AGENDA ITEM NO: 16

AGENDA DATE: 11-19-14

City of Escondido
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ACLU
AMERICAN CIVIL LIBERTIES UNION
SAN DIEGO & IMPERIAL COUNTIES
FOUNDATION

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November 18, 2014

Mayor, Deputy Mayor, and City Council Members
City of Escondido
201 North Broadway
Escondido, CA 92025

Re: Traffic Impact Analysis
Project Case No. PHG 14-0017

Dear Mayor, Deputy Mayor, and Council Members:

This letter and its accompanying evidence are submitted in support of the appeal by Southwest Key Programs of the Planning Commission's denial of a conditional use permit to operate immigrant youth housing at 1817 Avenida del Diablo. The City Council conducted a public hearing on this project on October 15, 2014 and voted 4-1 to deny the appeal. On Wednesday, November 19, 2014, the City Council is scheduled to consider Resolution 2014-134, which sets forth findings regarding that decision. According to city staff, adoption of Resolution 2014-134 "will represent the final City action on this matter."

As you are aware, the applicant, Southwest Key, worked diligently to provide the City with supplemental material before the public hearing. Regrettably, as set forth in my October 9, 2014 letter to City Attorney Jeffrey Epp, the City's decision to accelerate the hearing date, coupled with its delay in providing traffic-related information, precluded Southwest Key from providing a complete traffic impact assessment in advance of the hearing. That report is now complete and is hereby submitted for inclusion in the administrative record and consideration by the City Council prior to any final action. Please let me know if you have any questions.

Sincerely,

David Loy
Legal Director

Traffic Impact Analysis

Escondido Youth Care Facility Project



FINAL REPORT
NOVEMBER 18, 2014

Prepared for:

ACLU Foundation of San Diego & Imperial Counties
P.O Box 87131
San Diego, CA 92138-7131

Prepared by:

CHEN RYAN
239 LAUREL STREET, SUITE 203 | SAN DIEGO CA 92101

Traffic Impact Analysis

Escondido Youth Care Facility

Final Report

Prepared for:
ACLU Foundation of San Diego & Imperial Counties
P.O. Box 87131
San Diego, CA 92138-7131

Prepared by:

CHEN RYAN
239 Laurel Street, Suite 203
San Diego, CA 92101

November 18, 2014

EXECUTIVE SUMMARY

ES.1 Study Purpose and Project Description

The purpose of this Traffic Impact Analysis (TIA) is to identify and document potential transportation related impacts associated with the development of the proposed Escondido Youth Care Facility project (proposed project), as well as to recommend mitigation measures, as necessary, for any identified transportation related impacts associated with the proposed project.

The proposed Escondido Youth Care Facility project site is located in the City of Escondido at 1817 Avenida Del Diablo, on the southern side of Avenida Del Diablo, between West Valley Parkway and Del Dios Road. The project site is currently occupied by 2.31 acres of non-active nursing home use (former Palomar Continuing Care Center). The project proposes to occupy the existing building and develop a 96-bed unaccompanied youth facility in its place, serving minors between 10 and 17 years of age. The project also proposes to utilize the current parking lots and access points. There are currently two access points, located on Avenida Del Diablo and Del Dios Road, respectively. The primary access point, leading to the main parking lot, is located along Avenida Del Diablo, while the second access point, leading to a small parking lot in the rear of the facility, is located on Del Dios Road. There are currently no internal vehicular connections between the parking lots; therefore, the two access points operate independently of each other.

ES.2 Project Trip Generation, Distribution and Study Methodology

The proposed Escondido Youth Care Facility project would generate a total of 245 daily trips, including 66 (42-in / 24-out) AM peak hour trips and 72 (30-in / 42-out) PM peak hour trips.

The project trip distribution patterns were developed based on anticipated travel patterns for the various trip purposes provided by the project applicant. The following roadway segments and intersections were evaluated as part of the impact analysis:

<u>Eight (8) key study roadway segments</u>

1. West Valley Parkway, between 9th Avenue and 11th Avenue
2. West Valley Parkway, between 11th Avenue and Avenida Del Diablo
3. West Valley Parkway, between Avenida Del Diablo and Citracado Parkway
4. Del Dios Road, between 11th Avenue and Avenida Del Diablo
5. 11th Avenue, between South Hale Avenue and West Valley Parkway
6. 11th Avenue, between West Valley Parkway and Del Dios Road
7. Avenida Del Diablo, between South Hale Avenue and West Valley Parkway
8. Avenida Del Diablo, between West Valley Parkway and Del Dios Road

<u>Six (6) key study intersections</u>

1. West Valley Parkway / 11th Avenue

2. Del Dios Road / 11th Avenue
3. West Valley Parkway / Avenida Del Diablo
4. Del Dios Road / Avenida Del Diablo
5. Project Driveway @ Avenida Del Diablo (With Project Scenarios Only)
6. Project Driveway @ Del Dios Road (With Project Scenarios Only)

Potential transportation related impacts associated with the proposed project were evaluated under the following three (3) scenarios:

- Existing conditions
- Near-Term Year 2015 conditions – anticipated project opening year
- Horizon Year 2035 conditions

ES.3 Project Impacts and Mitigation Measures

Roadway Segments

Based on the City of Escondido's significance criteria to determine transportation related impacts, presented in Section 2.4, the traffic associated with the development of the proposed 96-bed unaccompanied youth care facility project is not anticipated to result in any direct or cumulative impact to the surrounding roadway network.

Intersections

Based on the City of Escondido's significance criteria to determine transportation related impacts, presented in Section 2.4, the traffic associated with the development of the proposed Escondido Youth Care Facility project would not result in any direct or cumulative impact to the study area intersections.

Parking

Per City of Escondido Municipal Code (Chapter 33 Zoning, Article 39 Off-Street Parking, Section 33-765), one parking space is required for each 3 beds as pertaining to land uses destined as Sanitariums, Children's Homes, Homes for the Aged, Asylums, and Nursing Homes. There are currently 53 parking spaces provided on the proposed project site including 12 accessible spaces which exceed the minimum parking requirement of 32 on-site standard parking spaces and two accessible parking spaces.

However, temporary parking over-flow may be experienced during shift changes. The project applicant is planning on implement the follow strategies to reduce parking demand, including:

- A staggered arrival/departure staffing plan to avoid any potential for parking overflow during shift changes; and
- A Transportation Demand Management (TDM) program that incentivizes employee carpooling and riding public transit.

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1.0 Introduction

1.1 Purpose of the Report

The purpose of this Transportation Impact Analysis (TIA) is to identify and document potential transportation related impacts associated with the development of the proposed Escondido Youth Care Facility project (proposed project), as well as to recommend mitigation measures, as necessary, for any identified transportation related impacts associated with the proposed project.

1.2 Project Background

The Escondido Youth Care Facility project site is proposed to be located in the City of Escondido at 1817 Avenida Del Diablo, on the southern side of Avenida Del Diablo, between West Valley Parkway and Del Dios Road. **Figure 1-1** displays the project location. The proposed project site is currently occupied by 2.31 acres of non-active nursing home use (former Palomar Continuing Care Center). The project proposes to occupy the existing building and develop a 96-bed unaccompanied youth facility in its place, serving minors between 10 and 17 years of age. The project also proposes to utilize the current parking lots and access points. The site currently has a total of two access points - one each located on Avenida Del Diablo and Del Dios Road, respectively. The primary access point, leading to the main parking lot, is located along Avenida Del Diablo, while the second access point, leading to a small parking lot in the rear of the facility, is located on Del Dios Road. There are currently no internal vehicular connections between the parking lots; therefore, the two access points operate independently of each other.

