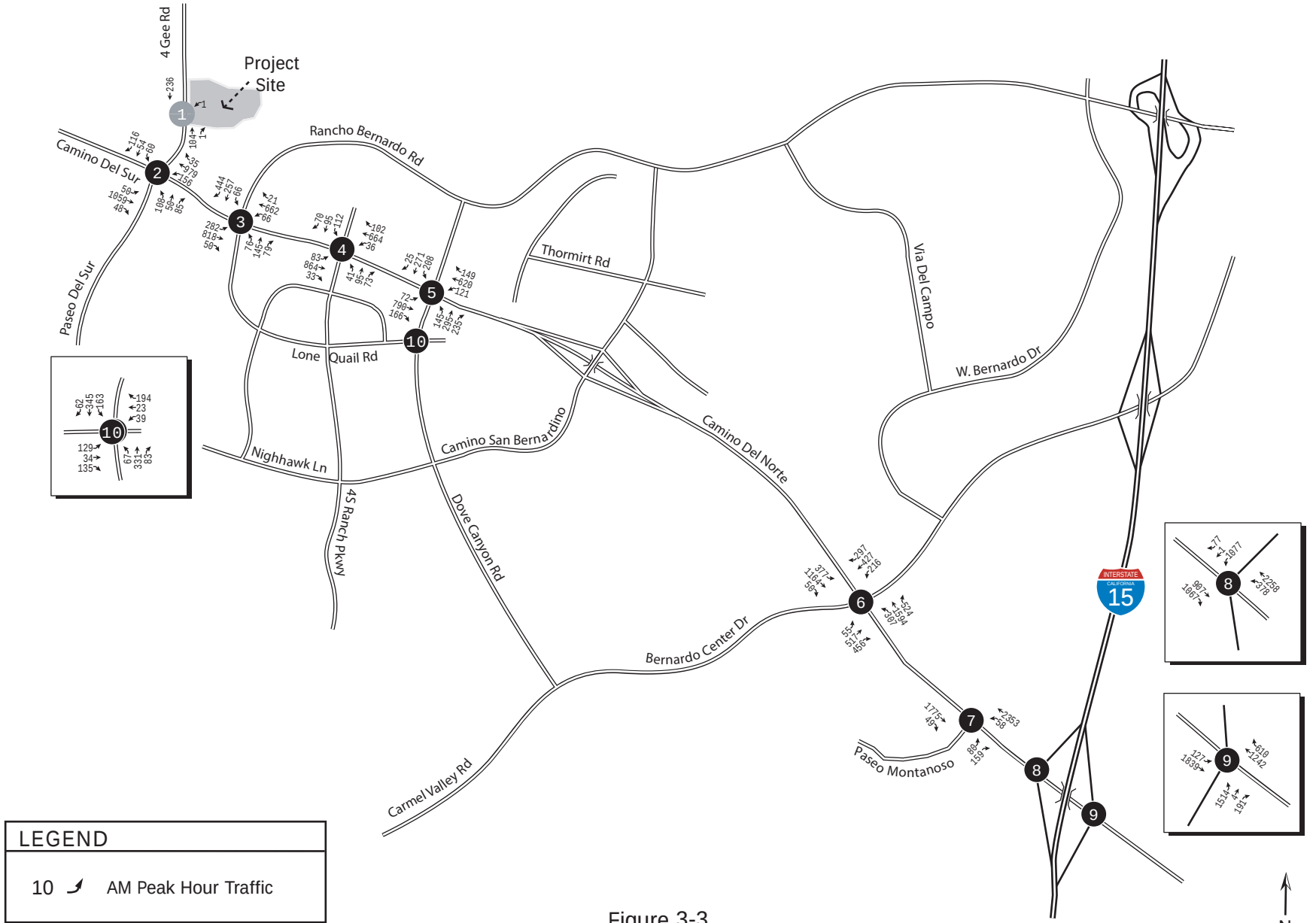


Figure 3-3
Existing Weekday AM Peak Hour Intersection Volumes

Not To Scale

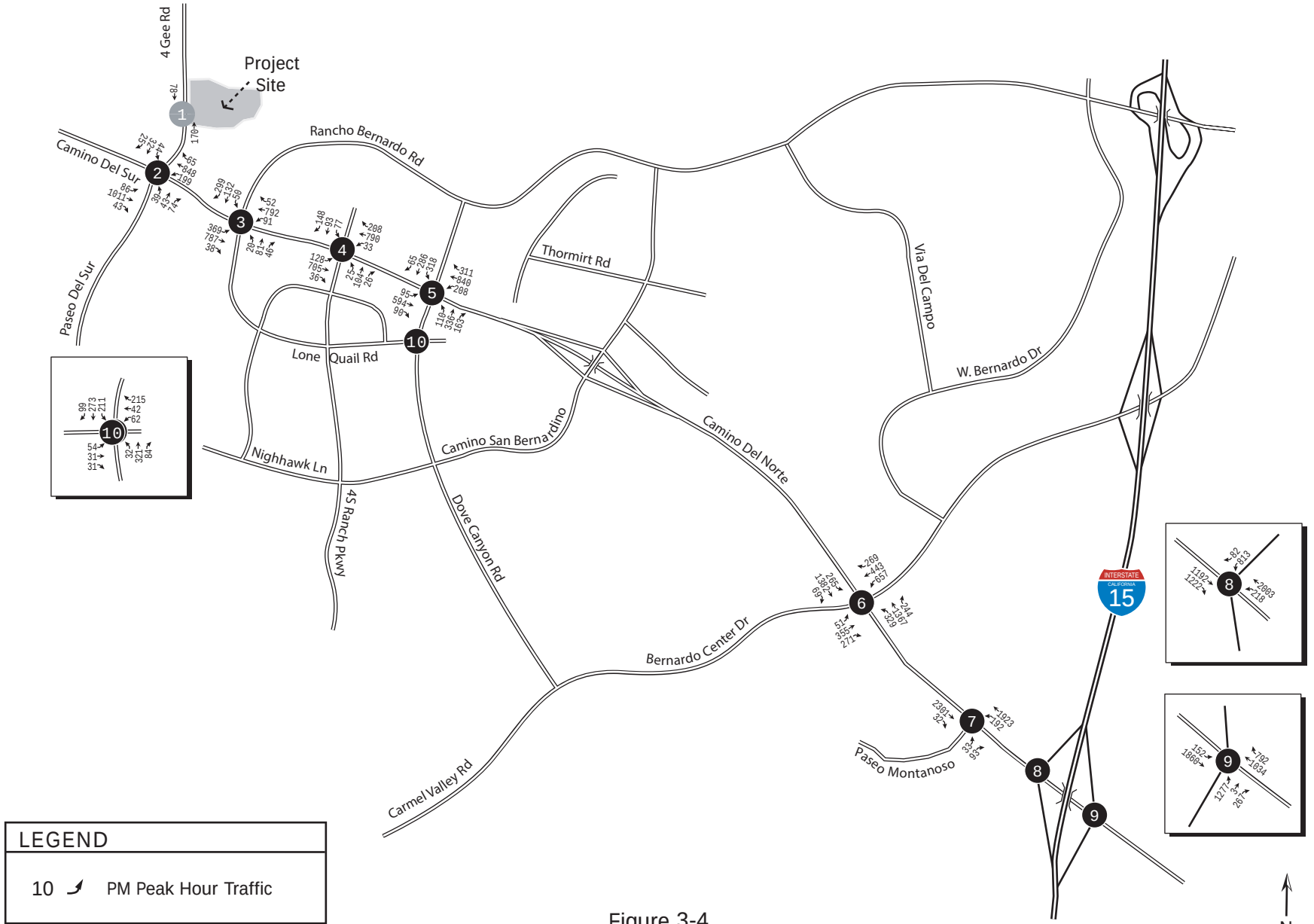


Figure 3-4
Existing Weekday PM Peak Hour Intersection Conditions

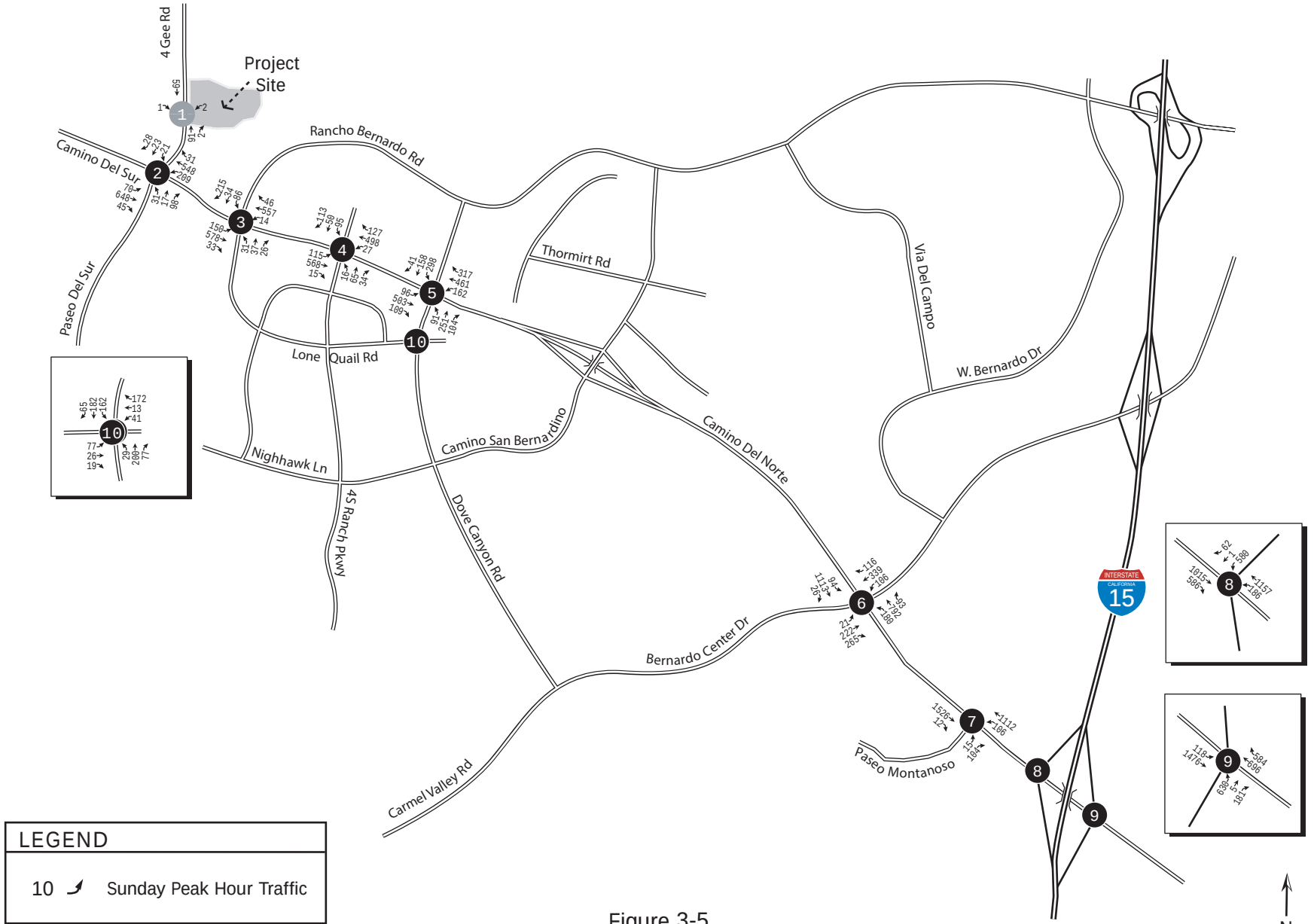


Figure 3-5
Existing Weekend Sunday Peak Hour Intersection Conditions

## 3.2 PROJECT TRIP GENERATION

Trip generation is a measure or forecast of the number of trips that begin or end at the project site. The traffic generated is a function of the extent and type of development proposed for the site. These trips will result in some traffic increases on the streets where they occur. Vehicular traffic generation characteristics for projects are estimated based on established rates. These rates identify the probable traffic generation of various land use based studies of developments in comparable settings. The rates used in this analysis were determined based on rates contained in the *(SANDAG) (Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region (2002)*. This manual provides standards and recommendations for the probable traffic generation of various land uses based upon local, regional and nationwide studies of existing developments in comparable settings. Appendix D contains excerpts from this manual.

Currently church members attend two other existing church facilities. These facilities are located within the vicinity of the proposed church. The main campus is located south of Camino Del Norte on World Trade Drive and the secondary campus is located just west of Camino Del Sur on Wolverine Way. Church activities at these two locations will be discontinued once the new facility is constructed and operational. Project trips will be redirected to the new facility and this may cause the net increase of the project to be reduced where trips begin to divert; however, the increased intensity of the project will be realized through this process. Diverted routes are roadways where existing trips within the study areas will divert to in order to access the new location of the church. These existing trips, currently accessing the existing church locations, will divert from their normal route with construction of the new church. The resulting diverted trips will create an increase, decrease, or no change in the traffic volumes along roadway segments and intersections located within the area of influence. Appendix D includes the development process of the project trips. Project trip redirection has only been applied to weekends. The church weekend trip rate is based on seats because the church will have services during the Sunday peak hour. Table 5 provides the trip generation for full development.

**Table 5**
**Weekday Project Trip Generation**

| Land Use | Intensity | Units | Rate/Trips | Daily | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Total | In | Out | Total | In | Out |
| Weekday Trip Generation | | | | | | | | | | |
| Church (House of Worship) | 43.5 | ksf | Rate | 9 | 5% | 60% | 40% | 8% | 50% | 50% |
| | | | Trips | 392 | 20 | 12 | 8 | 31 | 16 | 16 |
| | | | TOTAL | 392 | 20 | 12 | 8 | 31 | 16 | 16 |

Source: SANDAG Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region (April 2002).
Note: Numbers may not total due to rounding.

**Table 6**
**Weekend Project Trip Generation**

| Land Use | Intensity | Units | Rate/Trips | Daily | Sunday Peak Hour | | |
|---|---|---|---|---|---|---|---|
| | | | | | Total | In | Out |
| Sunday Trip Generation | | | | | | | |
| Church (House of Worship) | 1,500 | Seats | Rate | 1.85 | 33% | 50% | 50% |
| | | | Trips | 2,775 | 925 | 463 | 463 |
| | | | TOTAL | 2,775 | 925 | 463 | 463 |

Source: ITE Trip Generation 8th Edition.

Note: Numbers may not total due to rounding.

## 3.3 PROJECT TRIP DISTRIBUTION

Trip distribution and assignment is the process of identifying the probable destinations, directions and traffic routes that project related traffic will likely affect. Trip distribution and assignment information can be estimated from observed traffic patterns, experience or through use of a computerized travel forecast model. Once the proposed developments trips have been estimated, they are assigned to the study area network. The trip distribution and assignment for this project are based on zip code location of current parishioners.

The trip distribution and assignment are shown in Figure 3-6. Daily project trips are shown in Figures 3-7 and 3-8. AM, PM and Sunday peak hour project trips are shown in Figures 3-9 thru 3-11.


Figure 3-6
Project Trip Distribution


Figure 3-7
Daily Weekday Project Trips


Figure 3-8
Daily Weekend Project Trips

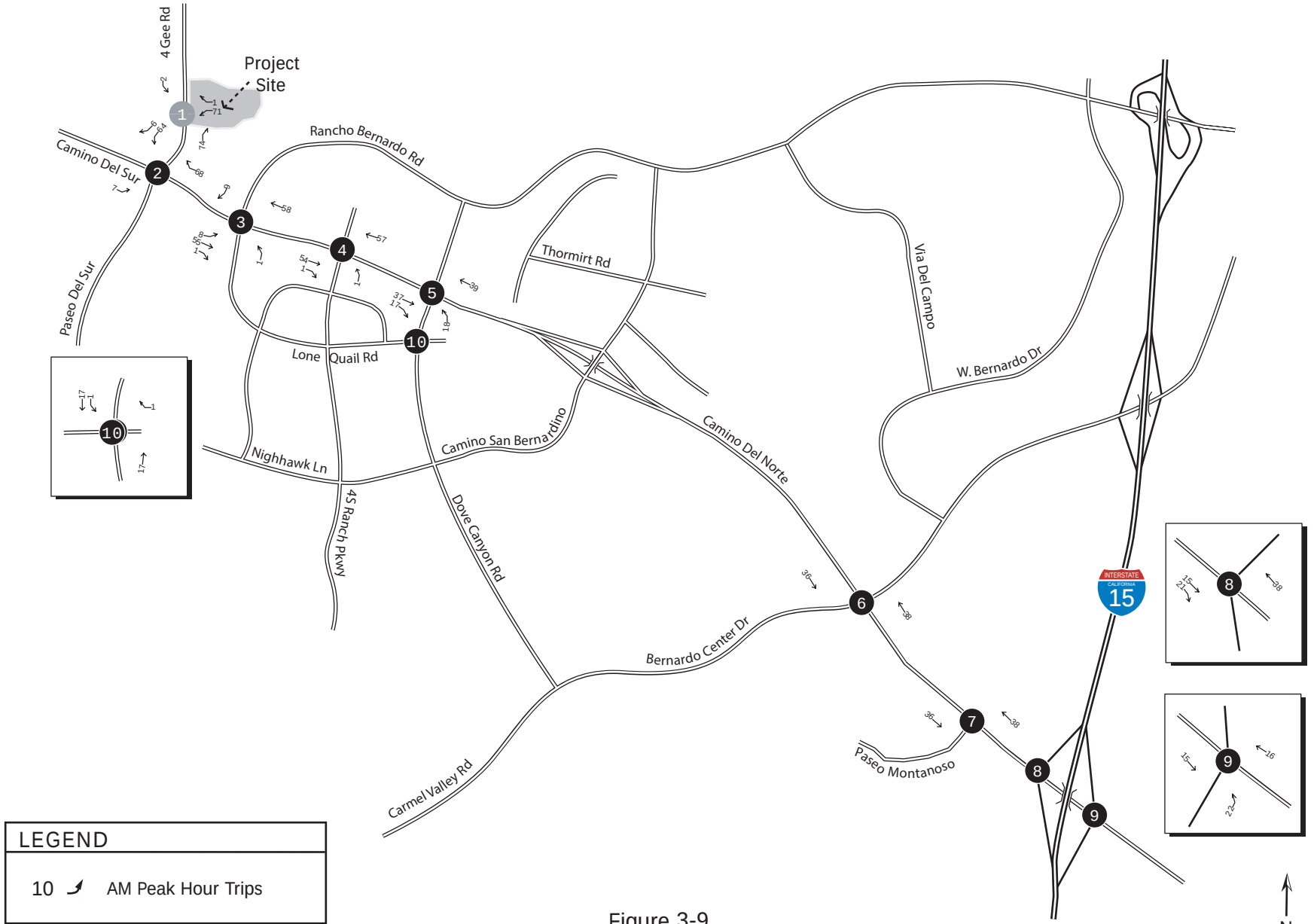


Figure 3-9
Weekday AM Peak Hour Project Trips

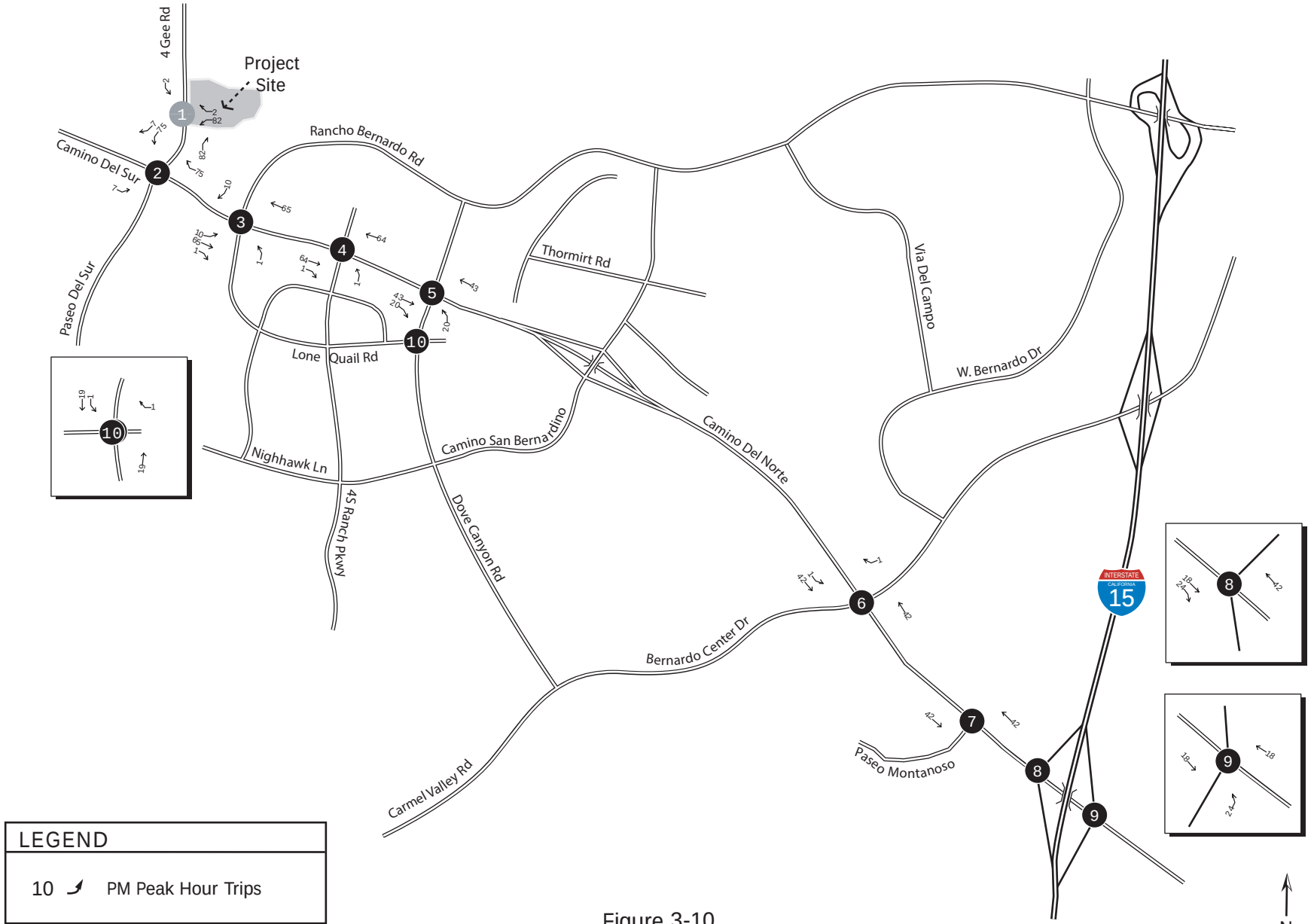


Figure 3-10
Weekday PM Peak Hour Project Trips

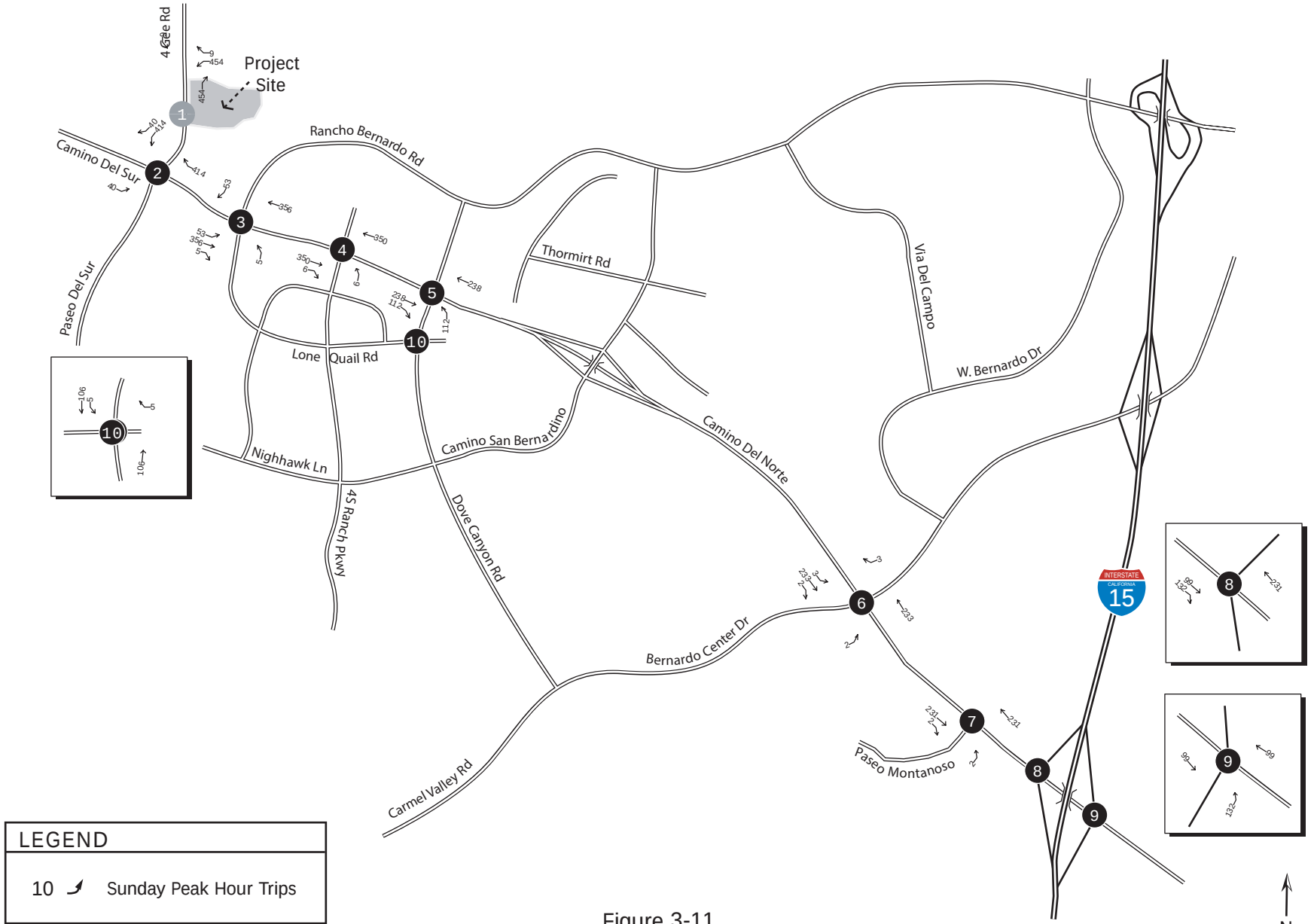


Figure 3-11
Weekday Sunday Peak Hour Project Trips

## 3.4 EXISTING CONDITIONS + PROJECT

### 3.4.1 Analysis

This section will summarize the analysis for the addition of project traffic onto the existing background traffic for AM, PM, Sunday, and ADT conditions. The traffic analysis criteria are the same as outlined in Section 2.1.

Daily traffic volumes for existing plus project are shown in Figures 3-12 and 3-13. AM, PM, and Sunday peak hour intersection volumes are shown in Figures 3-14 thru 3-16. The LOS calculated for street segments and intersections are shown in Tables 7 and 8. Existing + Project LOS calculations are included in Appendix E.

**Table 7**
**Existing + Project Segment ADT Volumes and Level of Service**

| Roadway Segment Name | Lanes/Class | Capacity | Without Project | | | Project Traffic | With Project | | | Δ V/C | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ADT | LOS | V/C | | ADT | LOS | V/C | | |
| Weekday | | | | | | | | | | | |
| 4 Gee Road | | | | | | | | | | | |
| From Camino Del Norte to Project Driveway[1] | 2-lane Collector | 16,200 | 3,088 | B | 0.191 | 390 | 3,478 | B | 0.215 | 0.02 | No |
| Camino Del Sur | | | | | | | | | | | |
| From 4 Gee Rd to Rancho Bernardo Rd[2] | 4-lane Major Arterial | 40,000 | 25,523 | C | 0.638 | 356 | 25,879 | C | 0.647 | 0.01 | No |
| Camino Del Norte | | | | | | | | | | | |
| From Rancho Bernardo Rd to 4S Ranch Pkwy[1] | 4-lane Major | 37,000 | 20,071 | B | 0.542 | 301 | 20,372 | B | 0.551 | 0.01 | No |
| From 4S Ranch Rd to Dove Canyon Rd[1] | 4-lane Major | 37,000 | 20,839 | B | 0.563 | 296 | 21,135 | B | 0.571 | 0.01 | No |
| From Dove Canyon Rd to Bernardo Center Dr [1] | 6-lane Prime Arterial | 57,000 | 26,816 | B | 0.470 | 202 | 27,018 | B | 0.474 | 0.00 | No |
| From Bernardo Center Dr to Paseo Montanoso [2] | 6-lane Prime Arterial | 60,000 | 49,587 | C | 0.826 | 198 | 49,785 | C | 0.830 | 0.00 | No |
| From Paseo Montanoso to I-15 Ramps[2] | 6-lane Prime Arterial | 60,000 | 51,471 | D | 0.858 | 196 | 51,667 | D | 0.861 | 0.00 | No |
| Dove Canyon Rd | | | | | | | | | | | |
| From Camino Del Norte to Lone Quail Rd[1] | 4-lane Major | 37,000 | 13,355 | A | 0.361 | 94 | 13,449 | A | 0.363 | 0.00 | No |
| Weekend | | | | | | | | | | | |
| 4 Gee Road | | | | | | | | | | | |
| From Camino Del Norte to Project Driveway[1] | 2-lane Collector | 16,200 | 2,306 | B | 0.142 | 2,758 | 5,064 | C | 0.313 | 0.17 | No |
| Camino Del Sur | | | | | | | | | | | |
| From 4 Gee Rd to Rancho Bernardo Rd[2] | 4-lane Major Arterial | 40,000 | 14,661 | A | 0.367 | 2,520 | 17,181 | B | 0.430 | 0.06 | No |
| Camino Del Norte | | | | | | | | | | | |
| From Rancho Bernardo Rd to 4S Ranch Pkwy[1] | 4-lane Major | 37,000 | 12,740 | A | 0.344 | 2,131 | 14,871 | B | 0.402 | 0.06 | No |
| From 4S Ranch Rd to Dove Canyon Rd[1] | 4-lane Major | 37,000 | 13,402 | A | 0.362 | 2,098 | 15,500 | B | 0.419 | 0.06 | No |
| From Dove Canyon Rd to Bernardo Center Dr [1] | 6-lane Prime Arterial | 57,000 | 19,134 | A | 0.336 | 1,429 | 20,563 | A | 0.361 | 0.03 | No |
| From Bernardo Center Dr to Paseo Montanoso [2] | 6-lane Prime Arterial | 60,000 | 29,855 | B | 0.498 | 1,399 | 31,254 | B | 0.521 | 0.02 | No |
| From Paseo Montanoso to I-15 Ramps[2] | 6-lane Prime Arterial | 60,000 | 32,566 | B | 0.543 | 1,385 | 33,951 | B | 0.566 | 0.02 | No |
| Dove Canyon Rd | | | | | | | | | | | |
| From Camino Del Norte to Lone Quail Rd[1] | 4-lane Major | 37,000 | 8,978 | A | 0.243 | 669 | 9,647 | A | 0.261 | 0.02 | No |

Note: [1] County of San Diego Jurisdiction, [2] City of San Diego Jurisdiction

**Table 8**
**Existing + Project Intersection Level of Service**

| Intersection | Without Project | | With Project | | Δ Delay | Significant? |
|---|---|---|---|---|---|---|
| | Delay | LOS | Delay | LOS | | |
| Weekday AM Peak Hour | | | | | | |
| Project Driveway at 4 Gee Rd [1,2] | 1.8 | A | 2.8 | A | 1.0 | No |
| Camino Del Sur at 4 Gee Rd [3] | 23.2 | C | 23.3 | C | 0.1 | No |
| Camino Del Norte at Rancho Bernardo Rd [2] | 38.2 | D | 38.4 | D | 0.2 | No |
| Camino Del Norte at 4S Ranch Pkwy [2] | 22.4 | C | 22.4 | C | 0.0 | No |
| Camino Del Norte at Dove Canyon Rd [3] | 28.7 | C | 28.7 | C | 0.0 | No |
| Camino Del Norte at Bernardo Center Dr 3 | 44.9 | D | 45.0 | D | 0.1 | No |
| Camino Del Norte at Paseo Montanoso [3] | 15.1 | B | 15.1 | B | 0.0 | No |
| Camino Del Norte at I-15 SB Ramps [3] | 46.4 | D | 46.6 | D | 0.2 | No |
| Camino Del Norte at I-15 NB Ramps [3] | 52.2 | D | 52.5 | D | 0.3 | No |
| Lone Quail Rd at Dove Canyon Rd [2] | 26.2 | C | 26.2 | C | 0.0 | No |
| Weekday PM Peak Hour | | | | | | |
| Project Driveway at 4 Gee Rd [1,2] | 0.8 | A | 4.7 | A | 3.9 | No |
| Camino Del Sur at 4 Gee Rd [3] | 20.9 | C | 21.1 | C | 0.2 | No |
| Camino Del Norte at Rancho Bernardo Rd [2] | 35.7 | D | 36.1 | D | 0.4 | No |
| Camino Del Norte at 4S Ranch Pkwy [2] | 26.5 | C | 26.4 | C | -0.1 | No |
| Camino Del Norte at Dove Canyon Rd [3] | 29.9 | C | 29.9 | C | 0.0 | No |
| Camino Del Norte at Bernardo Center Dr [3] | 42.3 | D | 42.5 | D | 0.2 | No |
| Camino Del Norte at Paseo Montanoso [3] | 15.9 | B | 15.9 | B | 0.0 | No |
| Camino Del Norte at I-15 SB Ramps [3] | 25.6 | C | 25.7 | C | 0.1 | No |
| Camino Del Norte at I-15 NB Ramps [3] | 35.8 | D | 36.1 | D | 0.3 | No |
| Lone Quail Rd at Dove Canyon Rd [2] | 26.8 | C | 26.7 | C | -0.1 | No |
| Weekend Sunday Peak Hour | | | | | | |
| Project Driveway at 4 Gee Rd [1,2] | 2.4 | A | 28.4 | C | 26.0 | No |
| Camino Del Sur at 4 Gee Rd [3] | 23.4 | C | 41.3 | D | 17.9 | No |
| Camino Del Norte at Rancho Bernardo Rd [2] | 28.2 | C | 29.8 | C | 1.6 | No |
| Camino Del Norte at 4S Ranch Pkwy [2] | 25.4 | C | 22.0 | C | -3.4 | No |
| Camino Del Norte at Dove Canyon Rd [3] | 29.5 | C | 28.7 | C | -0.8 | No |
| Camino Del Norte at Bernardo Center Dr [3] | 28.4 | C | 27.1 | C | -1.3 | No |
| Camino Del Norte at Paseo Montanoso [3] | 14.4 | B | 13.6 | B | -0.8 | No |
| Camino Del Norte at I-15 SB Ramps [3] | 22.6 | C | 21.6 | C | -1.0 | No |
| Camino Del Norte at I-15 NB Ramps [3] | 21.2 | C | 23.0 | C | 1.8 | No |
| Lone Quail Rd at Dove Canyon Rd [2] | 26.8 | C | 25.9 | C | -0.9 | No |