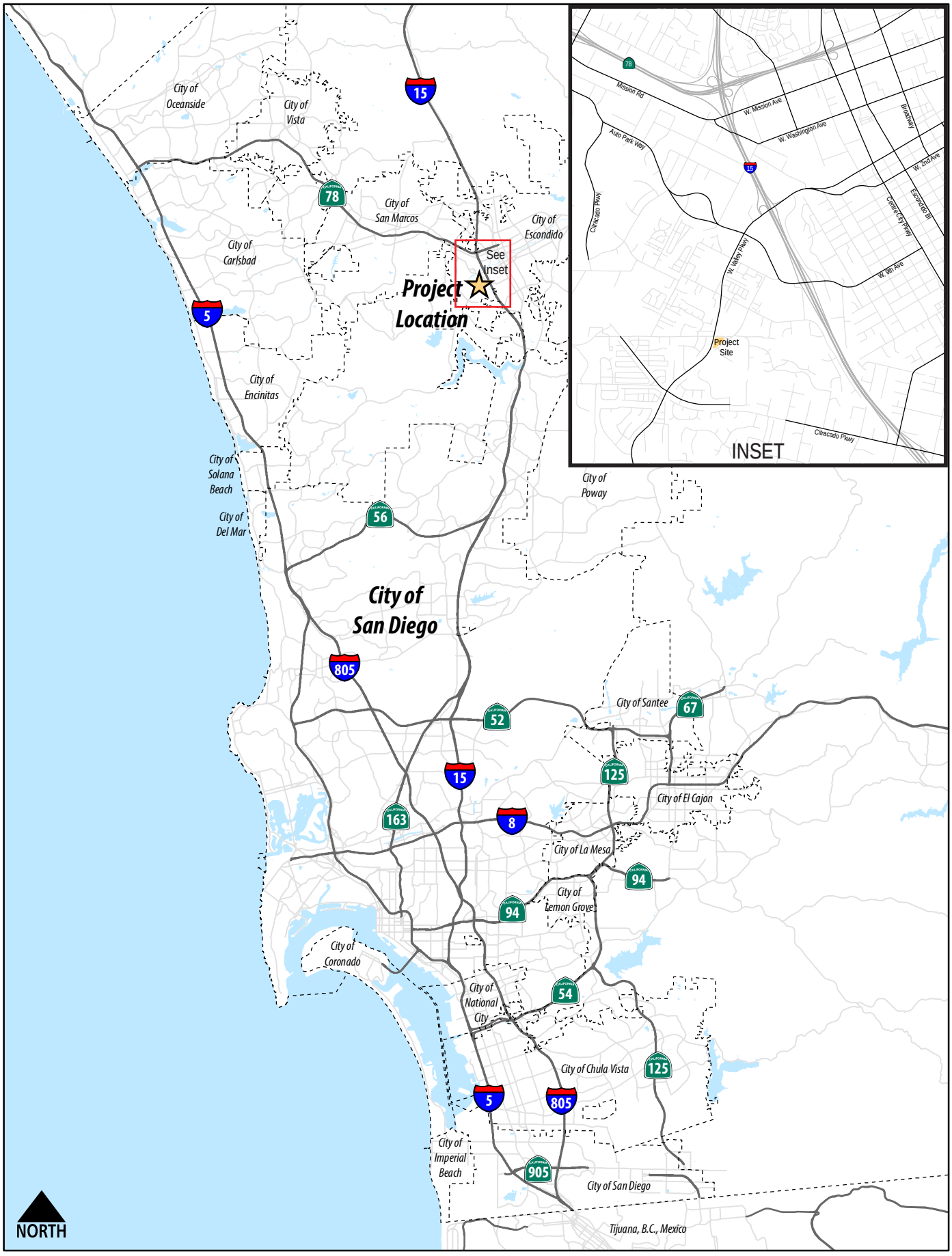
1.3 Report Organization

Following this Introduction chapter, this report is organized into the following chapters:

2.0 Analysis Methodology – This chapter describes the methodologies and standards utilized to analyze roadway and intersection traffic conditions.

3.0 Proposed Project – This chapter describes the proposed project including project vehicular trip generation estimates, trip distribution patterns, and project trip assignments.

4.0 Existing Conditions – This chapter describes the existing traffic operations both with and without the proposed project. Mitigation measures, if necessary, for project-related impacts are also identified.



Escondido Youth Care Facility
Traffic Impact Analysis
CHEN RYAN

Figure 1-1

Project Regional Location

5.0 Near-Term Year 2015 Traffic Conditions – This chapter describes near-term developments anticipated to generate additional study area trips by Year 2015 (anticipated project opening year), the proposed project's opening year. Analysis results are provided for Near-Term Year 2015 conditions both with and without the proposed project. Mitigation measures, if necessary, for project-related impacts are also identified.

6.0 Horizon Year 2035 Traffic Conditions – This chapter describes projected long-range traffic conditions both with and without project traffic. Mitigation measures, if necessary, for project-related impacts are also identified.

7.0 Findings and Recommendations – This chapter outlines overall study findings, identifies recommended project-related mitigation measures, and reviews site access and parking issues.

2.0 Analysis Methodology

This TIA was performed in accordance with the requirements of the *City of Escondido Traffic Impact Analysis Guideline, October 2013.* Detailed information on roadway segment and intersection analysis methodologies, standards, and thresholds are discussed in the following sections.

2.1 Level of Service Definition

Level of Service (LOS) is a quantitative measure describing operational conditions within a traffic stream, and the motorist's and/or passengers' perception of operations. A LOS definition generally describes these conditions in terms of such factors as delay, speed, travel time, freedom to maneuver, interruptions in traffic flow, queuing, comfort, and convenience. **Table 2.1** describes generalized definitions of the various LOS categories (A through F) as applied to roadway operations.

TABLE 2.1
LEVEL OF SERVICE DEFINITIONS

LOS Category	Definition of Operation
A	This LOS represents a completely free-flow condition, where the operation of vehicles is virtually unaffected by the presence of other vehicles and only constrained by the geometric features of the highway and by driver preferences.
B	This LOS represents a relatively free-flow condition, although the presence of other vehicles becomes noticeable. Average travel speeds are the same as in LOS A, but drivers have slightly less freedom to maneuver.
C	At this LOS the influence of traffic density on operations becomes marked. The ability to maneuver within the traffic stream is clearly affected by other vehicles.
D	At this LOS, the ability to maneuver is notably restricted due to traffic congestion, and only minor disruptions can be absorbed without extensive queues forming and the service deteriorating.
E	This LOS represents operations at or near capacity. LOS E is an unstable level, with vehicles operating with minimum spacing for maintaining uniform flow. At LOS E, disruptions cannot be dissipated readily thus causing deterioration down to LOS F.
F	At this LOS, forced or breakdown of traffic flow occurs, although operations appear to be at capacity, queues form behind these breakdowns. Operations within queues are highly unstable, with vehicles experiencing brief periods of movement followed by stoppages.

Source: Highway Capacity Manual 2010

2.2 Roadway Segment Level of Service Standards and Thresholds

Roadway segment LOS standards and thresholds provide the basis for analysis of arterial roadway segment performance. The analysis of roadway segment LOS is based on the functional classification of the roadway, the maximum capacity, roadway geometrics, and existing or forecast Average Daily Traffic (ADT) volumes. **Table 2.2** presents the roadway segment capacity and LOS standards utilized to analyze roadways evaluated in this report.

TABLE 2.2
CITY OF ESCONDIDO
ROADWAY CLASSIFICATIONS AND LOS STANDARDS

Roadway Classification	LOS A	LOS B	LOS C	LOS D	LOS E
Prime Arterial (8 lanes, No Parking)	< 23,800	< 37,800	< 51,800	< 62,300	< 70,000
Prime Arterial (6 lanes, No Parking)	< 20,400	< 32,400	< 44,400	< 53,400	< 60,000
Major Road (6 lanes, No Parking)	< 17,000	< 27,000	< 37,000	< 44,500	< 50,000
Major Road (4 lanes, No Parking)	< 12,600	< 20,000	< 27,400	< 32,900	< 37,000
Collector (4 lanes, No Parking)	< 11,600	< 18,500	< 25,300	< 30,400	< 34,200
Collector (4 lanes, With Parking)	< 6,800	< 10,800	< 14,800	< 17,800	< 20,000
Local Collector (2 lanes, No Parking)	< 5,100	< 8,100	< 11,100	< 13,400	< 15,000
Local Collector (2 lanes, With Parking)	< 3,400	< 5,400	< 7,400	< 8,900	< 10,000

Source: City of Escondido Traffic Impact Analysis Guideline; October 2013

These standards are generally used as long-range planning guidelines to determine the functional classification of roadways. The actual capacity of a roadway facility varies according to its physical attributes. Typically, the performance and LOS of a roadway segment is heavily influenced by the ability of its intersections to accommodate peak hour traffic volumes. For the purposes of this traffic analysis, LOS C is considered acceptable for circulation element roadway segments.

2.3 Peak Hour Intersection Level of Service Standards and Thresholds

This section presents the methodologies used to perform peak hour intersection capacity analysis, including both signalized and unsignalized intersections.

Signalized Intersection Analysis

The analysis of signalized intersections utilized the operational analysis procedure as outlined in the 2010 Highway Capacity Manual (HCM). This method defines LOS in terms of delay, or more specifically, average stopped delay per vehicle. This technique uses 1,900 vehicles per hour per lane (VPHPL) as the maximum saturation volume of an intersection. This saturation volume is adjusted to account for lane width, on-street parking, pedestrians, traffic composition (i.e., percentage trucks) and shared lane movements (i.e., through and right-turn movements originating from the same lane). The LOS criteria used for the analysis of signalized intersections are described in **Table 2.3**, identifying the thresholds of control delays and the associated LOS. The computerized analysis of intersection operations was performed utilizing the *SYNCHRO 8.0* traffic analysis software.

TABLE 2.3
SIGNALIZED INTERSECTION LEVEL OF SERVICE CRITERIA

Average Stopped Delay Per Vehicle (seconds)	Level of Service (LOS) Characteristics
<10.0	*LOS A* describes operations with very low delay. This occurs when progression is extremely favorable, and most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
10.1 – 20.0	*LOS B* describes operations with generally good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.
20.1 – 35.0	*LOS C* describes operations with higher delays, which may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
35.1 – 55.0	*LOS D* describes operations with high delay, resulting from some combination of unfavorable progression, long cycle lengths, or high volumes. The influence of congestion becomes more noticeable, and individual cycle failures are noticeable.
55.1 – 80.0	*LOS E* is considered the limit of acceptable delay. Individual cycle failures are frequent occurrences.
>80.0	*LOS F* describes a condition of excessively high delay, considered unacceptable to most drivers. This condition often occurs when arrival flow rates exceed the LOS D capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes to such delay.

Source: Highway Capacity Manual 2010

Unsignalized Intersection Analysis

Unsignalized intersections, including two-way and all-way stop controlled intersections were analyzed using the 2010 Highway Capacity Manual unsignalized intersection analysis methodology. The *SYNCHRO 8.0* software supports this methodology and was utilized to produce LOS results. The LOS for a two-way stop controlled (TWSC) intersection is determined by the computed or measured control delay and is defined for each minor movement. **Table 2.4** summarizes the LOS criteria for unsignalized intersections.

The City of Escondido considers LOS C or better during the AM and PM peak hours to be the threshold of significance for intersection LOS. This is consistent with the approach of other jurisdictions within San Diego County and past studies conducted within the City.