*Note: [1]* Project Driveway is currently unsignalized however is proposed to be signalized as a project feature therefore was analyzed as such
*[2]County of San Diego Jurisdiction*
*[3] City of San Diego Jurisdiction*

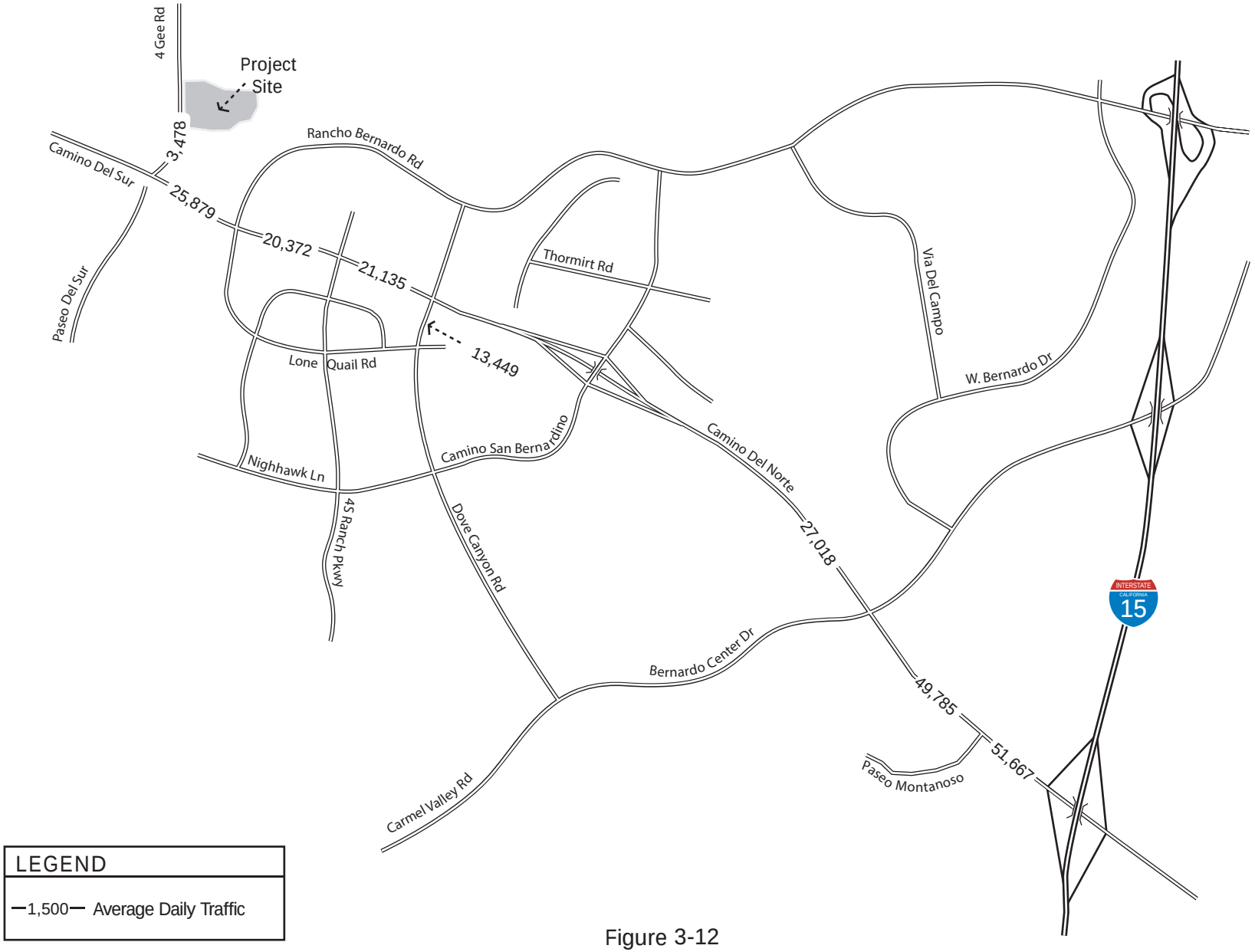


Figure 3-12
Existing Weekday Roadway Segment Volumes With Project

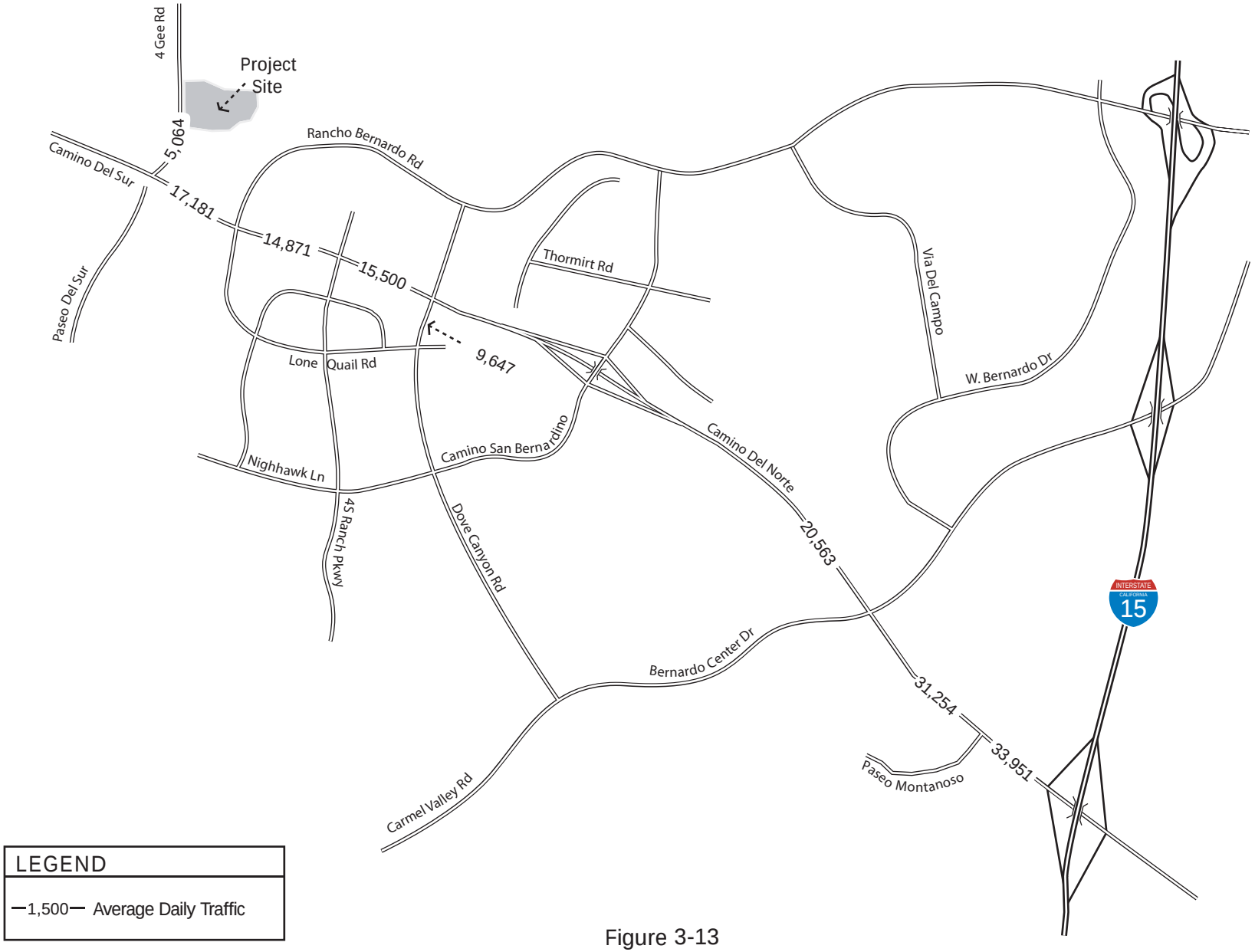


Figure 3-13
Existing Weekend Roadway Segment Volumes With Project

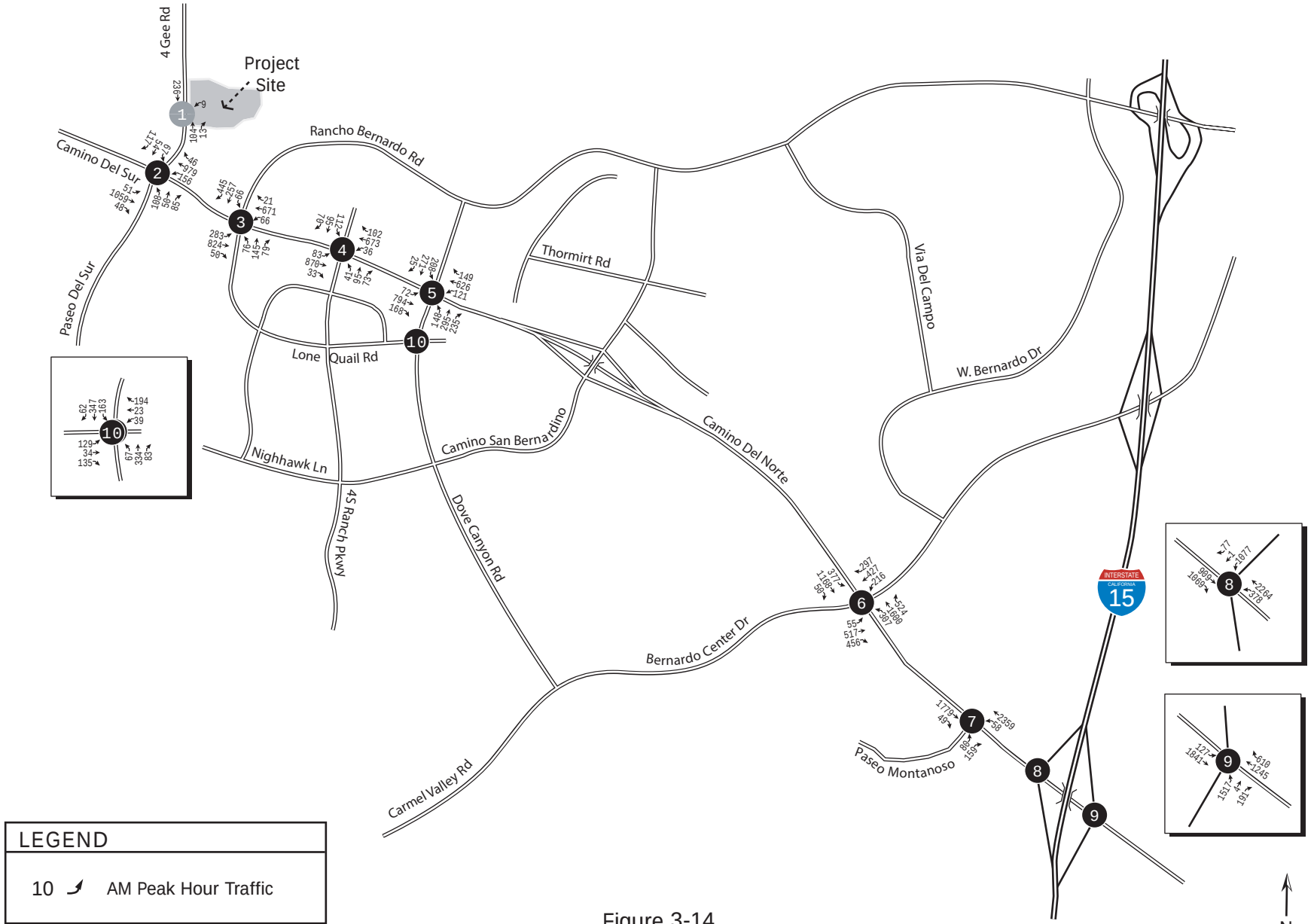


Figure 3-14
Existing Weekday AM Peak Hour Intersection Volumes With Project

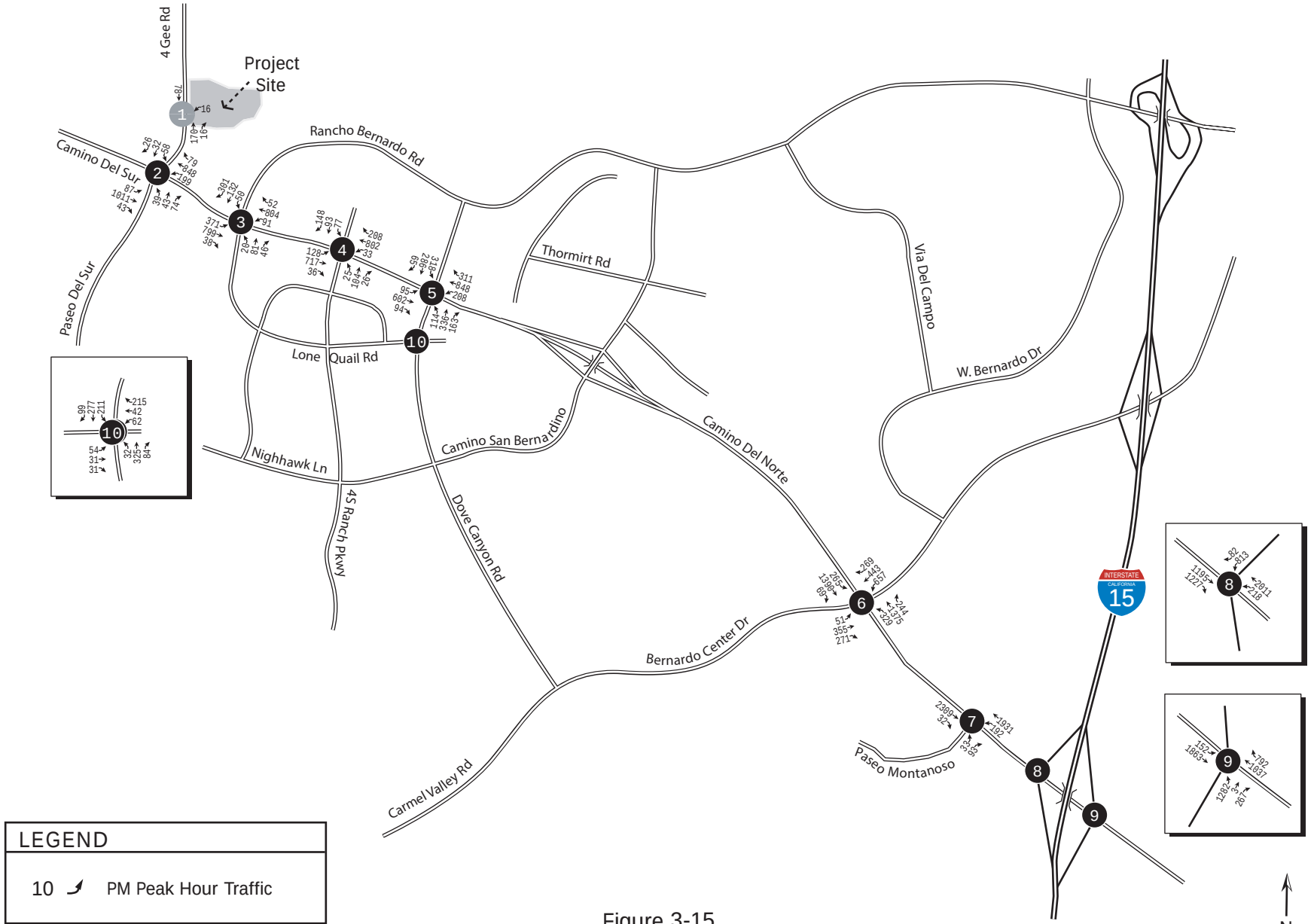


Figure 3-15
Existing Weekday PM Peak Hour Intersection Volumes With Project

Not To Scale

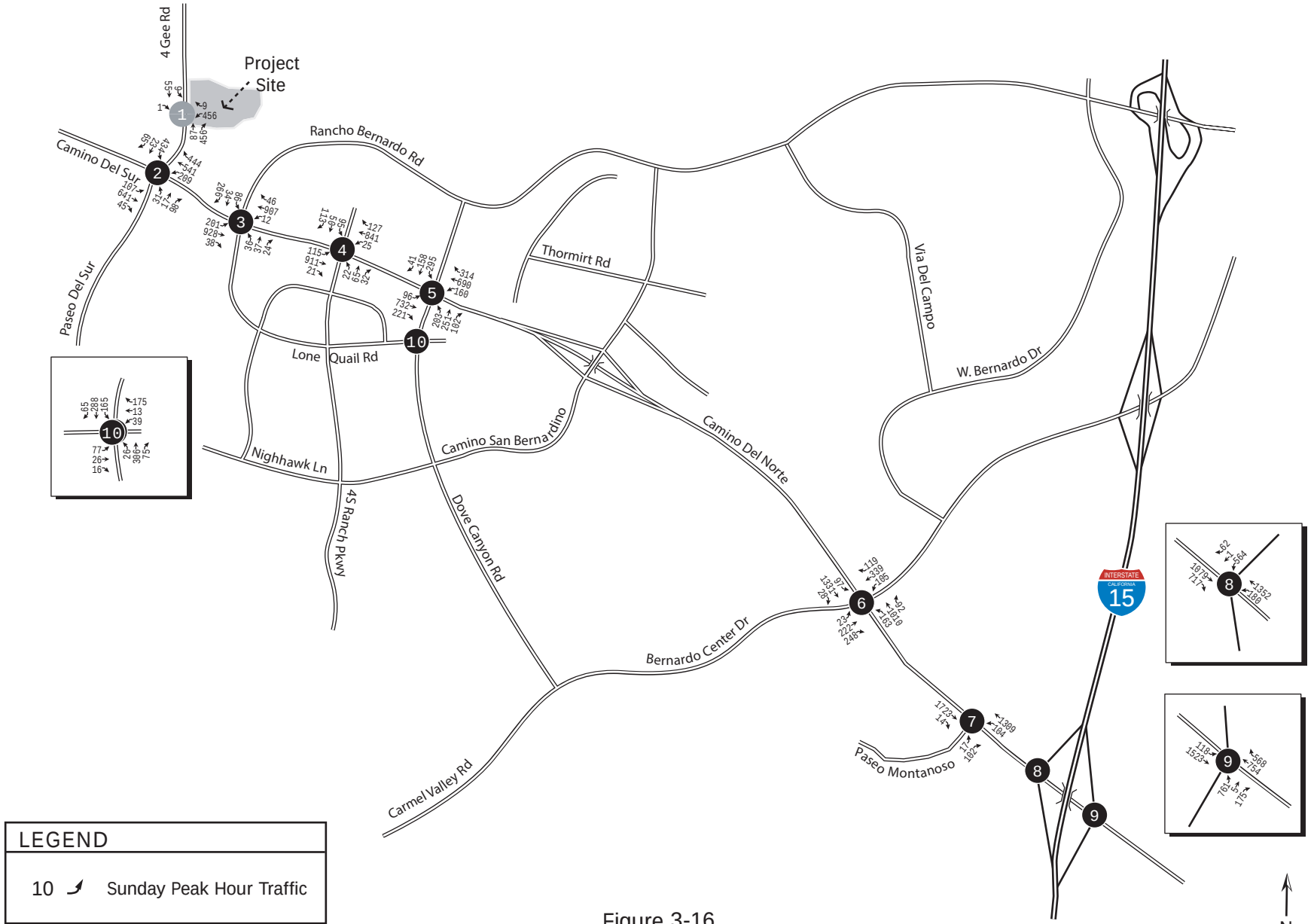


Figure 3-16
Existing Weekend Sunday Peak Hour Intersection Volumes With Project

Not To Scale

## 3.5 EXISTING + AMBIENT + CUMULATIVE CONDITIONS

This section will analyze the existing + ambient + cumulative projects conditions. Figure 3-17 shows the geometries and control devices used in this condition.