TABLE 2.4
UNSIGNALIZED INTERSECTION LEVEL OF SERVICE CRITERIA

Average Control Delay (sec/veh)	Level of Service (LOS)
≤10	A
>10 and ≤15	B
>15 and ≤25	C
>25 and ≤35	D
>35 and ≤50	E
>50	F

Source: Highway Capacity Manual 2010

2.4 Determination of Significant Impacts

The *City of Escondido Traffic Impact Guideline* defines project impact thresholds by facility type. These thresholds are generally based upon an acceptable increase in the Volume / Capacity (V/C) ratio for roadway and freeway segments, and upon increases in vehicle delays for intersections and ramps.

In the City of Escondido, LOS C is considered the goal for roadway and intersection operations. In accordance with "*SANTEC/ITE Guidelines for Traffic Impact Studies in the San Diego Region*", the following thresholds shall be used to identify if a project would have significant traffic impact under any scenario. Based on SANTEC/ITE guidelines, if now or in the future, the project's traffic impact causes the values in the table below to be exceeded in a roadway segment or an intersection that is operating at a LOS D or worse, it is determined to be a significant project impact and the project shall identify mitigation measures. **Table 2.5** summarizes the significant impact thresholds as identified by the City of Escondido beyond which mitigation measures are required.

TABLE 2.5
MEASURE OF SIGNIFICANT PROJECT TRAFFIC IMPACTS

Level of Service (LOS) with Project	Allowable Change Due to Project Impact		
	Roadway Segments		Intersections
	V/C	Speed Reduction (mph)	Delay (sec)
LOS D, E, or F	0.02	1.0	2.0

Source: City of Escondido Traffic Impact Analysis Guideline; October 2013

Notes:

*No Significant Impact occurs at areas in GP Downtown Specific Area that operates on LOS "D" or better.

*Mitigation measures should also be considered for any segment or intersection operating on LOS "F" subject to less than significant impact.

V/C = Volume to Capacity ratio (use LOS "E").

3.0 Proposed Project

This section describes the proposed project, including land uses and estimated trip generation, trip distribution, and trip assignment.

3.1 Project Description

The Escondido Youth Care Facility project site is proposed to be located in the City of Escondido at 1817 Avenida Del Diablo, on the southern side of Avenida Del Diablo, between Valley Parkway and Del Dios Road. The project site is currently occupied by 2.31 acres of non-active nursing home use (former Palomar Continuing Care Center). The project proposes to occupy the existing building and develop a 96-bed unaccompanied youth facility in its place, serving minors between 10 and 17 years of age. The project also proposes to utilize the current parking lots and access points. There are a total of two access points – one each located on Avenida Del Diablo and Del Dios Road, respectively. The primary access point, leading to the main parking lot, is located along Avenida Del Diablo, while the second access point, leading to a small parking lot in the rear of the facility, is located on Del Dios Road. There are currently no internal vehicular connections between the parking lots; therefore, the two access points operate independently of each other. **Figure 3-1** displays the project site plan.

3.2 Project Trip Generation, Distribution, and Assignment

Project Trip Generation

Both SANDAG and ITE do not have trip generation rate for similar type of facilities, therefore, the project trip generation was derived based upon preliminary and conservative facility operations provided by the project applicant. In summary, the project expects a total of 75 staff on site per day, divided into three shifts with general starting times at 7 am-3 pm-11 pm (approximately 30-25-20 staff, respectively). The facility may also have daily FedEx and UPS deliveries; one weekly service visit; three daily intake visits (very brief); two daily recreation trips (five to eight vans per trip); and five visits per week from volunteers. **Table 3.1** summarizes the daily activities and associated vehicle trips.

TABLE 3.1
ESCONDIDO YOUTH CARE FACILITY PROJECT TRIP GENERATION

Daily Activity/Trip Generator	Daily Auto Trips (ADT)
75 Staff	150
2 FedEx and UPS Deliveries	4
1 Service Visit	2
3 Daily Intake Visits	6
2 Daily Recreation Trips (8 vans per trip)	32
5 Volunteers	10
Total	204

Source: Cooley LLP, Chen Ryan Associates; November 2014

Escondido Youth Care Facility
Traffic Impact Analysis
CHEN RYAN

Figure 3-1

Project Site Plan

As shown, the proposed project would generate approximately 204 daily trips. In addition, for a worst case assessment, it was assumed that the 7 am and 3 pm shift changes overlap with the typical commute peak periods (7-9 am and 4-6 pm). It was also assumed that the volunteers (5 per day) would come and leave during the peak commute times. As a result, the project would generate approximately 55 trips (35-in/20-out) during the AM peak hour and 60 trips (25-in/35-out) during the PM peak hour.

In order to be extra conservative with the traffic impact analysis, a buffer of 20% was applied to the project's trip generation, yielding a total of **245** daily trips generated, approximately **66 trips (42-in/24-out)** during the AM peak hour and **72 trips (30-in/42-out)** during the PM peak hour. These trip generation volumes were utilized in the analysis this point forward.

Project Trip Distribution

Based upon information provided by the project applicant, it is expected that the youth transport vehicles will exit I-15 and head west on W. Valley Parkway. They will make a left-turn on Avenida Del Diablo, and then right-turn onto Del Dios Road. These transport vehicles will enter the facility through the rear parking lot. Staff will come from and return to their individual homes. Given the project location and the proposed use, it is anticipated that majority of the traffic generated by this facility will be coming from and going to I-15. **Figure 3-2** displays the project's trip distribution.

Project Trip Assignment

Based upon the assumed project trip distribution, daily and AM/PM peak hour project trips were assigned to the adjacent roadway network. **Figure 3-3** displays the project trip assignment.

3.3 Project Study Area

Based upon the *City of Escondido Traffic Impact Analysis Guideline*, a Traffic Impact Analysis (TIA) must be prepared for any project that generates and adds more than 2% of the ADT for LOS C to any street segment within the preliminary study area. Based on the above mentioned threshold, **Table 3.2** contains the trigger-points for TIA within the City of Escondido for different street classifications.

In addition, the study area would be identified based on the fact that any complete transportation impact analysis should include at least all site access points and major intersections (signalized and un-signalized) adjacent to the site in the study area. **Table 3.3** indicates the proposed trigger-points to identify if an intersection should be included in the TIA or not.

TABLE 3.2
PROPOSED A.D.T. THRESHOLDS FOR ROADWAY SEGMENTS TO TRIGGER TRAFFIC IMPACT ANALYSIS FOR NEW DEVELOPMENTS

Street Classification	Lanes	TIA Trigger Point (ADT Generation)
Prime Arterial	8 lanes (no parking)	900
	6 lanes (no parking)	800
Major Road	6 lanes (no parking)	700
	4 lanes (no parking)	500
Collector	4 lanes (no parking)	500
	4 lanes (with parking)	250
Local Collector and other	2 lanes (no parking)	200
	2 lanes (with parking)	

Source: City of Escondido Traffic Impact Analysis Guideline; October 2013

TABLE 3.3
PROPOSED THRESHOLDS FOR INTERSECTIONS TO BE INCLUDED IN THE TRAFFIC IMPACT ANALYSIS

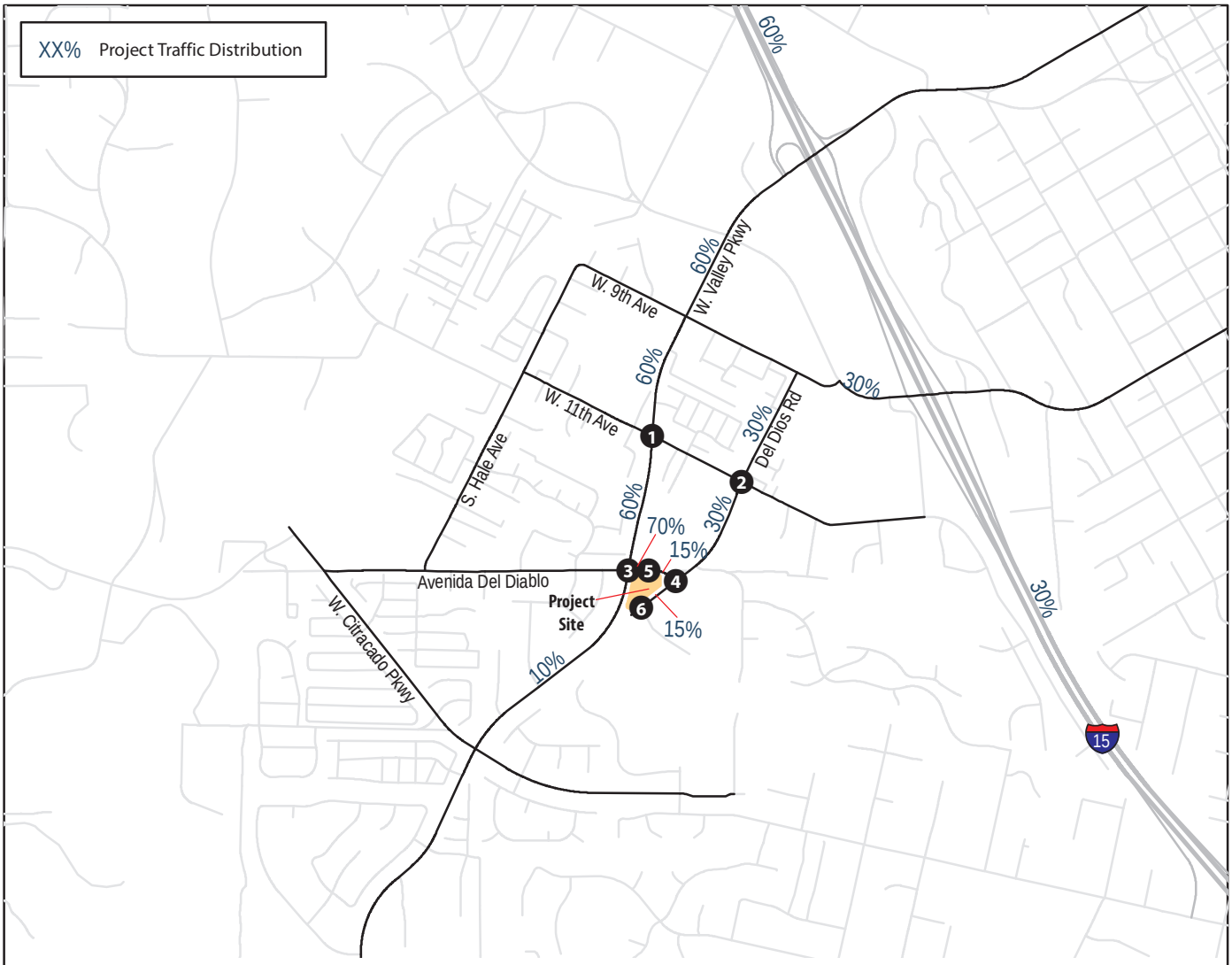
Intersection Classification (Minor leg of the intersection)	TIA Trigger-Points (AM or PM peak hour trips added to any leg)
Prime Arterial	50
Major Road	40
Collector	30
Local Collector	20

Source: City of Escondido Traffic Impact Analysis Guideline; October 2013

Based upon trip generation (Table 3.1), distribution (Figure 3-2) and assignment (Figure 3-3) assumptions, as well as thresholds identified in Tables 3.2 and 3.3, the required facility for traffic impact analysis would include the intersections of Del Dios Road / 11th Avenue, West Valley Parkway / Avenida Del Diablo, Del Dios Road / Avenida Del Diablo, and the two project driveways. No roadway segments in the vicinity of the project site would meet the trigger for impact analysis. However, in the effort to evaluate and disclose all potential traffic impacts associated with this project, the study area was expanded to include the following:

<u>Eight (8) Study Roadway Segments</u>

1. West Valley Parkway, between 9th Avenue and 11th Avenue
2. West Valley Parkway, between 11th Avenue and Avenida Del Diablo
3. West Valley Parkway, between Avenida Del Diablo and Citracado Parkway
4. Del Dios Road, between 11th Avenue and Avenida Del Diablo
5. 11th Avenue, between South Hale Avenue and West Valley Parkway
6. 11th Avenue, between West Valley Parkway and Del Dios Road



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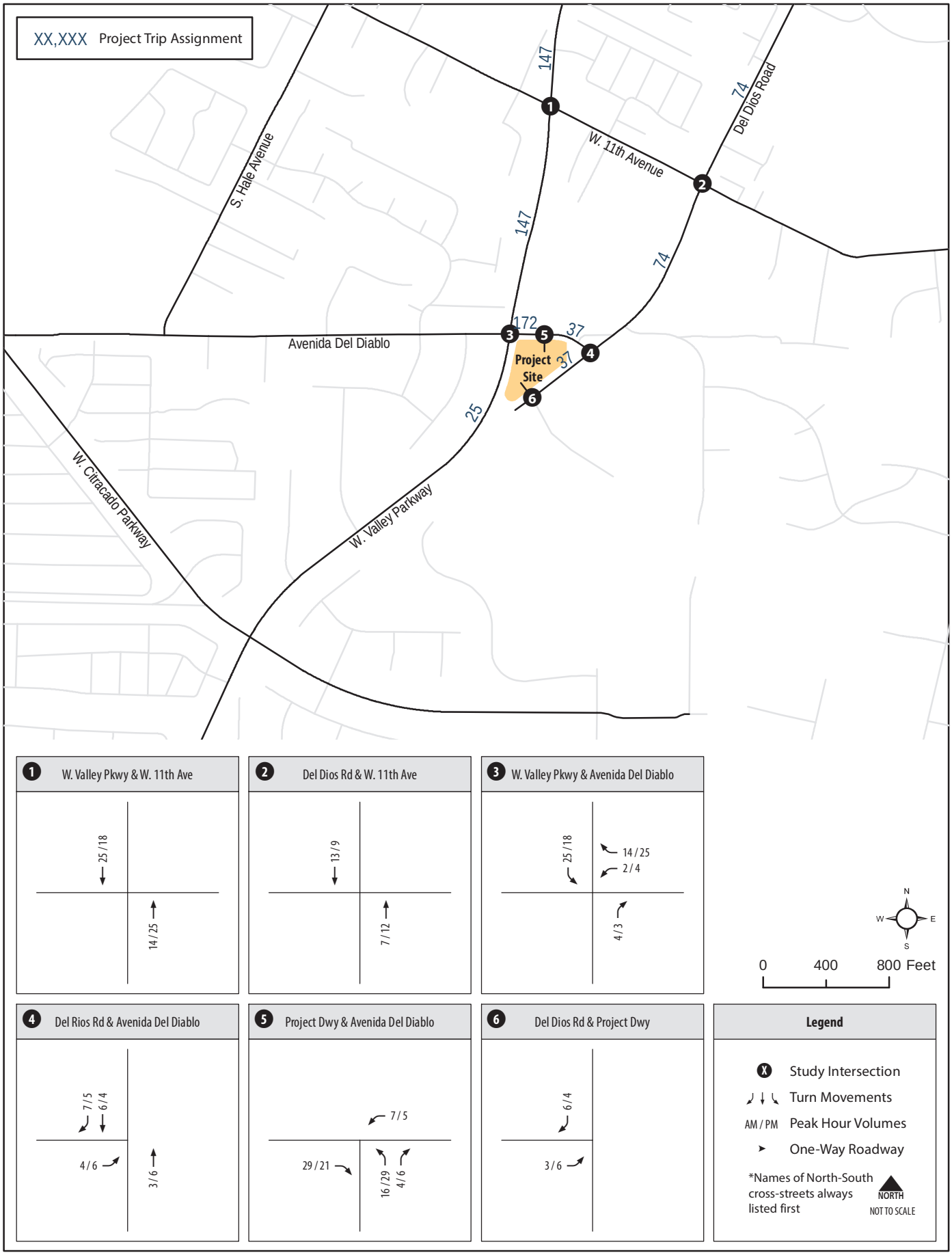
Traffic Impact Analysis
CHEN RYAN

Figure 3-2

Project Trip Distribution



Escondido Youth Care Facility
Traffic Impact Analysis
CHEN RYAN

Figure 3-3

Project Trip Assignment

7. Avenida Del Diablo, between South Hale Avenue and West Valley Parkway
8. Avenida Del Diablo, between West Valley Parkway and Del Dios Road

Six (6) Study Intersections

1. West Valley Parkway / 11th Avenue
2. Del Dios Road / 11th Avenue
3. West Valley Parkway / Avenida Del Diablo
4. Del Dios Road / Avenida Del Diablo
5. Project Driveway @ Avenida Del Diablo (With Project Scenarios Only)
6. Project Driveway @ Del Dios Road (With Project Scenarios Only)

It is important to note that the above defined study area represents a conservative estimation of both daily and peak hour trip generation. As identified in Section 3.2, it was assumed that the 7 am and 3 pm shift changes overlap with the typical commute peak periods (7-9 am and 4-6 pm). In addition, an increase of 20% in project's trip generation was applied on top of the conservative peak hour assumptions.

4.0 Existing Conditions

This section describes key roadway segments and intersections, existing daily roadway and peak hour intersection traffic volume information and LOS analysis results under Existing conditions.

4.1 Existing Roadway Network

Five regionally and locally significant roadways traverse the study area. Each of the key roadways, as well as the associated key intersections within the study area is discussed below.

North-South Facilities

West Valley Parkway – West Valley Parkway provides a major north/south connection across the western portion of the City of Escondido, as well as regional access via an interchange with the Interstate 15. Within the project study area, West Valley Parkway is a four-lane roadway with a raised center median and has posted speed limits of 45 and 50 miles per hour (mph). The roadway has a right-of-way (R-O-W) width of 94 feet and a paved width of 80 feet. No parking is allowed on either side of the road, however, Class II bike lanes are provided on both sides. There are currently two transit routes that utilize West Valley Parkway within the project study area - NCTD Bus Route 308 and NCTD Bus Route 408. West Valley Parkway is classified as a 4-Lane Major Road within the project study area according to the City of Escondido Adopted General Plan, May 2012.

Del Dios Road – Del Dios Road provides a local north/south connection between Avenida Del Diablo and 9th Avenue, within the project study area. Del Dios Road is an undivided two-lane roadway with a posted speed limit of 40 mph. The roadway has a R-O-W width of 56 feet and a paved width of 40 feet. Parking is allowed on either side of the roadway. Bicycle facilities are not provided along this facility. There are currently no transit facilities along Del Dios Road within the project study area. Del Dios Road is classified as a 2-Lane Local Collector within the project study area according to the City of Escondido Adopted General Plan, May 2012.

East-West Facilities

11th Avenue – 11th Avenue is an east/west facility that provides a connection between residential areas surrounding the project site and West Valley Parkway. 11th Avenue is a two-lane undivided roadway with a posted speed limit of 30 mph to the west of West Valley Parkway and 35 mph to the east. The roadway has a R-O-W width of 38 feet and a paved width of 30 feet. Parking is permitted on the north side of the roadway, east of Alhudson Drive, and intermittently permitted on the south side of the roadway. Bicycle facilities are not provided along this facility. There are currently no transit facilities along 11th Avenue within the project study area. 11th Avenue is classified as a 2-Lane Local Collector within the project study area according to the City of Escondido Adopted General Plan, May 2012.