### 3.5.1 Cumulative Project

A number of cumulative projects were identified to potentially generate traffic to roadway segments and intersections within the study area of the proposed project. Traffic growth on roadways is a function of the expected land development, economic activity, and changes in demographics. Several methods can be used to estimate this growth.

For this analysis we have conservatively assumed that every parcel builds out to the General Plan designation; and that all General Plan Amendments within the study area are approved and implemented. The SANDAG Series 12 is a Year 2050 development forecast, which assumes development of each parcel consistent to its General Plan land use. A 27% growth rate was derived and was then applied to the existing counts to reach the 2050 year forecasted volumes.

Other potential cumulative projects may add additional traffic to the study area roadways; however, since the County has a TIF program, the applicant can mitigate all cumulative impacts regardless of the number of cumulative projects included in the analysis.

A summary of the cumulative projects (which generate more than 500 ADT) is included below with their respective and cumulative traffic generation shown in Table 9.

**Table 9**
**Cumulative Project Traffic Generation**

| Project Name | Type | Size | Daily Trips | Status |
|---|---|---|---|---|
| Lot 11 | Office | 290 ksf | 3,800 | Planned |
| Lots A & B | Office | 390 ksf | 6,176 | Planned |
| The Vista | Office | 270 ksf | 4,545 | Planned |
| BMR North Village | Multiple Uses | - | - | Planned |

The daily and peak hour cumulative project volumes are shown on Figures 3-18 thru 3-21 with support data included in Appendix F.