Avenida Del Diablo – Within the project study area, Avenida Del Diablo is another east/west facility that provides connection between residential areas surrounding the project site and West Valley Parkway. Avenida Del Diablo is a two-lane undivided roadway with a posted speed limit of 35 mph. The roadway has a R-O-W width of 54 feet and a paved width of 40 feet. Within the project study area, parking is only permitted on a section of south side of the roadway, east of West Valley Parkway. Bicycle facilities are not provided along this facility. There are currently no transit facilities along Avenida Del Diablo within the project study area. Avenida Del Diablo is classified as a 2-Lane Local Collector within the project study area according to the City of Escondido Adopted General Plan, May 2012.

Study Intersections

The following six (6) key study intersections were analyzed in the study:

1. West Valley Parkway / 11th Avenue (Signalized)
2. Del Dios Road / 11th Avenue (All-Way Stop Control)
3. West Valley Parkway / Avenida Del Diablo (Signalized)
4. Del Dios Road / Avenida Del Diablo (Side-Street Stop Control)
5. Project Driveway @ Avenida Del Diablo / Project Driveway (With Project Scenarios Only)
6. Project Driveway @ Del Dios Road / Project Driveway (With Project Scenarios Only)

Existing roadway and intersection geometrics are displayed in **Figure 4-1**.

4.2 Existing Intersection and Roadway Volumes

Figure 4-2 displays the existing daily roadway and AM/PM peak hour intersection traffic volumes. Roadway and intersection traffic counts were conducted in September 2014, count worksheets are provided in **Appendix A**.

4.3 Existing Level of Service Analysis

LOS analyses under Existing conditions were conducted using the methodologies described in Chapter 2.0. Roadway segment and intersection level of service results are discussed below.

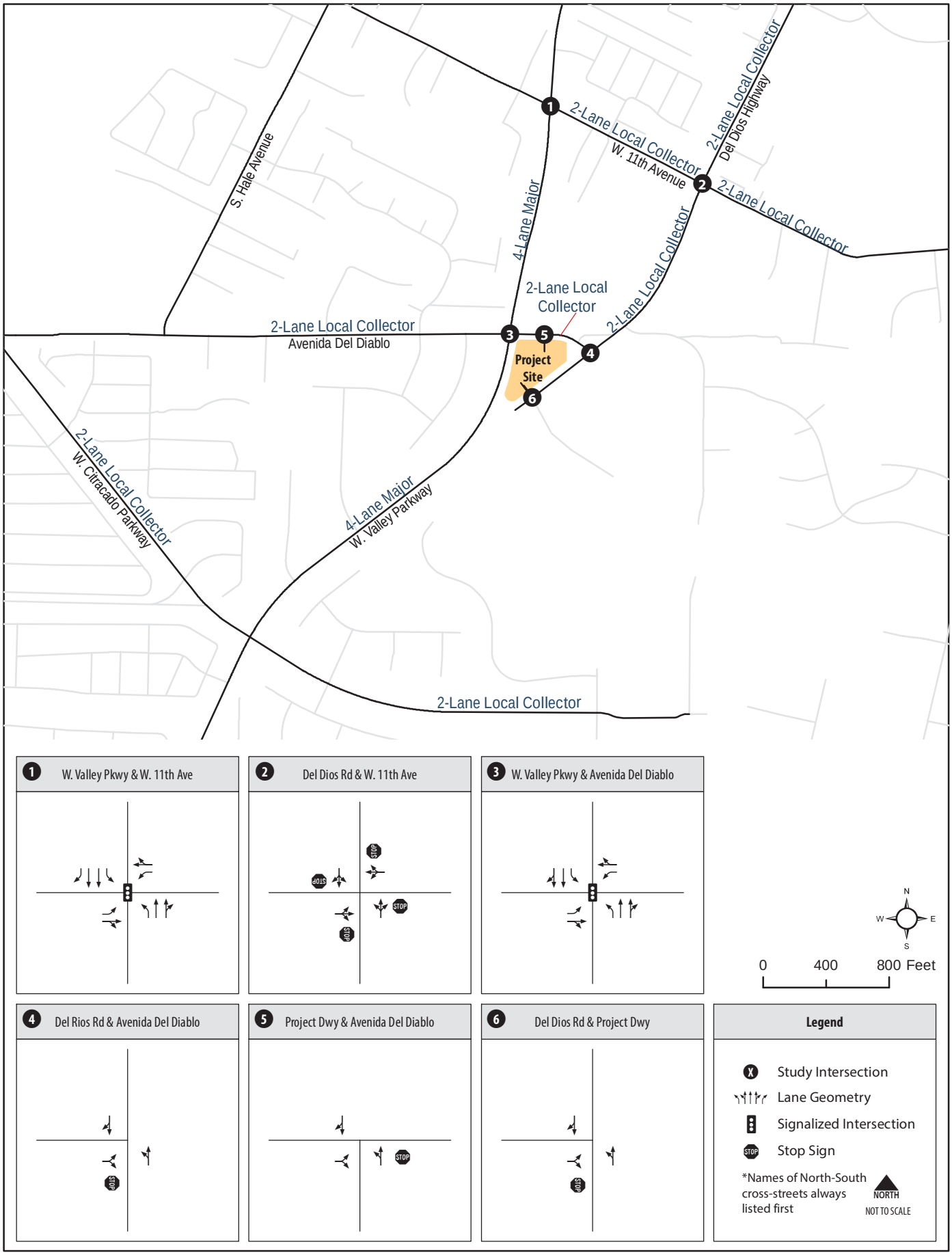


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Figure 4-1

Roadway and Intersection Geometrics - Existing Conditions

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Figure 4-2

Traffic Volumes - Existing Conditions

Roadway Segment Analysis

Table 4.1 displays the LOS analysis results for the key study roadway segments under Existing conditions.

TABLE 4.1
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
EXISTING CONDITIONS

Roadway	Segment	Functional Classification	ADT	Capacity (LOS E)	V/C	LOS
West Valley Parkway	Between 9th Avenue and 11th Avenue	4-L Major Road (NP)	21,643	37,000	0.585	C
	Between 11th Avenue and Avenida Del Diablo	4-L Major Road (NP)	19,869	37,000	0.537	B
	Between Avenida Del Diablo and Citracado Parkway	4-L Major Road (NP)	19,563	37,000	0.529	B
Del Dios Road	Between 11th Avenue and Avenida Del Diablo	2-Lane Local Collector (WP)	2,900*	10,000	0.290	A
11th Avenue	Between South Hale Avenue and West Valley Parkway	2-Lane Local Collector (WP)	1,629	10,000	0.163	A
	Between West Valley Parkway and Del Dios Road	2-Lane Local Collector (WP)	1,708	10,000	0.171	A
Avenida Del Diablo	Between South Hale Avenue and West Valley Parkway	2-Lane Local Collector (NP)	2,352	15,000	0.157	A
	Between West Valley Parkway and Del Dios Road	2-Lane Local Collector (WP)	1,867	10,000	0.187	A

Source: SANDAG, NDS, Chen Ryan Associates; November 2014

Notes:
V/C = Volume to Capacity Ratio.
NP = No Parking.
WP = With Parking.
*ADT obtained from SANDAG (2010, http://gis1.sandag.org/ADT/adt2010.html).

As shown in the Table 4.1, all of the key study area roadway segments are currently operating at acceptable LOS C or better.

Intersection Analysis

Table 4.2 displays the LOS analysis results for key study area roadway intersections under Existing conditions. Peak hour LOS analysis worksheets are provided in **Appendix B**.

TABLE 4.2
PEAK HOUR INTERSECTION LEVEL OF SERVICE RESULTS
EXISTING CONDITIONS

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS
1. West Valley Parkway / 11th Avenue	Signal	20.2	C	16.8	B
2. Del Dios Road / 11th Avenue	AWSC	8.5	A	8.8	A
3. West Valley Parkway / Avenida Del Diablo	Signal	14.1	B	11.1	B
4. Del Dios Road / Avenida Del Diablo	SSSC	9.3	A	9.5	A

Source: NDS, Chen Ryan Associates; November 2014

Notes:
AWSC = All Way Stop Control.
SSSC = Side Street Stop Control.
For SSSC intersections, the delay shown is the worst delay experienced by any of the approaches.

As shown in Table 4.2, all of the key study intersections currently operate at acceptable LOS C or better during both the AM and PM peak hours.

4.4 Existing Plus Project Roadway Network and Traffic Volumes

Roadway and intersection geometrics under Existing Plus Project conditions were assumed to be identical to the Existing conditions geometrics, as previously shown in Figure 4-1. Existing Plus Project traffic volumes were derived by combining the existing traffic volumes (Figure 4-2) and the project trip assignment volumes (Figure 3-3). **Figure 4-3** displays the projected traffic volumes under Existing Plus Project conditions.

4.5 Existing Plus Project Traffic Conditions

Analyses were conducted using the methodologies described in Chapter 2.0. Roadway segment and intersection level of service analysis results are discussed separately below.

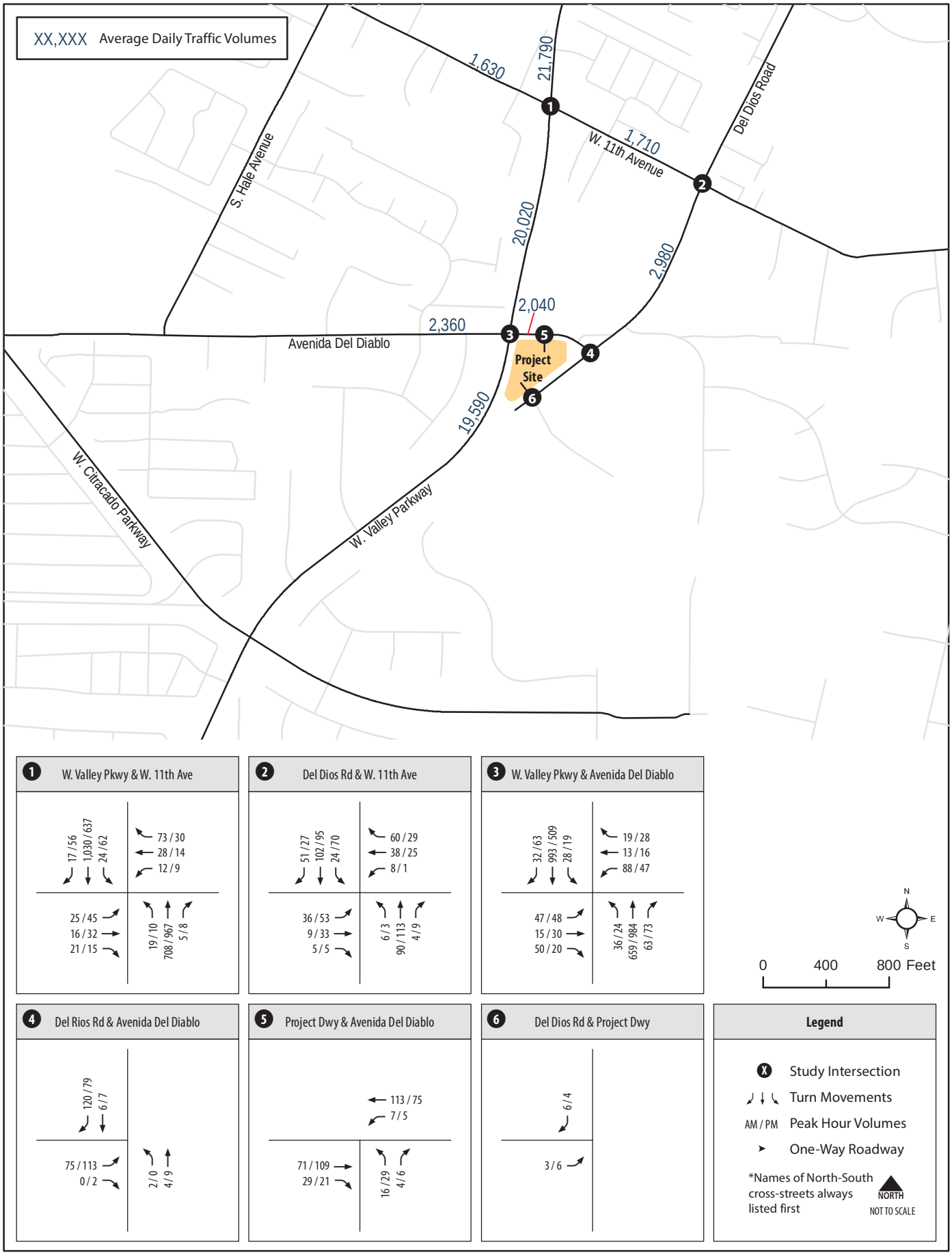

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Figure 4-3

Traffic Volumes - Existing Plus Project Conditions

Roadway Segment Analysis

Table 4.3 displays the LOS analysis results for key roadway segments under Existing Plus Project conditions.

TABLE 4.3
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
EXISTING PLUS PROJECT CONDITIONS

Roadway	Segment	Functional Classification	ADT	Capacity (LOS E)	With Project		Base		Δ in V/C	S?
					V/C	LOS	V/C	LOS		
West Valley Parkway	Between 9th Avenue and 11th Avenue	4-Lane Major Road (NP)	21,790	37,000	0.589	C	0.585	C	0.004	N
	Between 11th Avenue and Avenida Del Diablo	4-Lane Major Road (NP)	20,020	37,000	0.541	C	0.537	B	0.004	N
	Between Avenida Del Diablo and Citracado Parkway	4-Lane Major Road (NP)	19,590	37,000	0.529	B	0.529	B	0.001	N
Del Dios Road	Between 11th Avenue and Avenida Del Diablo	2-Lane Local Collector (WP)	2,980	10,000	0.298	A	0.290	A	0.008	N
11th Avenue	Between South Hale Avenue and West Valley Parkway	2-Lane Local Collector (WP)	1,630	10,000	0.163	A	0.163	A	0.000	N
	Between West Valley Parkway and Del Dios Road	2-Lane Local Collector (WP)	1,710	10,000	0.171	A	0.171	A	0.000	N
Avenida Del Diablo	Between South Hale Avenue and West Valley Parkway	2-Lane Local Collector (NP)	2,360	15,000	0.157	A	0.157	A	0.001	N
	Between West Valley Parkway and Del Dios Road	2-Lane Local Collector (WP)	2,040	10,000	0.204	A	0.187	A	0.017	N

Source: Chen Ryan Associates; November 2014

Notes:
V/C = Volume to Capacity Ratio.
NP = No Parking.
WP = With Parking.
S? = Significant Impact.

As shown in Table 4.3, all key study roadway segments would continue to operate at acceptable LOS C or better under Existing Plus Project conditions.

Intersection Analysis

Table 4.4 displays intersection LOS and average vehicle delay results under Existing Plus Project conditions. Peak hour LOS analysis worksheets are provided in **Appendix C**.

TABLE 4.4
PEAK HOUR INTERSECTION LEVEL OF SERVICE RESULTS
EXISTING PLUS PROJECT CONDITIONS

Intersection	Control	AM Peak Hour		PM Peak Hour		Delay w/o Project (sec) AM/PM	LOS w/o Project AM/PM	Δ in Delay (sec)	S?
		Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS				
1. West Valley Parkway / 11th Avenue	Signal	20.2	C	16.8	B	20.2/16.8	C/B	0.0/0.0	N
2. Del Dios Road / 11th Avenue	AWSC	8.6	A	8.9	A	8.5/8.8	A/A	0.1/0.1	N
3. West Valley Parkway / Avenida Del Diablo	Signal	15.0	B	12.5	B	14.1/11.1	B/B	0.9/1.4	N
4. Del Dios Road / Avenida Del Diablo	SSSC	9.5	A	9.7	A	9.3/9.5	A/A	0.2/0.2	N
5. Project Driveway @ Avenida Del Diablo	SSSC	9.7	A	9.8	A	-	-	-	N
6. Project Driveway @ Del Dios Road	SSSC	8.5	A	8.5	A	-	-	-	N

Source: Chen Ryan Associates; November 2014

Notes:
AWSC = All Way Stop Control.
SSSC = Side Street Stop Control.
For SSSC intersections, the delay shown is the worst delay experienced by any of the approaches.
S? = Significant Impact.

As shown in Table 4.4, all of the study intersections would continue to operate at acceptable LOS C or better during both AM and PM peak hours under Existing Plus Project conditions.

4.6 Impact Significance and Mitigation

Based on the traffic impact criteria outlined in Section 2.4, the addition of project traffic would not have any identified significant traffic impacts to the project study area under Existing Plus Project conditions. Therefore, no mitigation would be required.

5.0 Near-Term Year 2015 Traffic Conditions

This section provides analysis of the Year 2015 (anticipated project opening year) traffic conditions both with and without the Escondido Youth Care Facility project. The scenarios analyzed in this section include:

- Near-Term Year 2015 Base
- Near-Term Year 2015 Base Plus Project

5.1 Cumulative Project Traffic

Description of Other Projects to be Developed by 2015

The City of Escondido has identified a total of ten (10) cumulative projects that could potentially contribute traffic to the project study area, between the time of existing conditions (September 2014) and the project's opening day (Year 2015). These projects have been included in the Near-Term Base scenario to provide an accurate background for comparing traffic impacts associated with the proposed project. **Figure 5-1** displays the locations of these projects. These projects are as follows:

1. *County HHSA Offices (ADM 14-0029)* – The County HHSA Offices project proposes to convert 95,500 square feet of vacant floor, located in a retail center area, into administrative offices. The project is proposed to be located at 649 W. Mission Avenue in the City of Escondido. This project is anticipated to generate 1,910 daily trips under Near-Term Year 2015 Base conditions.

2. *ERTC Specific Plan (2005-81-SPA*) – The ERTC Specific Plan project proposes the buildout of 38.5 acres of undeveloped land into high-end campus-style industrial park. This project is to be located generally south of Vineyard Avenue and north of Harmony Grove Road, between Enterprise Street and Allenwood Lane in the City of Escondido. This project is anticipated to generate 7,700 daily trips under Near-Term Year 2015 Base conditions.

3. *La Terraza Project (PHG 14-0022)* – The proposed La Terraza project has not yet been approved by the City of Escondido. This project is located at 300 La Terraza Blvd and proposes to construct a 36,614 SF office building on a 1.75-acre lot. This project is anticipated to generate 733 daily trips under Near-Term Year 2015 Base conditions.

4. *Citracado Parkway Business Park (SUB 09-0002)* – The Citracado Parkway Business Park proposes the annexation of 17.5 acres from the County of San Diego to develop a business park with a 10-lot Industrial Subdivision. The proposed location of the project is at 2207 Harmony Grove Road in the City of Escondido. This project is anticipated to generate 3,500 daily trips under Near-Term Year 2015 Base conditions.