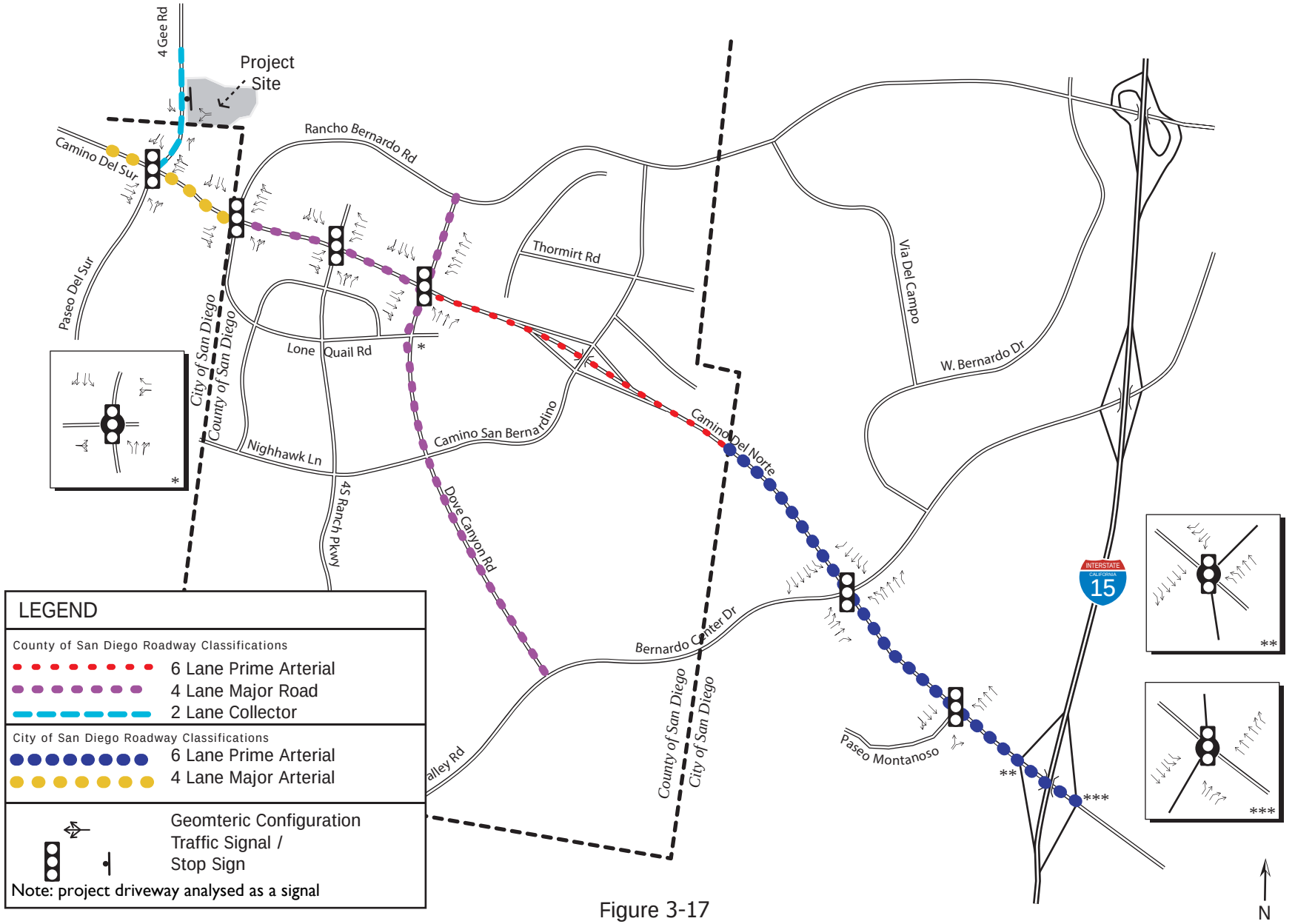


Figure 3-17
Near Term Circulation Network

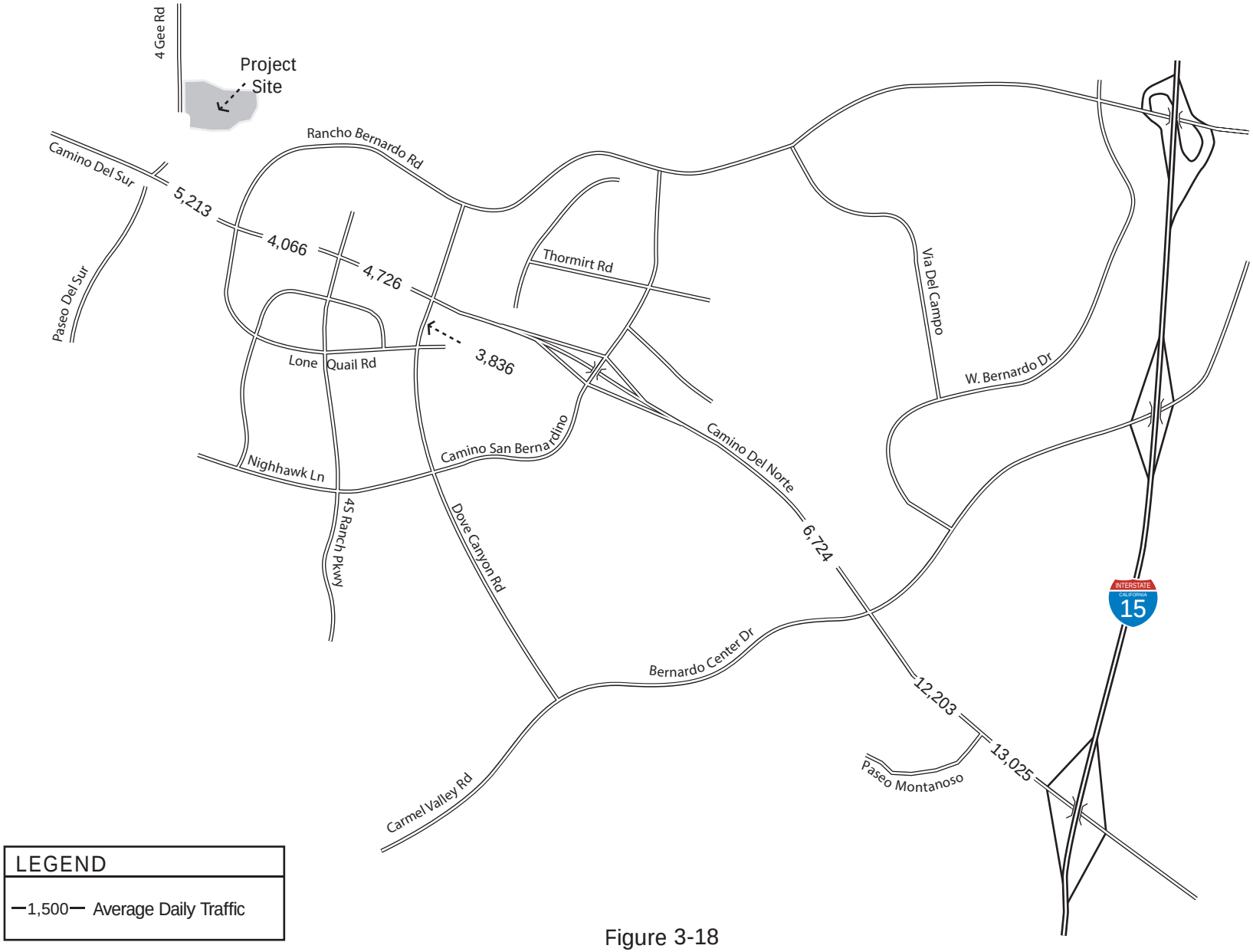


Figure 3-18
Cumulative Weekday Roadway Segment Volumes

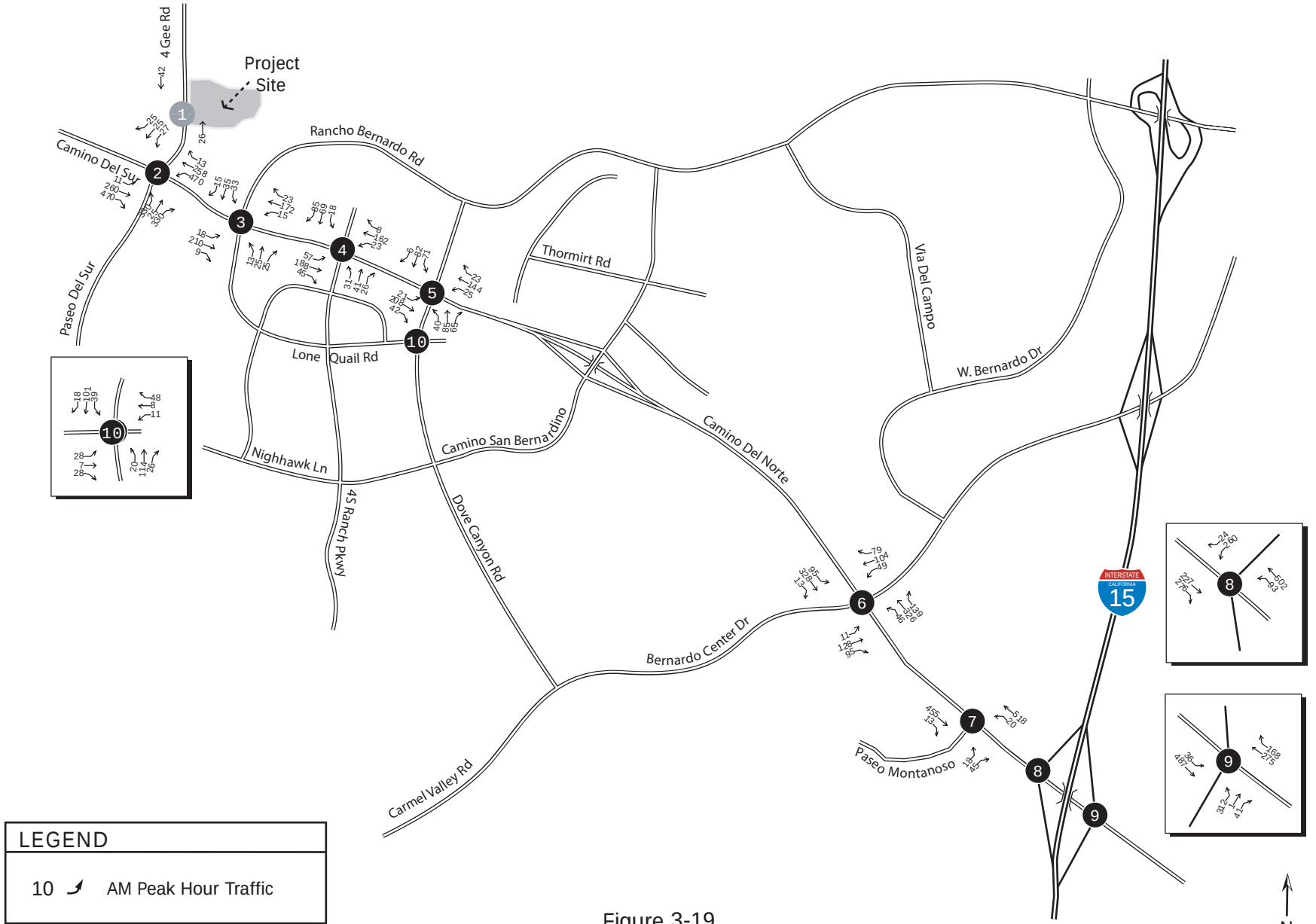


Figure 3-19
Cumulative Weekday AM Peak Hour Intersection Volumes

Not To Scale

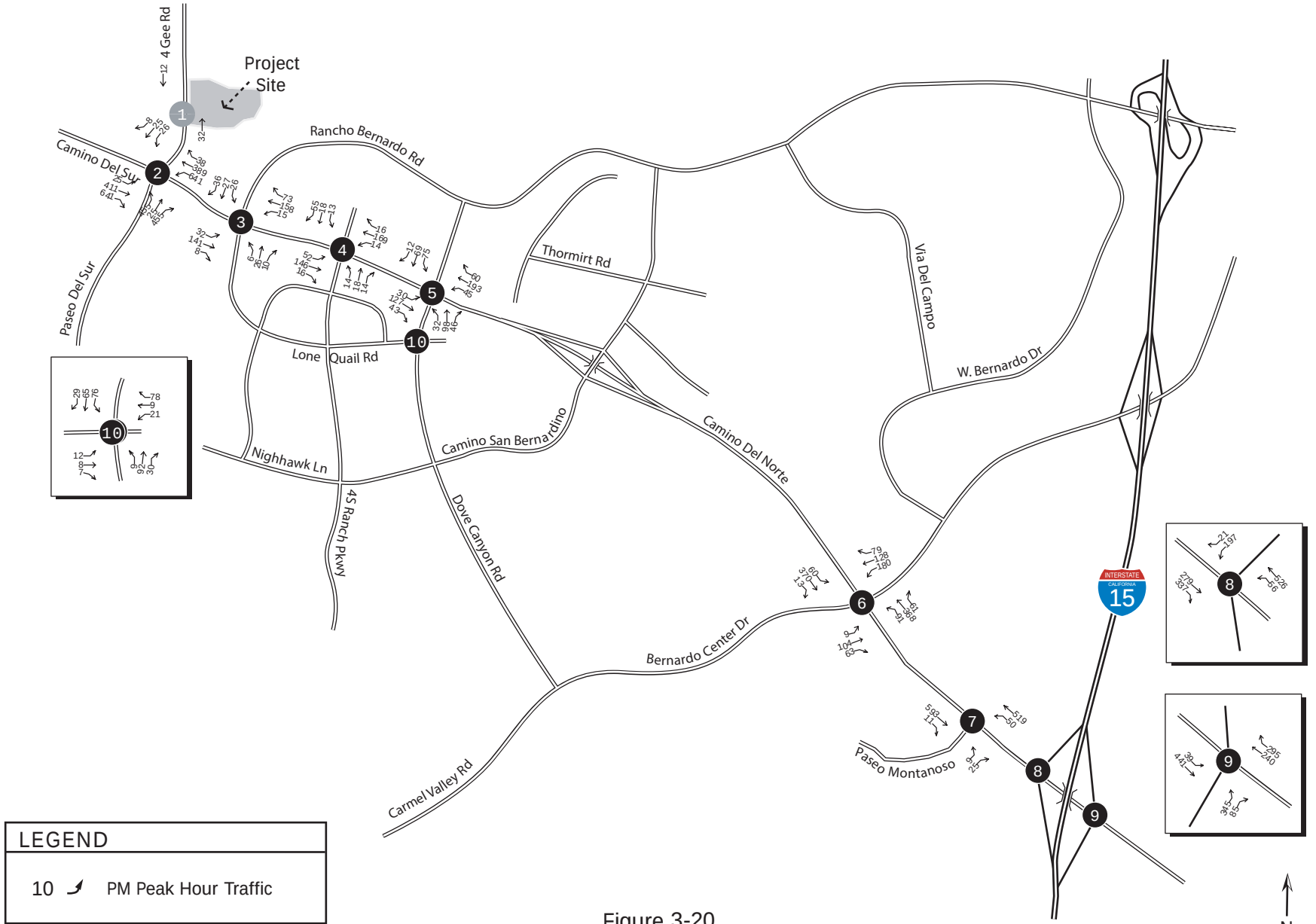


Figure 3-20
Cumulative Weekday PM Peak Hour Intersection Volumes

Not To Scale

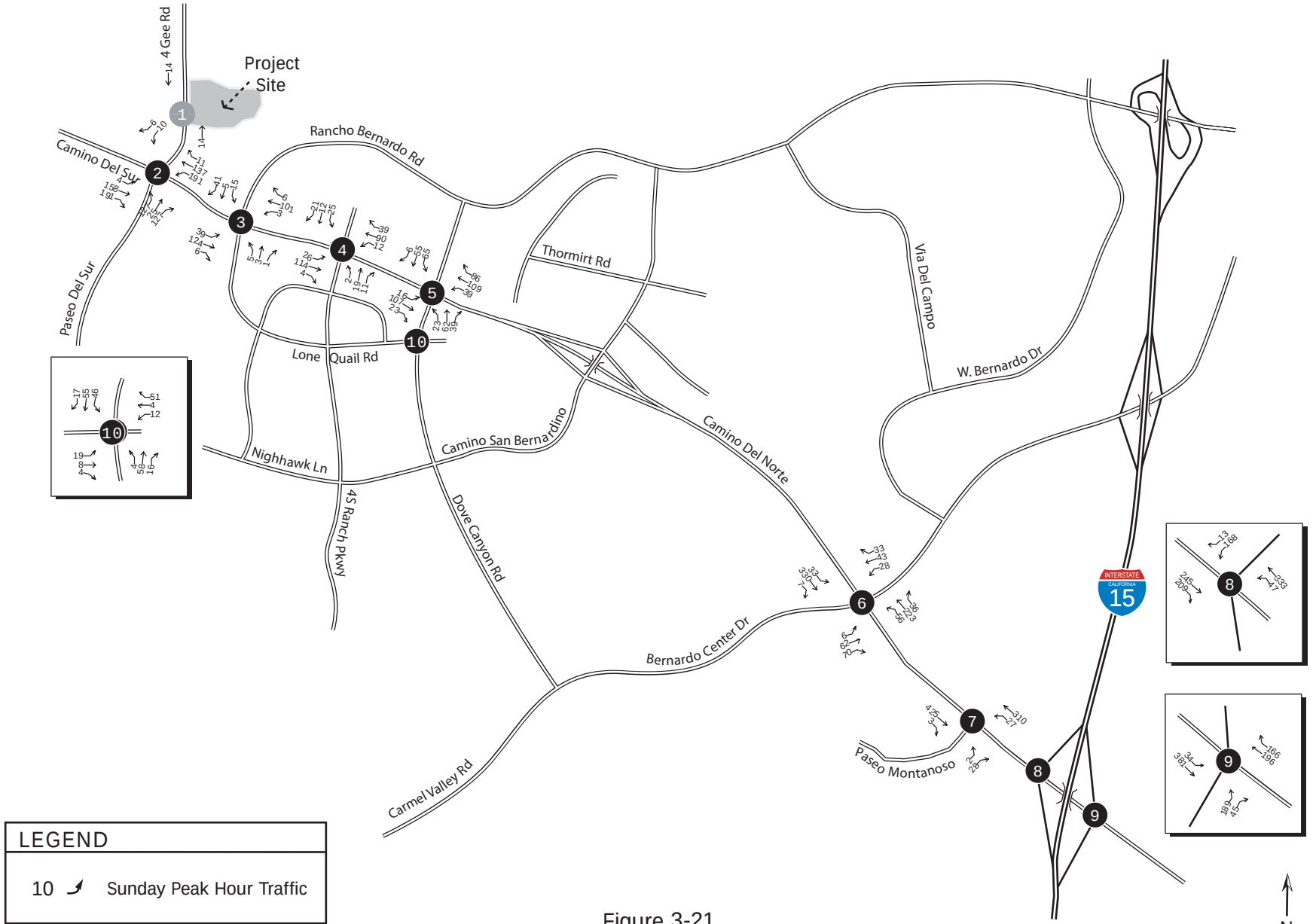


Figure 3-21
Cumulative Weekend Sunday Peak Hour Intersection Volumes

### 3.5.2 Existing + Ambient + Cumulative Conditions Analysis

The existing + ambient + cumulative conditions were developed by adding ambient growth and known cumulative project traffic onto the existing traffic. The daily traffic volumes and peak hour turning movements including Sunday are shown in Figures 3-22 through 3-26.

The roadway segment and intersection analysis are shown in Tables 10 and 11, respectively. Existing + Ambient + Cumulative LOS calculations are included in Appendix G.

**Table 10**
**Existing + Ambient + Cumulative Segment ADT Volumes and Level of Service**

| Roadway Segment | Lanes/ Class | LOS E Capacity | Without Project | | |
|---|---|---|---|---|---|
| | | | ADT | LOS | V/C |
| Weekday | | | | | |
| 4 Gee Rd | | | | | |
| From Camino Del Norte to Project Driveway[1] | 2-lane Collector | 16,200 | 3,212 | B | 0.1982 |
| Camino Del Sur | | | | | |
| From 4 Gee Rd to Rancho Bernardo Rd[2] | 4-lane Major Arterial | 40,000 | 26,544 | C | 0.6636 |
| Camino Del Norte | | | | | |
| From Rancho Bernardo Rd to 4S Ranch Pkwy[1] | 4-lane Major | 37,000 | 20,874 | B | 0.5642 |
| From 4S Ranch Rd to Dove Canyon Rd[1] | 4-lane Major | 37,000 | 21,673 | B | 0.5857 |
| From Dove Canyon Rd to Bernardo Center Dr [1] | 6-lane Prime Arterial | 57,000 | 27,889 | B | 0.4893 |
| From Bernardo Center Dr to Paseo Montanoso [2] | 6-lane Prime Arterial | 60,000 | 54,098 | D | 0.9016 |
| From Paseo Montanoso to I-15 Ramps [2] | 6-lane Prime Arterial | 60,000 | 55,289 | E | 0.9215 |
| Dove Canyon Rd | | | | | |
| From Camino Del Norte to Lone Quail Rd[1] | 4-lane Major | 37,000 | 14,079 | A | 0.3805 |
| Weekend | | | | | |
| 4 Gee Rd | | | | | |
| From Camino Del Norte to Project Driveway[1] | 2-lane Collector | 16,200 | 2,467 | B | 0.1523 |
| Camino Del Sur | | | | | |
| From 4 Gee Rd to Rancho Bernardo Rd[2] | 4-lane Major Arterial | 40,000 | 15,687 | B | 0.3922 |
| Camino Del Norte | | | | | |
| From Rancho Bernardo Rd to 4S Ranch Pkwy[1] | 4-lane Major | 37,000 | 13,632 | A | 0.3684 |
| From 4S Ranch Rd to Dove Canyon Rd[1] | 4-lane Major | 37,000 | 14,340 | A | 0.3876 |
| From Dove Canyon Rd to Bernardo Center Dr [1] | 6-lane Prime Arterial | 57,000 | 20,473 | A | 0.3592 |
| From Bernardo Center Dr to Paseo Montanoso [2] | 6-lane Prime Arterial | 60,000 | 31,945 | B | 0.5324 |
| From Paseo Montanoso to I-15 Ramps [2] | 6-lane Prime Arterial | 60,000 | 34,846 | B | 0.5808 |
| Dove Canyon Rd | | | | | |
| From Camino Del Norte to Lone Quail Rd[1] | 4-lane Major | 37,000 | 9,606 | A | 0.2596 |

Note: [1] County of San Diego Jurisdiction, [2] City of San Diego Jurisdiction

**Table 11**
**Existing + Ambient + Cumulative Intersection Level of Service**

| Intersection | Without Project | |
|---|---|---|
| | Delay | LOS |
| Weekday AM Peak Hour | | |
| Project Driveway at 4 Gee Rd [1,2] | 1.8 | A |
| Camino Del Sur at 4 Gee Rd [3] | 23.8 | C |
| Camino Del Norte at Rancho Bernardo Rd [2] | 40.3 | D |
| Camino Del Norte at 4S Ranch Pkwy [2] | 22.6 | C |
| Camino Del Norte at Dove Canyon Rd [3] | 29.8 | C |
| Camino Del Norte at Bernardo Center Dr [3] | 65.8 | E |
| Camino Del Norte at Paseo Montanoso [3] | 17.0 | B |
| Camino Del Norte at I-15 SB Ramps [3] | 64.3 | E |
| Camino Del Norte at I-15 NB Ramps [3] | 78.2 | E |
| Lone Quail Rd at Dove Canyon Rd [2] | 26.3 | C |
| Weekday PM Peak Hour | | |
| Project Driveway at 4 Gee Rd [1,2] | 0.8 | A |
| Camino Del Sur at 4 Gee Rd [3] | 21.3 | C |
| Camino Del Norte at Rancho Bernardo Rd [2] | 37.8 | D |
| Camino Del Norte at 4S Ranch Pkwy [2] | 26.8 | C |
| Camino Del Norte at Dove Canyon Rd [3] | 30.6 | C |
| Camino Del Norte at Bernardo Center Dr [3] | 64.3 | E |
| Camino Del Norte at Paseo Montanoso [3] | 18.8 | B |
| Camino Del Norte at I-15 SB Ramps [3] | 34.1 | C |
| Camino Del Norte at I-15 NB Ramps [3] | 49.7 | D |
| Lone Quail Rd at Dove Canyon Rd [2] | 27.6 | C |
| Weekend Sunday Peak Hour | | |
| Project Driveway at 4 Gee Rd [1,2] | 2.4 | A |
| Camino Del Sur at 4 Gee Rd [3] | 23.5 | C |
| Camino Del Norte at Rancho Bernardo Rd [2] | 28.4 | C |
| Camino Del Norte at 4S Ranch Pkwy [2] | 25.5 | C |
| Camino Del Norte at Dove Canyon Rd [3] | 29.6 | C |
| Camino Del Norte at Bernardo Center Dr [3] | 32.7 | C |
| Camino Del Norte at Paseo Montanoso [3] | 14.6 | B |
| Camino Del Norte at I-15 SB Ramps [3] | 26.8 | C |
| Camino Del Norte at I-15 NB Ramps [3] | 27.9 | C |
| Lone Quail Rd at Dove Canyon Rd [2] | 26.9 | C |

*Note:* [1]Project Driveway is currently unsignalized however is proposed to be signalized as a project feature therefore was analyzed as such
[2]*County of San Diego Jurisdiction*
[3] *City of San Diego Jurisdiction*