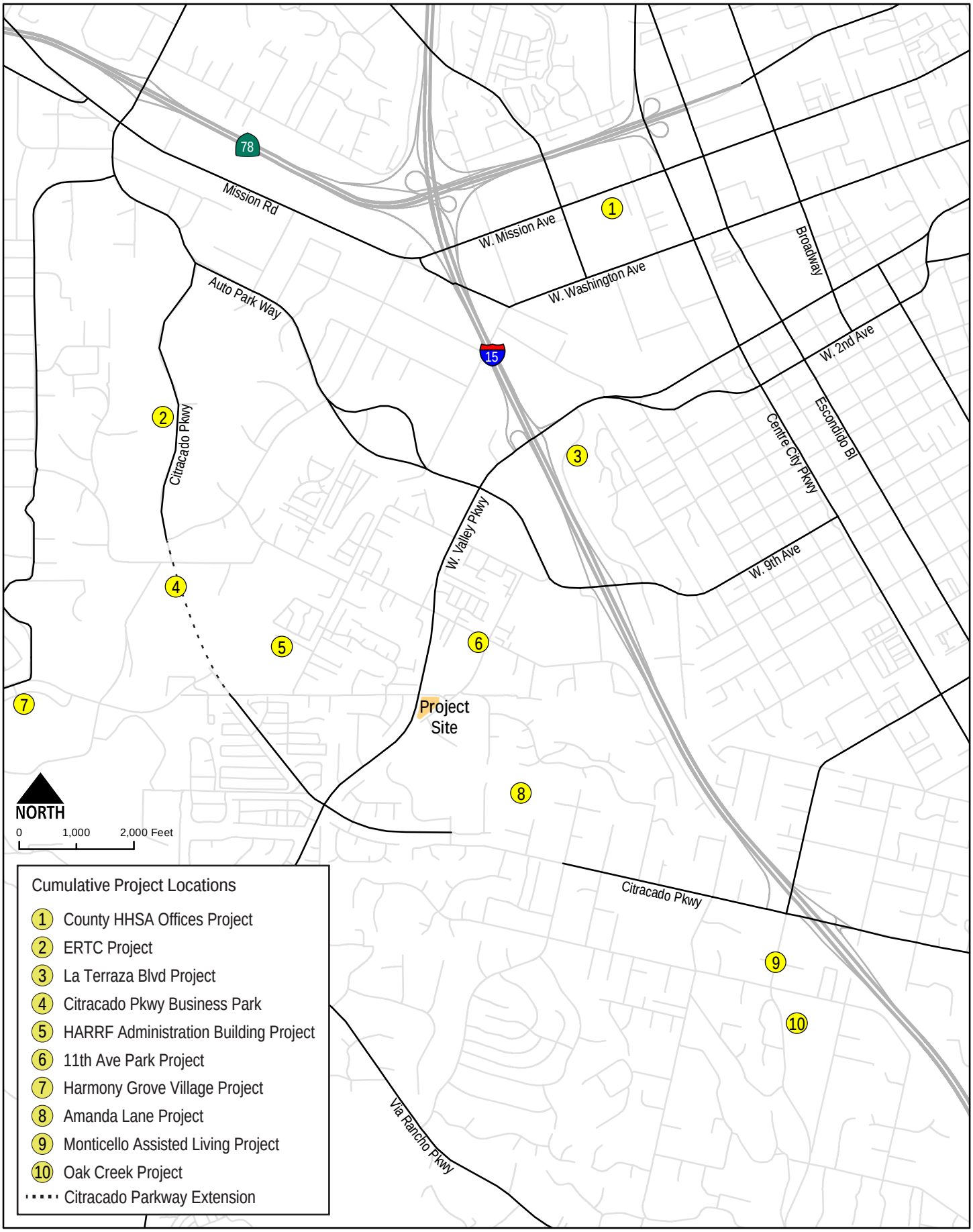

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Figure 5-1

Cumulative Project Locations

5. *HARRF Administration Building (PHG 11-0038)* – The HARRF Administration Building project proposes to build a 19,224 SF administrative office building at the City of Escondido's *Hale Avenue Resource Recovery Facility (HARRF)*. The HARRF Administration Building project is currently under construction and it is located at 1521 S. Hale Avenue. This project is anticipated to generate 385 daily trips under Near-Term Year 2015 Base conditions.

6. *11th Avenue Park (PHG 09-0027)* – The 11th Avenue project proposes the development of a new park site on the southwestern corner of 11th Avenue and Del Dios Road (1517 West 11th Avenue) in the City of Escondido. The project includes a zone change on the proposed park site from RE-20 (Residential Estates – 20,000 square feet minimum lot size) to OS-P (Open Space –Park) on approximately 3.2 acres of land. This project is anticipated to generate 831 daily trips under Near-Term Year 2015 Base conditions.

7. *Harmony Grove Village (PDS2011-3800-07-001)* – The Harmony Grove Village project is to be located in the vicinity of the intersection of Harmony Grove Road and Country Club Drive, west of the City of Escondido in the unincorporated County of San Diego and is currently under construction. The project consists of a new mixed use 470.8 acre planned community including commercial, residential, live/work, recreational and public land uses. This project is anticipated to generate 9,290 daily trips under Near-Term Year 2015 Base conditions.

8. *Amanda Lane (SUB 13-0007)* – The proposed Amanda Lane project has not yet been approved by the City of Escondido, and is currently under review. This project is located at 2115 Amanda Lane and proposes the annexation of 11.2 acres, from the County of San Diego to the City of Escondido, in order to develop a 21-lot residential subdivision. This project is anticipated to generate 210 daily trips under Near-Term Year 2015 Base conditions.

9. *Monticello Assisted Living Facility (PHG 11-0033)* – The Monticello Assisted Living Facility consists of a Conditional Use Permit (CUP) to construct a two-story, approximately 75,913 square feet of residential care facility on approximately 4.31 acres of land zoned for single-family residential development. The project is to be located at 2323 Felicita Road in the City of Escondido. This project is anticipated to generate 313 daily trips under Near-Term Year 2015 Base conditions.

10. *Oak Creek Residential Project (SUB 13-0002)* – The proposed Oak Creek Residential project is a 65-lot single-family residential development of a 41.4-acre property in conjunction with a reorganization and annexation of the property from the County of San Diego to the City of Escondido. This project is located at the SE corner of Felicita Avenue and Hamilton Lane intersection and it is anticipated to generate 780 daily trips under Near-Term Year 2015 Base conditions.

Cumulative Project Trip Generation

Table 5.1 displays trip generation for the cumulative projects previously described. All but one of the cumulative project trip generation estimates were derived utilizing the trip generation rates from the SANDAG's *Guide to Vehicular Traffic Generation Rates for the San Diego Region* (SANDAG, April 2002). Trip generation for the 11th Avenue Park project was obtained from the "Eleventh (11th) Avenue Park Master Plan and Zone Change – Negative Declaration", located on the City's planning website (www.escondido.org/planning.aspx).

TABLE 5.1
CUMULATIVE PROJECTS TRIP GENERATION

Land Use	Units	Trip Rate	Daily	AM Peak Hour					PM Peak Hour				
				%	Trips	Split	In	Out	%	Trips	Split	In	Out
1. County HHSA Offices													
Standard Commercial Office	95,500 SF	20/KSF	1,910	14%	268	(9:1)	241	27	13%	249	(2:8)	50	199
Project Total			1,910		268		241	27		249		50	199
2. ERTC Specific Plan													
Industrial/Business Park	38.5 Acre	200/Acre	7,700	12%	924	(8:2)	739	185	12%	924	(2:8)	185	739
Project Total			7,700	-	924	-	739	185	-	924	-	185	739
3. La Terraza Project													
Standard Commercial Office	36,614 SF	20/KSF	733	14%	103	(9:1)	93	10	13%	96	(2:8)	19	77
Project Total			733		103		93	10		96		19	77
4. Citracado Parkway Business Park													
Industrial Business Park	17.5 Acre	200/Acre	3,500	12%	420	(8:2)	336	84	12%	420	(2:8)	84	336
Project Total			3,500		420		336	84		420		84	336
5. HARRF Project													
Standard Commercial Office	19,224 SF	20/KSF	385	14%	54	(9:1)	49	5	13%	51	(2:8)	10	41
Project Total			385		54		49	5		51		10	41
6. 11th Avenue Park													
Open Space Park w/Community Center	3.2 Acre	-	831	5%	41	(6:4)	23	18	9%	78	(6:4)	46	32
Project Total			831		41		23	18		78		46	32
7. Harmony Grove Village (County of San Diego)													
Single-Family Detached	611 DU	10/DU	6,110	8%	489	(3:7)	147	342	10%	611	(7:3)	428	183
Estate Residential	99 DU	12/DU	1,188	8%	95	(3:7)	29	67	10%	119	(7:3)	83	36
Apartments	32 DU	6/DU	192	8%	15	(2:8)	3	12	9%	17	(8:2)	12	5
Office	16.5 KSF	20/KSF	330	14%	46	(9:1)	42	5	13%	43	(2:8)	9	34
Specialty Retail	25 KSF	40/KSF	1,000	3%	30	(6:4)	18	12	9%	90	(5:5)	45	45
Institutional	mixed	Acres	470	12%	55	(8:2)	43	11	8%	35	(2:8)	6	29

TABLE 5.1
CUMULATIVE PROJECTS TRIP GENERATION

Land Use	Units	Trip Rate	Daily	AM Peak Hour					PM Peak Hour				
				%	Trips	Split	In	Out	%	Trips	Split	In	Out
Project Total			9,290	-	730	-	282	449	-	915	-	583	332
8. Amanda Lane Project													
Single Family Detached	21 DU	10/DU	210	8%	17	(3:7)	5	12	10%	21	(7:3)	15	6
Project Total			210		17		5	12		21		15	6
9. Monticello Assisted Living Project													
Congregated Assisted Living	125 Beds	2.5/Bed	313	4%	13	(6:4)	8	5	8%	26	(5:5)	13	13
Project Total			313		13		8	5		26		13	13
10. Oak Creek Project													
Single Family Estate Style	65 DU	12/DU	780	8%	63	(3:7)	19	44	10%	78	(7:3)	55	23
Project Total			780		63		19	44		78		55	23
Cumulative Total			25,652		2,633		1,795	839		2,858		1,060	1,798

Source: City of Escondido, SANDAG Trip Generation Manual, Chen Ryan Associates; November 2014

Cumulative Trip Distribution and Assignment

Separate distributions were developed for each of the near-term cumulative projects in order to accurately reflect the associated travel patterns. The distribution patterns were based on the locations of access points to the regional roadway network, predicted travel patterns, and the surrounding land uses, as well as past available traffic studies. **Figure 5-2** displays the total trip assignment of all cumulative projects added to the study area roadways and intersections. Trip distribution and assignment data for each cumulative project is provided in **Appendix D.**

5.2 Near-Term Year 2015 Base Roadway Network and Traffic Volumes

Roadway and intersection geometrics under Near-Term Year 2015 Base conditions were assumed to be identical to the Existing conditions, with the exception of Citracado Parkway, which is expected to be extended from West Valley Parkway to Andreasen Drive as part of the Citracado Parkway Extension project.