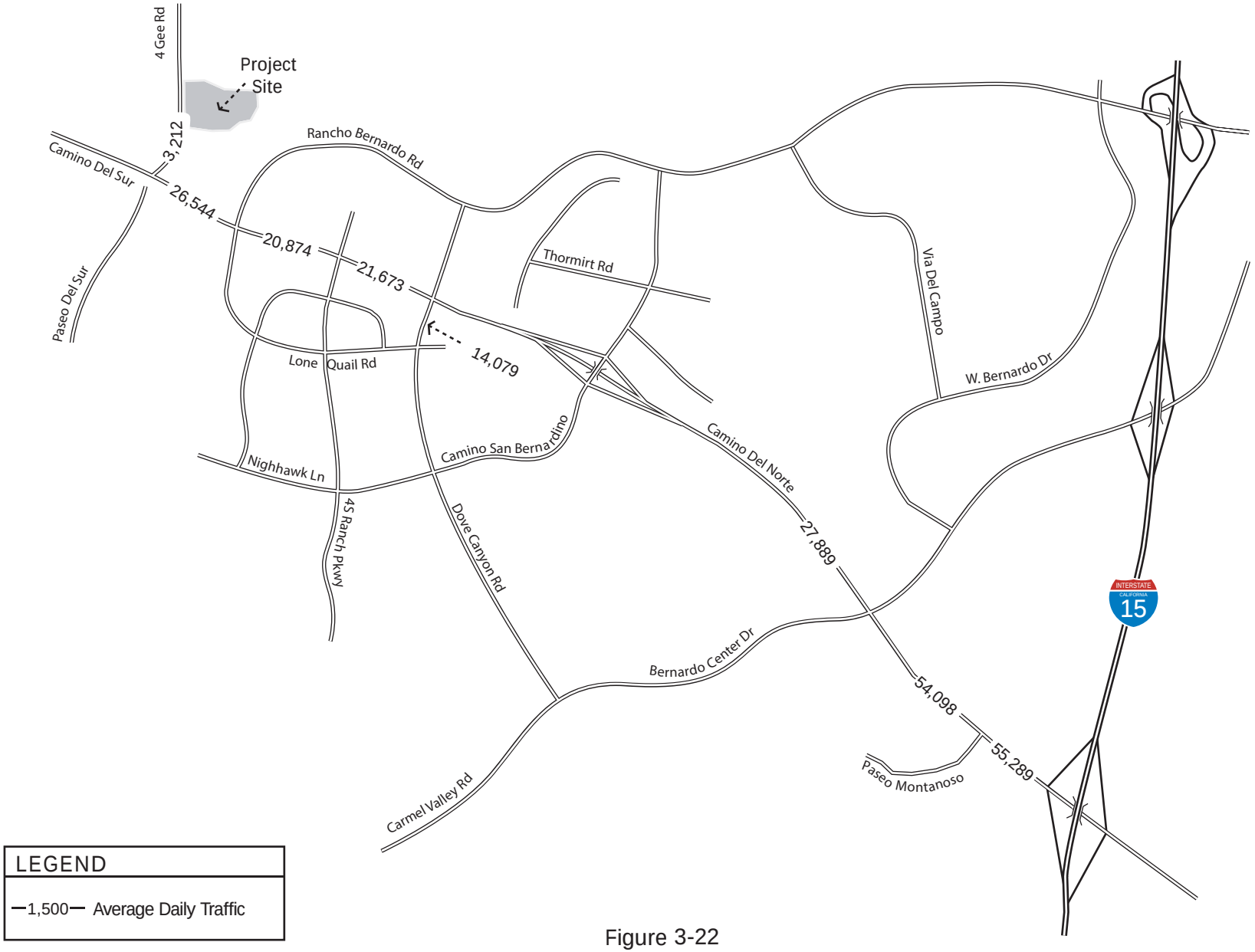


Figure 3-22
Near-Term Weekday Roadway Segment Volumes Without Project

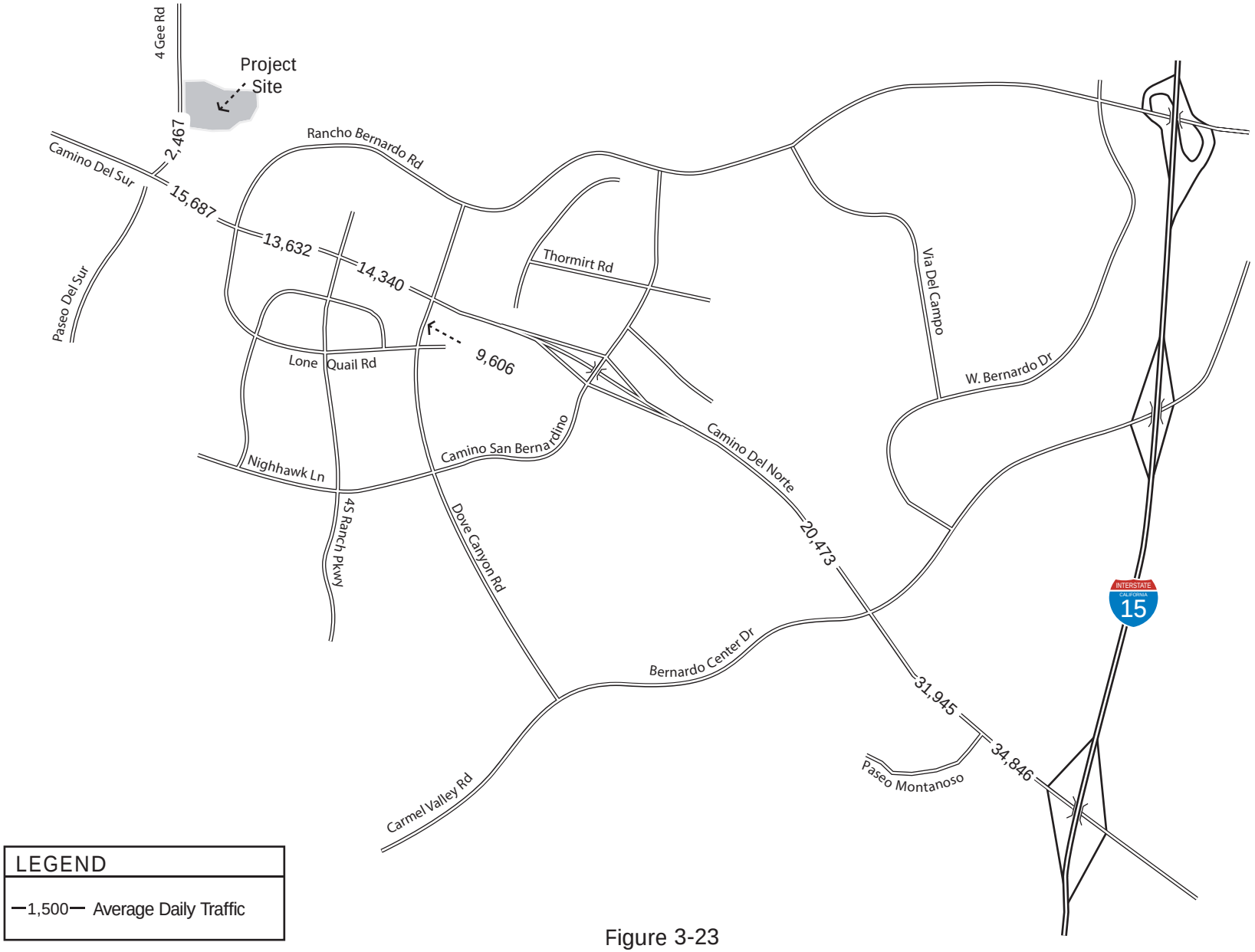


Figure 3-23
Near-Term Weekend Roadway Segment Volumes Without Project

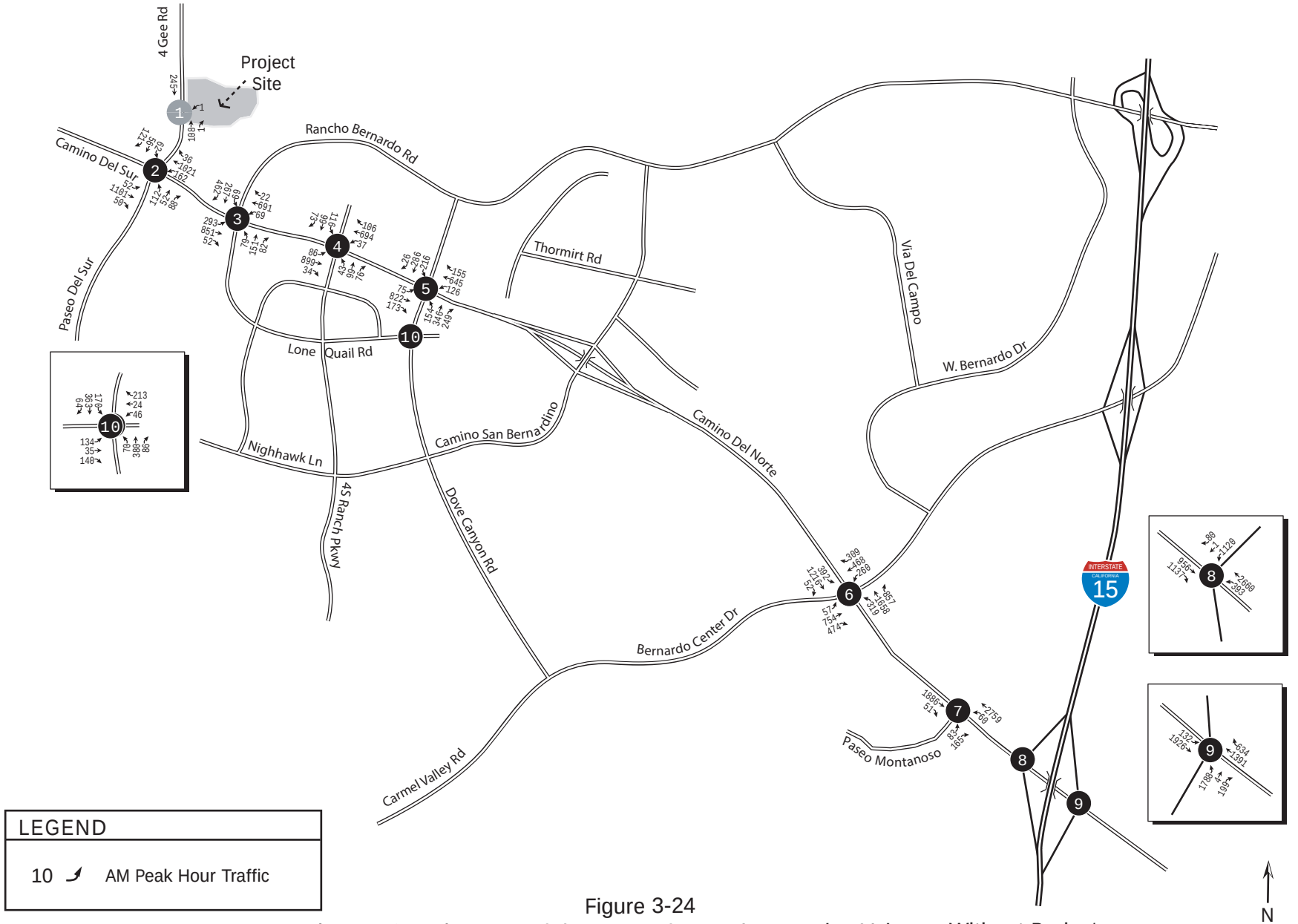


Figure 3-24
Existing + Ambient+ Cumulative Weekday AM Peak Hour Intersection Volumes Without Project

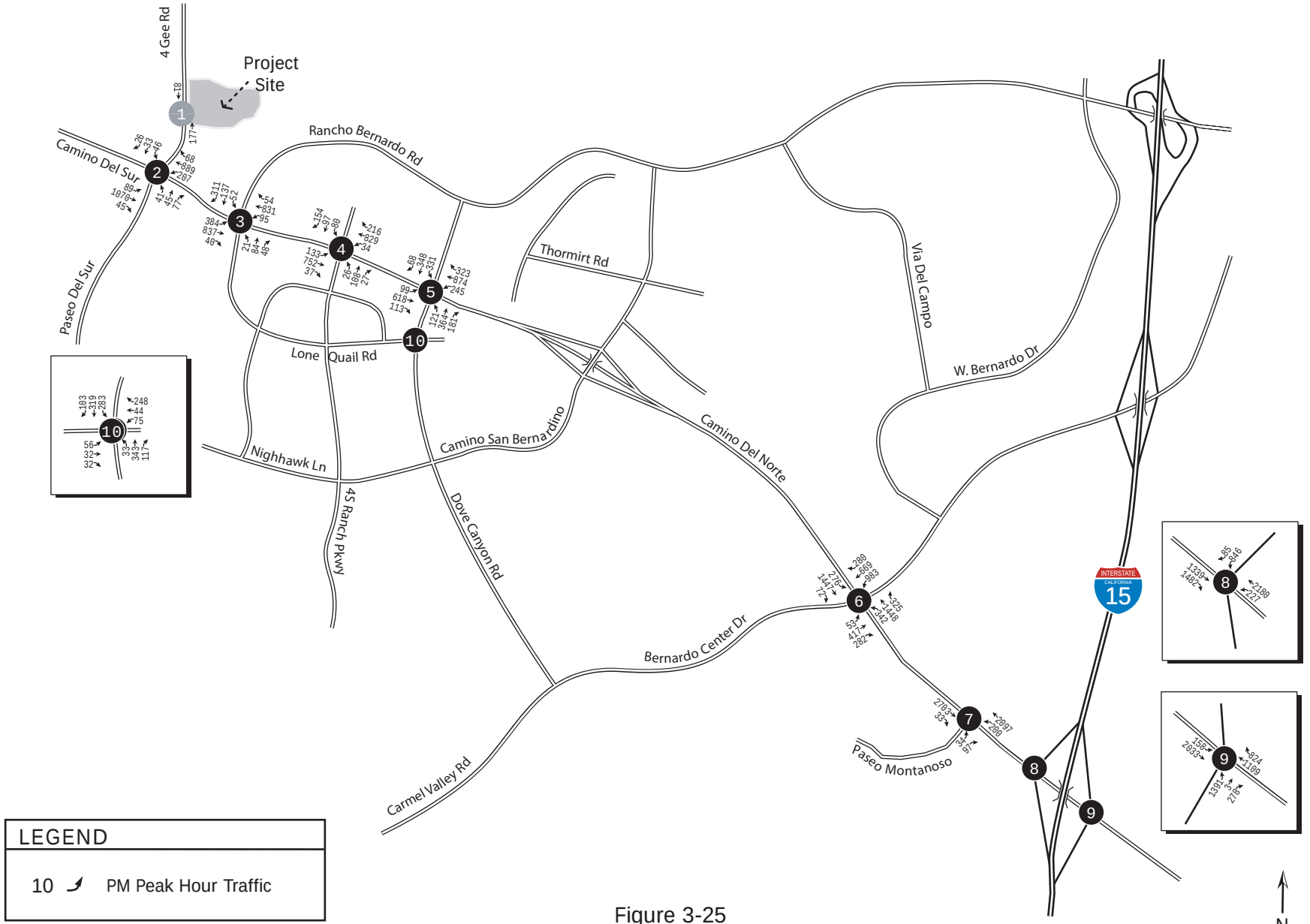


Figure 3-25
Existing + Ambient + Cumulative Weekday PM Peak Hour Intersection Volumes Without Project

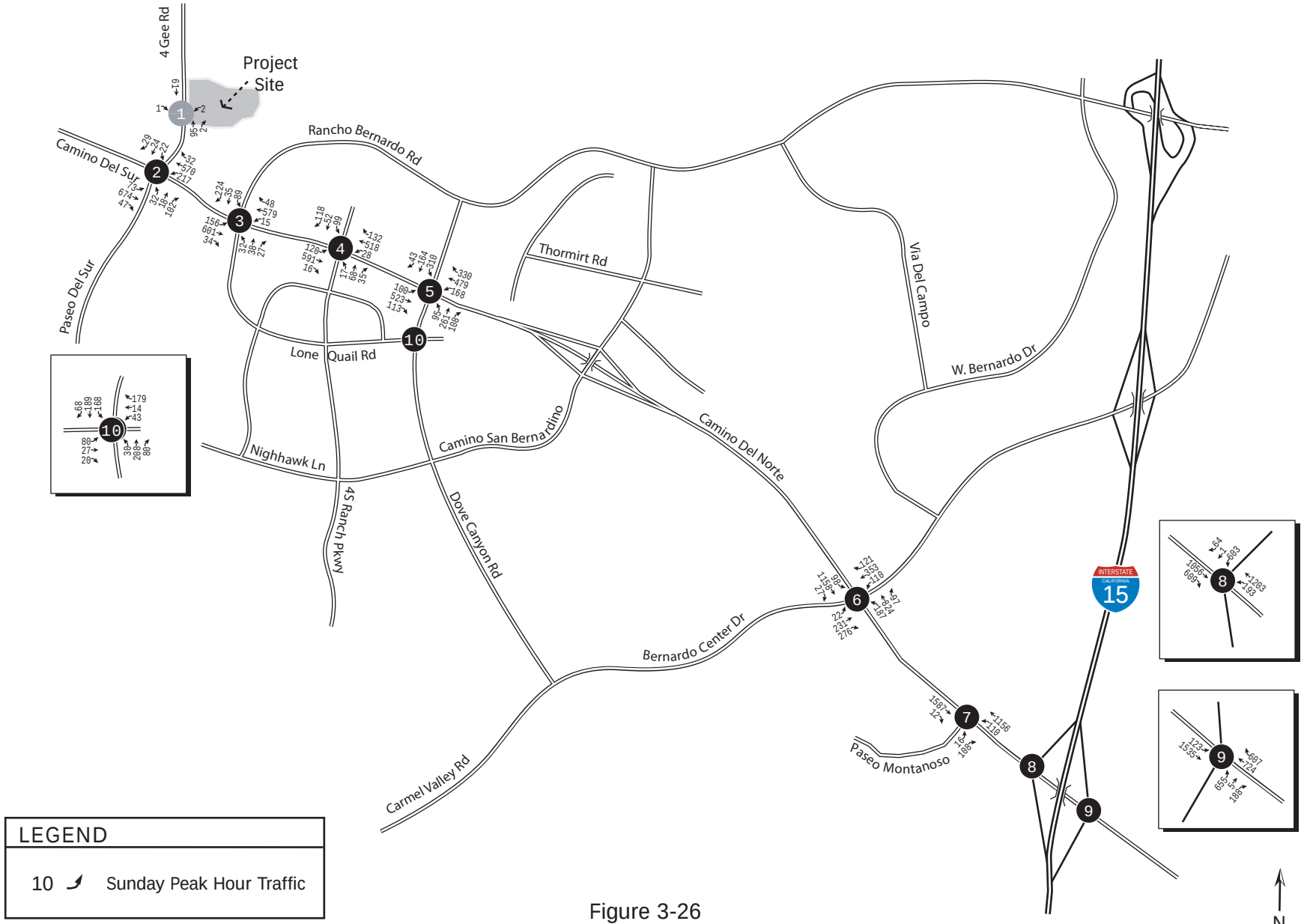


Figure 3-26
Existing + Ambient + Cumulative Weekend Sunday Peak Hour Intersection Volumes Without Project

## 3.6 EXISTING + AMBIENT + CUMULATIVE + PROJECT CONDITIONS

This scenario accounts for the addition of the project traffic to the existing + project + cumulative conditions. Daily traffic volumes for the Existing + Ambient + Cumulative + Project conditions are shown in Figures 3-27 and 3-28. The peak hour intersection volumes are shown in Figures 3-29 through 3-31.

The roadway segment and intersection analysis are shown in Tables 12 and 13, respectively. Existing + Ambient + Cumulative + Project LOS calculations are included in Appendix H.

**Table 12**
**Existing + Ambient + Cumulative + Project Segment ADT Volumes and Level of Service**

| Roadway Segment Name | Lanes/Class | Capacity | Without Project | | | Project Traffic | With Project | | | Δ V/C | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ADT | LOS | V/C | | ADT | LOS | V/C | | |
| **Weekday** | | | | | | | | | | | |
| 4 Gee Road | | | | | | | | | | | |
| From Camino Del Sur to Project Driveway[1] | 2-lane Collector | 16,200 | 3,212 | B | 0.198 | 390 | 3,601 | B | 0.222 | 0.02 | No |
| Camino Del Sur | | | | | | | | | | | |
| From 4 Gee Rd to Rancho Bernardo Rd[2] | 4-lane Major Arterial | 40,000 | 26,544 | C | 0.664 | 356 | 26,900 | C | 0.672 | 0.01 | No |
| Camino Del Norte | | | | | | | | | | | |
| From Rancho Bernardo Rd to 4S Ranch Pkwy[1] | 4-lane Major | 37,000 | 20,874 | B | 0.564 | 301 | 21,175 | B | 0.572 | 0.01 | No |
| From 4S Ranch Rd to Dove Canyon Rd[1] | 4-lane Major | 37,000 | 21,673 | B | 0.586 | 296 | 21,969 | B | 0.594 | 0.01 | No |
| From Dove Canyon Rd to Bernardo Center Dr [1] | 6-lane Prime Arterial | 57,000 | 27,889 | B | 0.489 | 202 | 28,091 | B | 0.493 | 0.00 | No |
| From Bernardo Center Dr to Paseo Montanoso [2] | 6-lane Prime Arterial | 60,000 | 54,098 | D | 0.902 | 198 | 54,296 | D | 0.905 | 0.00 | No |
| From Paseo Montanoso to I-15 Ramps[2] | 6-lane Prime Arterial | 60,000 | 55,289 | E | 0.921 | 196 | 55,484 | E | 0.925 | 0.00 | No |
| Dove Canyon Rd | | | | | | | | | | | |
| From Camino Del Norte to Lone Quail Rd[1] | 4-lane Major | 37,000 | 14,079 | A | 0.381 | 94 | 14,174 | A | 0.383 | 0.00 | No |
| **Weekend** | | | | | | | | | | | |
| 4 Gee Road | | | | | | | | | | | |
| From Camino Del Sur to Project Driveway[1] | 2-lane Collector | 16,200 | 2,467 | B | 0.152 | 2,758 | 5,226 | C | 0.323 | 0.17 | No |
| Camino Del Sur | | | | | | | | | | | |
| From 4 Gee Rd to Rancho Bernardo Rd[2] | 4-lane Major Arterial | 40,000 | 15,687 | B | 0.392 | 2,520 | 18,207 | B | 0.455 | 0.06 | No |
| Camino Del Norte | | | | | | | | | | | |
| From Rancho Bernardo Rd to 4S Ranch Pkwy[1] | 4-lane Major | 37,000 | 13,632 | A | 0.368 | 2,131 | 15,763 | B | 0.426 | 0.06 | No |
| From 4S Ranch Rd to Dove Canyon Rd[1] | 4-lane Major | 37,000 | 14,340 | A | 0.388 | 2,098 | 16,438 | B | 0.444 | 0.06 | No |
| From Dove Canyon Rd to Bernardo Center Dr [1] | 6-lane Prime Arterial | 57,000 | 20,473 | A | 0.359 | 1,429 | 21,903 | A | 0.384 | 0.03 | No |
| From Bernardo Center Dr to Paseo Montanoso [2] | 6-lane Prime Arterial | 60,000 | 31,945 | B | 0.532 | 1,399 | 33,343 | B | 0.556 | 0.02 | No |
| From Paseo Montanoso to I-15 Ramps[2] | 6-lane Prime Arterial | 60,000 | 34,846 | B | 0.581 | 1,385 | 36,230 | C | 0.604 | 0.02 | No |
| Dove Canyon Rd | | | | | | | | | | | |
| From Camino Del Norte to Lone Quail Rd[1] | 4-lane Major | 37,000 | 9,606 | A | 0.260 | 669 | 10,275 | A | 0.278 | 0.02 | No |

Note: [1] County of San Diego Jurisdiction
Note: [2] City of San Diego Jurisdiction

**Table 13**
**Existing + Ambient + Cumulative+ Project Intersection Level of Service**

| Intersection | Without Project | | With Project | | Δ Delay | Significant? |
|---|---|---|---|---|---|---|
| | Delay | LOS | Delay | LOS | | |
| Weekday AM Peak Hour | | | | | | |
| Project Driveway at 4 Gee Rd [1,2] | 1.8 | A | 2.7 | A | 0.9 | No |
| Camino Del Sur at 4 Gee Rd [3] | 23.8 | C | 23.9 | C | 0.1 | No |
| Camino Del Norte at Rancho Bernardo Rd [2] | 40.3 | D | 40.6 | D | 0.3 | No |
| Camino Del Norte at 4S Ranch Pkwy [2] | 22.6 | C | 22.6 | C | 0.0 | No |
| Camino Del Norte at Dove Canyon Rd [3] | 29.8 | C | 29.8 | C | 0.0 | No |
| Camino Del Norte at Bernardo Center Dr [3] | 65.8 | E | 65.8 | E | 0.0 | No |
| Camino Del Norte at Paseo Montanoso [3] | 17.0 | B | 17.0 | B | 0.0 | No |
| Camino Del Norte at I-15 SB Ramps [3] | 64.3 | E | 64.6 | E | 0.3 | No |
| Camino Del Norte at I-15 NB Ramps [3] | 78.2 | E | 78.7 | E | 0.5 | No |
| Lone Quail Rd at Dove Canyon Rd [2] | 26.3 | C | 26.3 | C | 0.0 | No |
| Weekday PM Peak Hour | | | | | | |
| Project Driveway at 4 Gee Rd [1,2] | 0.8 | A | 4.6 | A | 3.8 | No |
| Camino Del Sur at 4 Gee Rd [3] | 21.3 | C | 21.4 | C | 0.1 | No |
| Camino Del Norte at Rancho Bernardo Rd [2] | 37.8 | D | 38.2 | D | 0.4 | No |
| Camino Del Norte at 4S Ranch Pkwy [2] | 26.8 | C | 26.7 | C | -0.1 | No |
| Camino Del Norte at Dove Canyon Rd [3] | 30.6 | C | 30.7 | C | 0.1 | No |
| Camino Del Norte at Bernardo Center Dr [3] | 64.3 | E | 64.7 | E | 0.4 | No |
| Camino Del Norte at Paseo Montanoso [3] | 18.8 | B | 18.8 | B | 0.0 | No |
| Camino Del Norte at I-15 SB Ramps [3] | 34.1 | C | 34.3 | C | 0.2 | No |
| Camino Del Norte at I-15 NB Ramps [3] | 49.7 | D | 50.1 | D | 0.4 | No |
| Lone Quail Rd at Dove Canyon Rd [2] | 27.6 | C | 27.6 | C | 0.0 | No |
| Weekend Sunday Peak Hour | | | | | | |
| Project Driveway at 4 Gee Rd [1,2] | 2.4 | A | 28.5 | C | 26.1 | No |
| Camino Del Sur at 4 Gee Rd [3] | 23.5 | C | 42.5 | D | 19.0 | No |
| Camino Del Norte at Rancho Bernardo Rd [2] | 28.4 | C | 30.4 | C | 2.0 | No |
| Camino Del Norte at 4S Ranch Pkwy [2] | 25.5 | C | 22.4 | C | -3.1 | No |
| Camino Del Norte at Dove Canyon Rd [3] | 29.6 | C | 29.0 | C | -0.6 | No |
| Camino Del Norte at Bernardo Center Dr 3 | 32.7 | C | 31.1 | C | -1.6 | No |
| Camino Del Norte at Paseo Montanoso [3] | 14.6 | B | 13.8 | B | -0.8 | No |
| Camino Del Norte at I-15 SB Ramps [3] | 26.8 | C | 24.9 | C | -1.9 | No |
| Camino Del Norte at I-15 NB Ramps [3] | 27.9 | C | 30.3 | C | 2.4 | No |
| Lone Quail Rd at Dove Canyon Rd [2] | 26.9 | C | 26.0 | C | -0.9 | No |

*Note: [1]Unsignalized Intersection Without Project / Signalized Intersection With Project (Project Feature)*
*[2]County of San Diego Jurisdiction*
*[3] City of San Diego Jurisdiction*

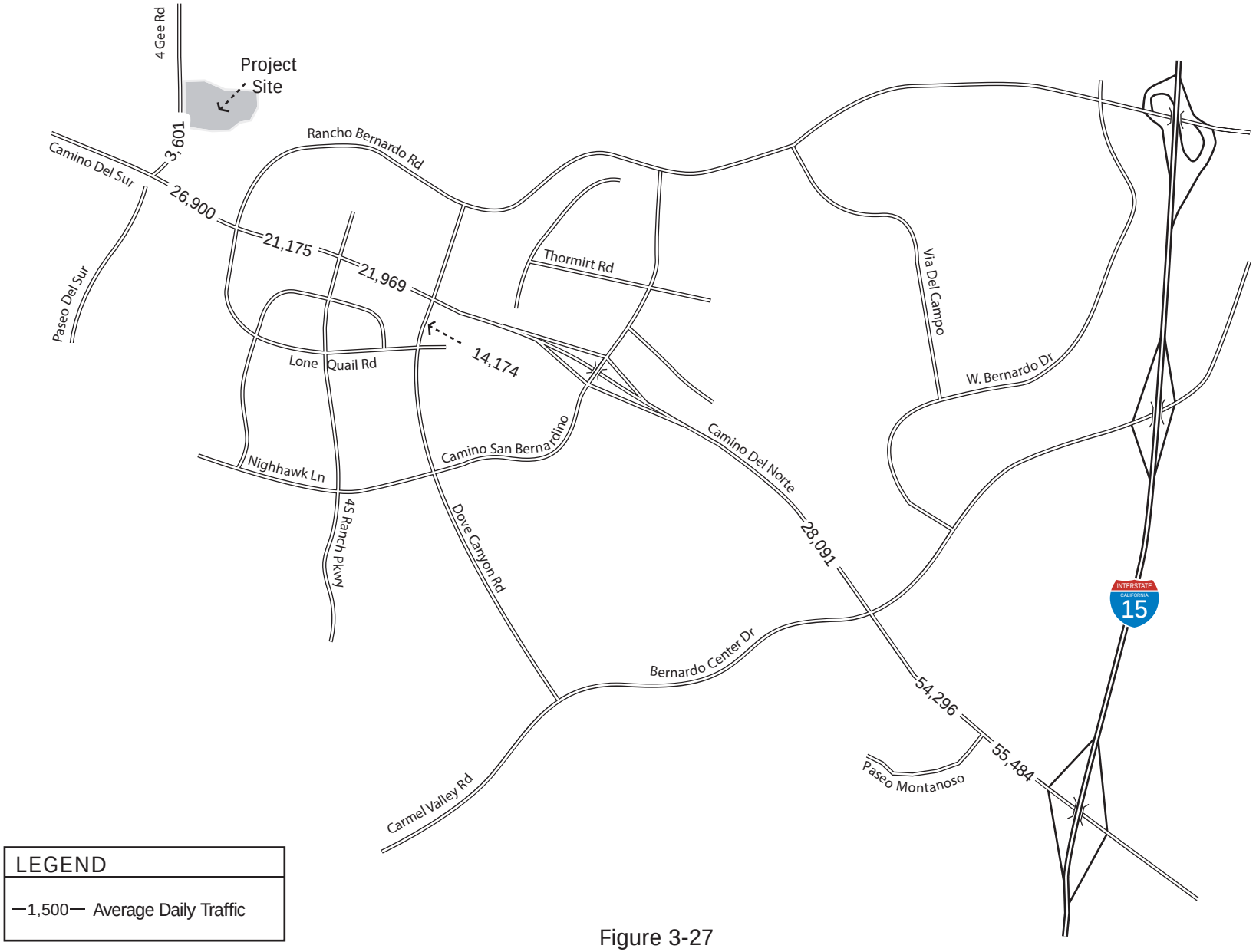


Figure 3-27
Existing + Ambient+ Cumulative Weekday Roadway Segment Volumes With Project

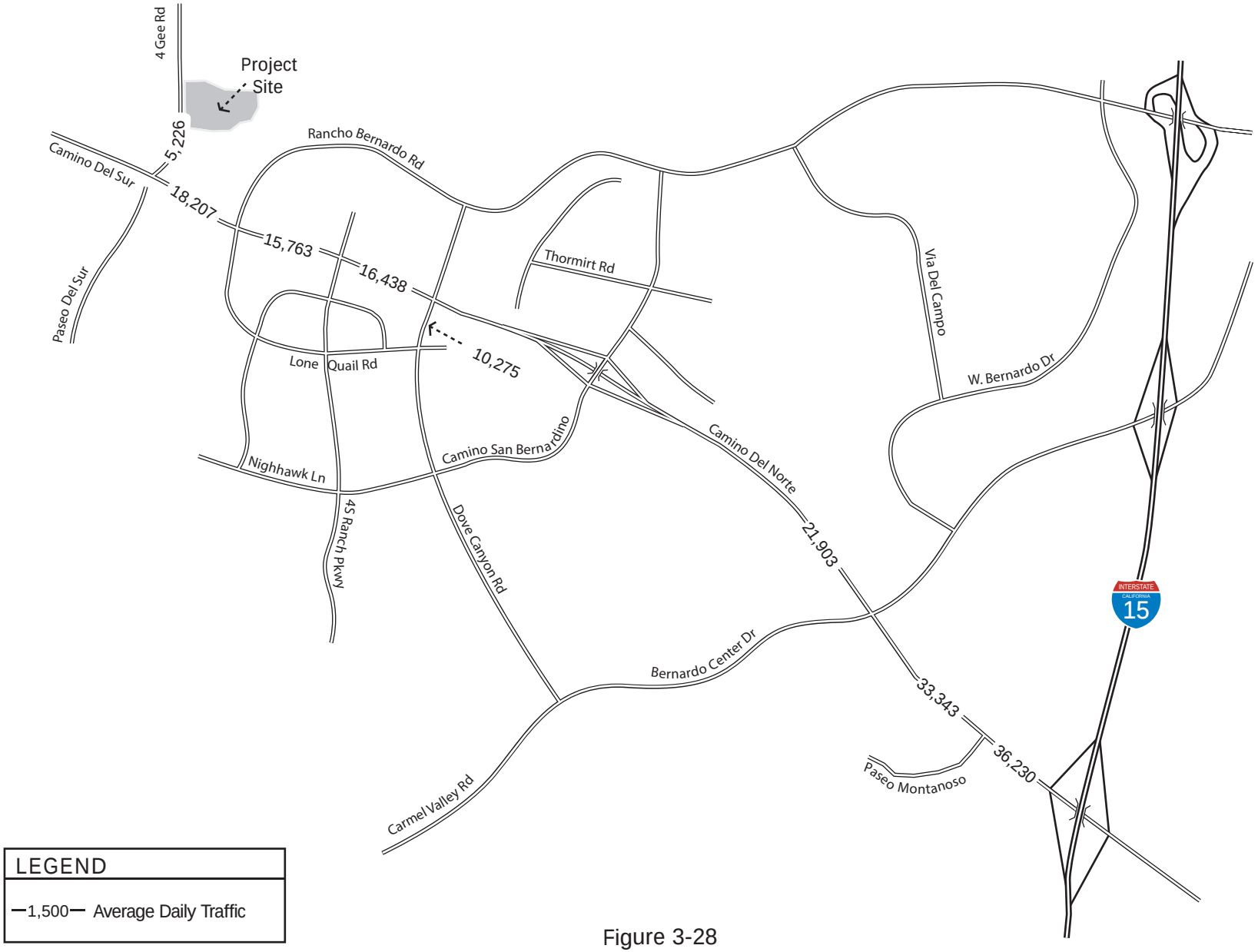


Figure 3-28
Existing + Ambient+ Cumulative Weekend Roadway Segment Volumes With Project

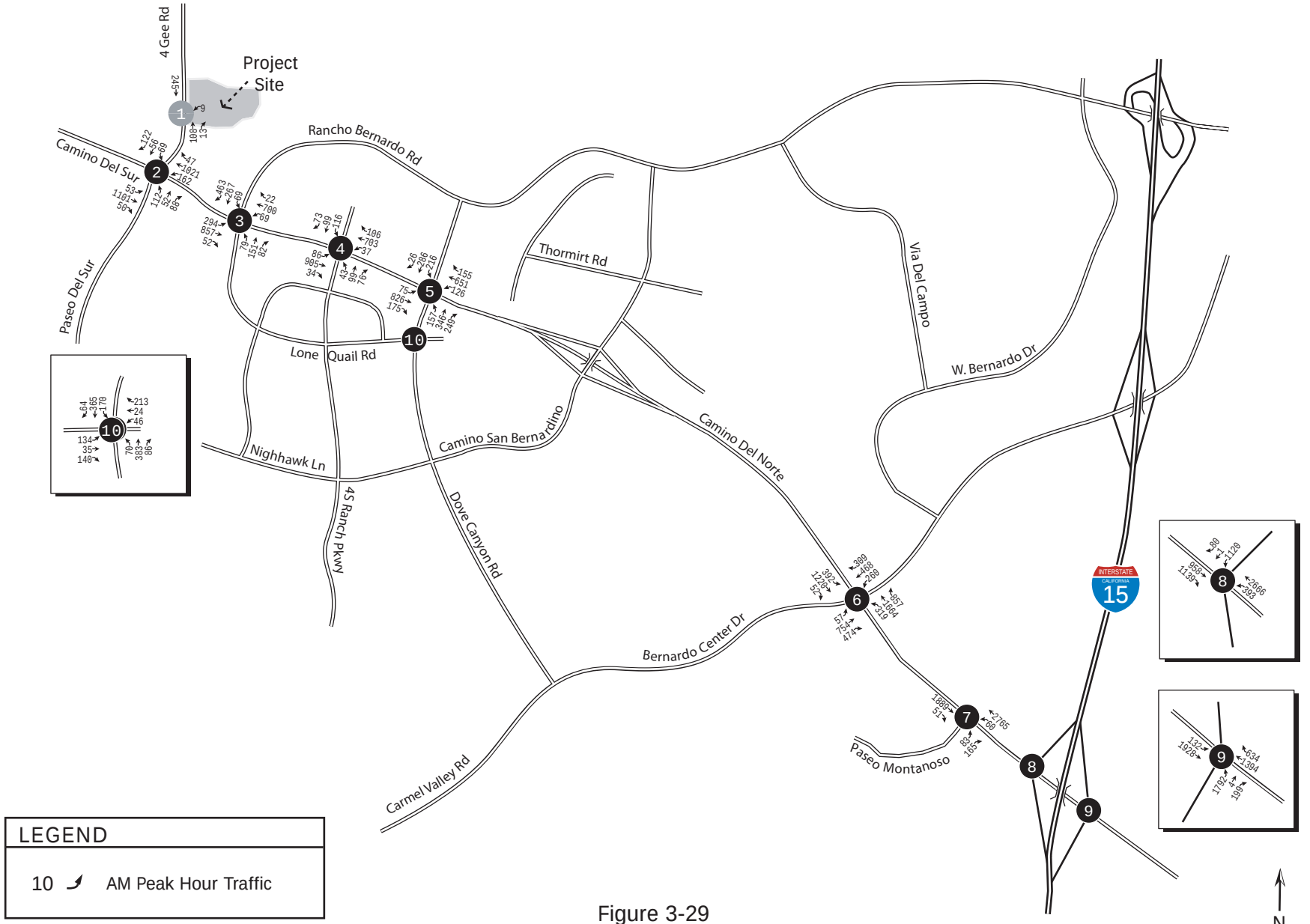


Figure 3-29
Existing + Ambient+ Cumulative Weekday AM Peak Hour Intersection Volumes With Project

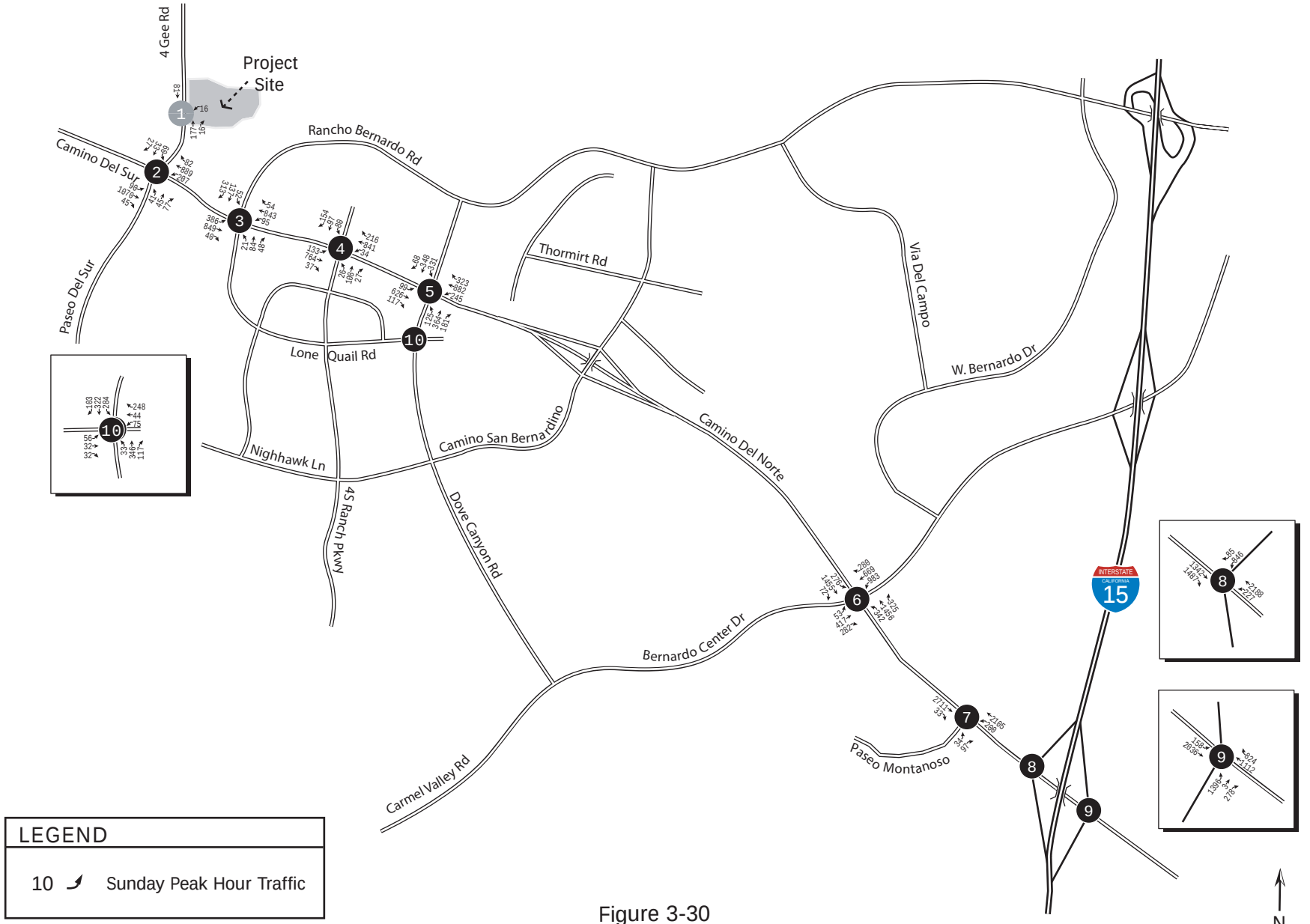


Figure 3-30
Existing + Ambient+ Cumulative Weekday PM Peak Hour Intersection Volumes With Project

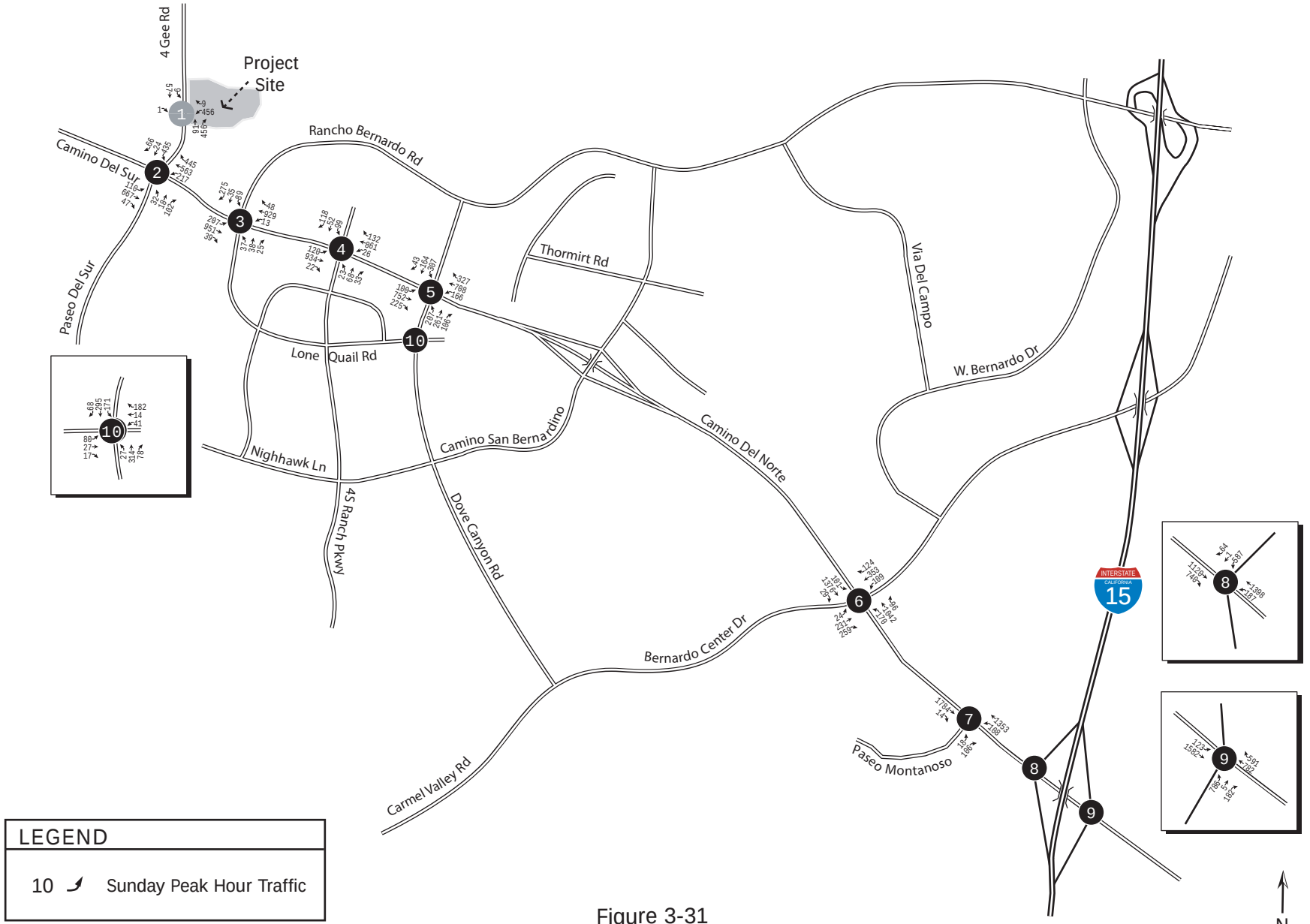


Figure 3-31
Existing + Ambient+ Cumulative Weekend Sunday Peak Hour Intersection Volumes With Project

Not To Scale

## 3.7 GENERAL PLAN CONDITIONS

General Plan conditions represent traffic conditions in 2050. This analysis reflects the conditions that are proposed in the General Plan.

## GENERAL PLAN TRAFFIC VOLUMES

Traffic growth on area roadways is a function of the expected land development, economic activity, and changes in demographics. Several methods can be used to estimate this growth. For this analysis General Plan 2050 traffic forecast model was used to develop General Plan base volumes.

## GENERAL PLAN MOBILITY NETWORK

All circulation improvements are assumed under General Plan conditions to be completed. The effect of the proposed project on the study area circulation network was evaluated. Table 14 shows the General Plan roadway segment conditions with and without the proposed project.

**Table 14**
**General Plan Segment ADT Volumes and Level of Service**

| Roadway Segment Name | Lanes/Class | Capacity | Without Project | | | Project Traffic | With Project | | | Δ V/C | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ADT | LOS | V/C | | ADT | LOS | V/C | | |
| **Weekday** | | | | | | | | | | | |
| 4 Gee Road | | | | | | | | | | | |
| From Camino Del Sur to Project Driveway[1] | 2-lane Collector | 16,200 | 3,922 | B | 0.242 | 390 | 4,311 | C | 0.266 | 0.02 | No |
| Camino Del Sur | | | | | | | | | | | |
| From 4 Gee Rd to Rancho Bernardo Rd[2] | 4-lane Major Arterial | 40,000 | 32,414 | D | 0.810 | 356 | 32,770 | D | 0.819 | 0.01 | No |
| Camino Del Norte | | | | | | | | | | | |
| From Rancho Bernardo Rd to 4S Ranch Pkwy[1] | 4-lane Major | 37,000 | 25,490 | C | 0.689 | 301 | 25,791 | C | 0.697 | 0.01 | No |
| From 4S Ranch Rd to Dove Canyon Rd[1] | 4-lane Major | 37,000 | 26,466 | C | 0.715 | 296 | 26,762 | C | 0.723 | 0.01 | No |
| From Dove Canyon Rd to Bernardo Center Dr [1] | 6-lane Prime Arterial | 57,000 | 34,056 | B | 0.597 | 202 | 34,258 | B | 0.601 | 0.00 | No |
| From Bernardo Center Dr to Paseo Montanoso [2] | 6-lane Prime Arterial | 60,000 | 62,975 | F | 1.050 | 198 | 63,173 | F | 1.053 | 0.00 | No |
| From Paseo Montanoso to I-15 Ramps[2] | 6-lane Prime Arterial | 60,000 | 65,368 | F | 1.089 | 196 | 65,564 | F | 1.093 | 0.00 | No |
| Dove Canyon Rd | | | | | | | | | | | |
| From Camino Del Norte to Lone Quail Rd[1] | 4-lane Major | 37,000 | 16,961 | B | 0.458 | 94 | 17,055 | B | 0.461 | 0.00 | No |
| **Weekend** | | | | | | | | | | | |
| 4 Gee Road | | | | | | | | | | | |
| From Camino Del Sur to Project Driveway[1] | 2-lane Collector | 16,200 | 2,929 | B | 0.181 | 2,758 | 5,687 | C | 0.351 | 0.17 | No |
| Camino Del Sur | | | | | | | | | | | |
| From 4 Gee Rd to Rancho Bernardo Rd[2] | 4-lane Major Arterial | 40,000 | 18,619 | B | 0.465 | 2,520 | 21,139 | B | 0.528 | 0.06 | No |
| Camino Del Norte | | | | | | | | | | | |
| From Rancho Bernardo Rd to 4S Ranch Pkwy[1] | 4-lane Major | 37,000 | 16,180 | B | 0.437 | 2,131 | 18,311 | B | 0.495 | 0.06 | No |
| From 4S Ranch Rd to Dove Canyon Rd[1] | 4-lane Major | 37,000 | 17,021 | B | 0.460 | 2,098 | 19,118 | B | 0.517 | 0.06 | No |
| From Dove Canyon Rd to Bernardo Center Dr [1] | 6-lane Prime Arterial | 57,000 | 24,300 | B | 0.426 | 1,429 | 25,729 | B | 0.451 | 0.03 | No |
| From Bernardo Center Dr to Paseo Montanoso [2] | 6-lane Prime Arterial | 60,000 | 37,916 | C | 0.632 | 1,399 | 39,314 | C | 0.655 | 0.02 | No |
| From Paseo Montanoso to I-15 Ramps[2] | 6-lane Prime Arterial | 60,000 | 41,359 | C | 0.689 | 1,385 | 42,744 | C | 0.712 | 0.02 | No |
| Dove Canyon Rd | | | | | | | | | | | |
| From Camino Del Norte to Lone Quail Rd[1] | 4-lane Major | 37,000 | 11,402 | A | 0.308 | 669 | 12,071 | A | 0.326 | 0.02 | No |

Note: [1] County of San Diego Jurisdiction
Note: [2] City of San Diego Jurisdiction

## 3.8 PROJECT ACCESS, PARKING, AND SPECIAL EVENTS

### 3.8.1 Project Access

The proposed project will take access off 4 Gee Road via one private driveway. This access is proposed as a signalized intersection as a project feature. Regional access is provided by Camino Del Norte (south of the project site) and Interstate 15 (east of the project site). Camino Del Norte/Camino Del Sur is an arterial that connects the project to the surrounding freeway.

*Rancho Santa Fe fire station*

As determined in the preceding analysis, the project main access point off 4 Gee Road is operating at an acceptable LOS under all conditions. However, due to the project access proximity to the adjacent Rancho Santa Fe fire station, the Santa Fe Chinese Bible Church project is proposing, as a project feature, to signalize and interconnect its access point at 4 Gee Road with the intersection of Four Gee Road and Camino Del Sur.

### 3.8.2 Parking

The total number of parking spaces required for the proposed project will be provided consistent with the County of San Diego parking requirement. A total of 375 off-street parking spaces are required for the proposed project. The church is proposing to provide 417 parking spaces on site which is 42 spaces above the code requirement. If additional parking spaces are needed during holiday services, an area on the east end of the project will have decomposed granite ("DG") to accommodate any overflow parking necessary. Parking spaces provided by the proposed project will be assessed by County staff during the review and approval process of the site plan.

### 3.8.3 Special Events

All anticipated special events, other than typical church holidays, including non-church community events, will be performed during off peak hours and outside typical church. Peak traffic hours include Monday thru Friday 7 AM to 9 AM and 4 PM to 6 PM.

# CHAPTER 4.0
# IMPACTS AND MITIGATION

This chapter identifies significant impacts and describes appropriate project mitigation.

## 4.1 IMPACTS AND MITIGATIONS

No intersections and roadway segments were found to be significantly impacted by the proposed project based on the significance criteria presented in Appendix A:

### Direct Impacts

- None

### Cumulative Impacts

*Roadway Segments*
- None

*Intersections*
- None

There are no direct or cumulative impacts to the roadway system for the cumulative scenario.

### Project Feature

As part of the project, the applicant will install a traffic signal for the project entrance that can be interconnected with the intersection of 4 Gee Road and Camino Del Sur. Interconnecting the two signals could allow for traffic to travel more smoothly and quickly with maximum green-light time, through the corridor. This essentially gets the greatest number of vehicles through the system with the fewest stops and/or travel time.

An operational analysis to evaluate the vehicular queue was performed at 4 Gee Road/project access point and 4 Gee Road/Camino Del Sur intersections. The proposed improvements at the intersection of 4 Gee Road and Camino Del Sur (as part of the Camino Del Sur widening project) are accounted for in the operational analysis. The analysis is based on vehicle queuing for high demand movements at the analyzed intersections. The 95$^{th}$ percentile queue was reported. This analysis thus provided a basis for estimating the future storage requirements at the selected locations. The queue estimates are provided in Table 15.

The operations analysis indicates that the estimated maximum vehicle queue for the south bound leg at 4 Gee Road and Camino Del Sur would not exceed the capacity.

**Table 15**
**Future Queue Analysis**

| Intersection | Lane Group | Existing + Ambient + Cumulative + Project | | | |
|---|---|---|---|---|---|
| | | Storage Capacity (ft) | Weekday AM Peak Hour Queue Length (ft) | Weekday PM Peak Hour Queue Length (ft) | Weekend Sunday Peak Hour Queue Length (ft) |
| **Project Driveway at 4 Gee Rd** | | | | | |
| Northbound | Right | 400 | 38 | 72 | 678 |
| | Thru | | | | |
| Southbound | Thru | 900 | 83 | 30 | 63 |
| | Left | | | | |
| Westbound | Right | 280 | 0 | 31 | 9 |
| | Left | 280 | 21 | 31 | 636 |
| **4 Gee Rd at Camino Del Sur** | | | | | |
| Southbound | Thru | 400 | 301 | 245 | 96 |
| | Left | 150 | 120 | 76 | 742 |
| Eastbound | Right | 250 | 691 | 634 | 611 |
| | Thru | 1500 | 691 | 634 | 611 |
| | Left | 250 | 107 | 172 | 304 |
| Westbound | Thru | 1000 | 512 | 411 | 750 |
| | Left | 250 | 242 | 291 | 338 |
| Northbound | Right | 250 | 238 | 245 | 130 |
| | Thru | 1500 | 227 | 245 | 130 |
| | Left | 250 | 227 | 76 | 35 |

The storage capacities at the intersection of 4 Gee Road and Camino Del Sur shown in the above table are taken from the approved Camino Del Norte widening improvement plans provided by the City of San Diego Development Services Department. These improvement plans are provided in Appendix I. As shown in Table 15, the estimated maximum vehicle queue for the south bound leg at 4 Gee Road and Camino Del Sur would at times exceed the capacity. However, once the intersections are interconnected, any queue that accumulates would be mitigated. Having both signals coordinated allows the controller to respond to sudden surges/variations in traffic demand in order to steal time from phases that don't need it and give times to phases that do need it to decrease the amount of queue and delay. Improvement plans can be found in Appendix I.

# CHAPTER 5.0
# LIST OF PREPARERS AND PERSONS AND ORGANIZATIONS CONTACTED

## 5.1 LIST OF PREPARERS

J. Arnold Torma, P.E. (RCE 60690), KOA Corporation, Principal Engineer
Rogelio Pelayo, KOA Corporation, Senior Transportation Planner