- The Citracado Parkway Extension Project Final Environmental Impact Report (FEIR) identifies the City of Escondido's proposal to improve and extend Citracado Parkway from West Valley Parkway to Andreasen Drive. The proposed Citracado Parkway roadway extension includes adding a travel lane in each direction through median width reduction (35 feet to 14 feet), resulting in a four-lane roadway. The proposed improvements also include a Class 2 striped bicycle lane to accommodate bicyclists on the roadway shoulder. Sidewalks would be provided to accommodate pedestrians.

Figure 5-3 displays the Near-Term Year 2015 roadway and intersection geometrics.

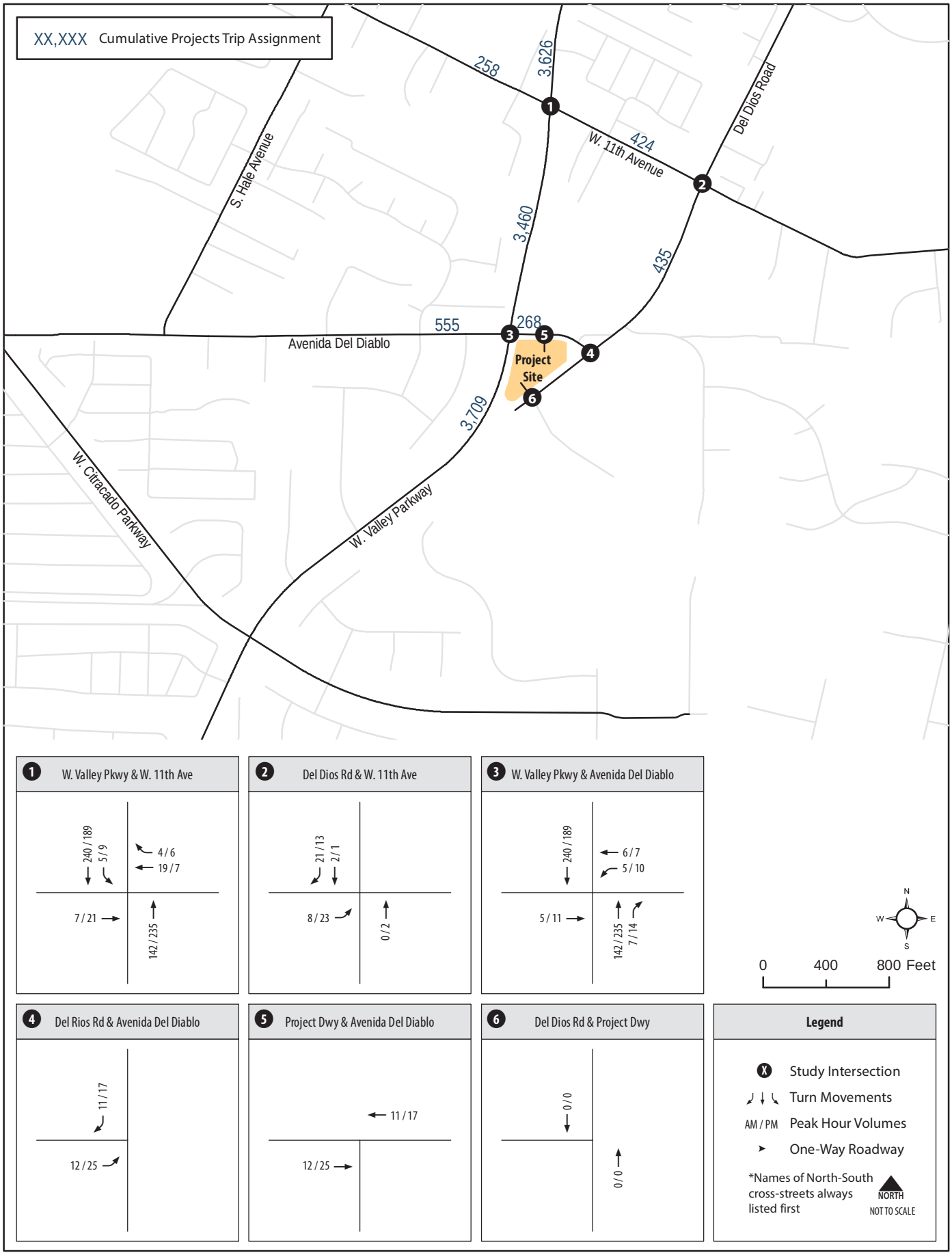

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Figure 5-2

Cumulative Projects Trip Assignment

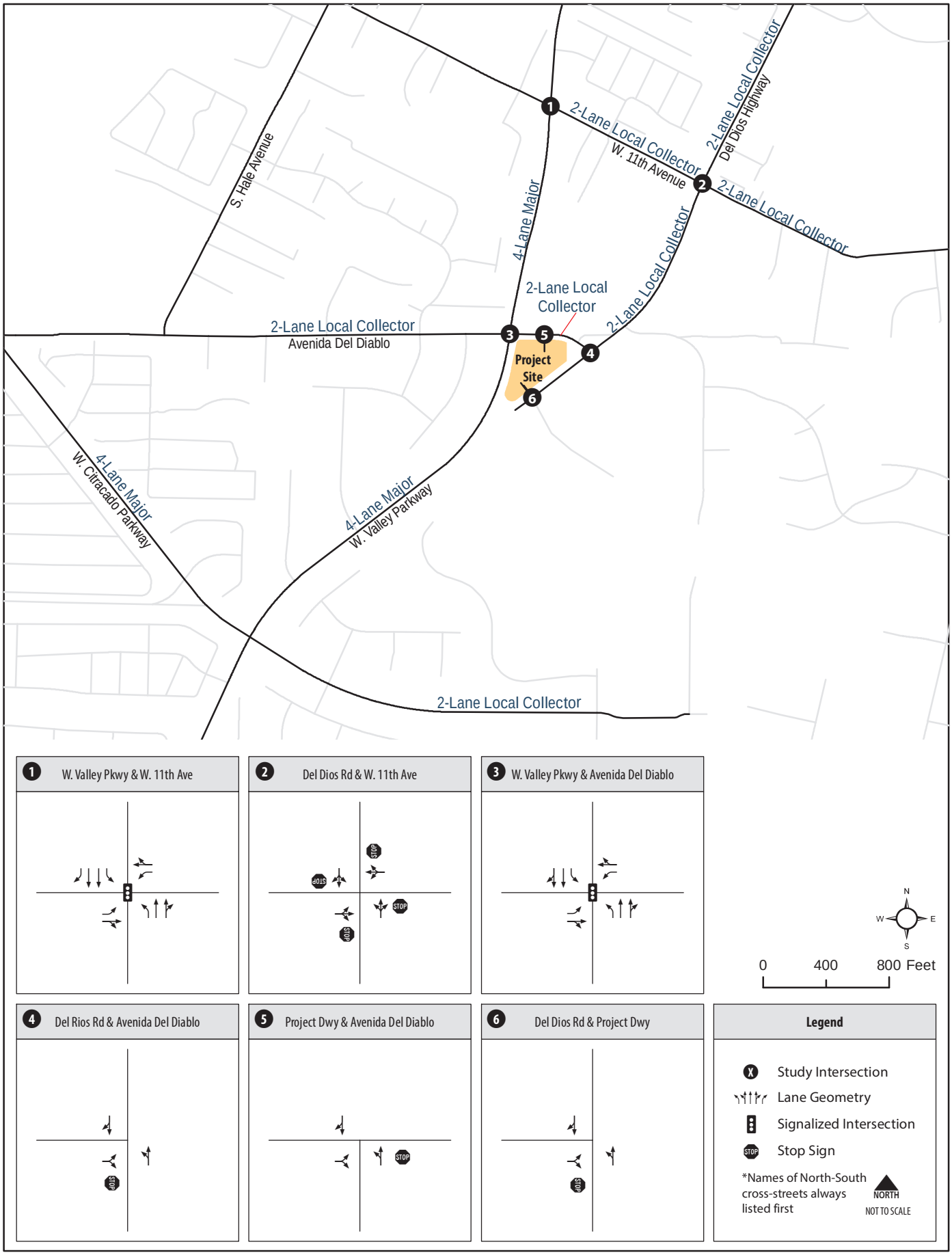

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Figure 5-3

Roadway and Intersection Geometrics - Near-Term Year 2015 Conditions

Figure 5-4 displays average daily roadway and peak hour intersection volumes for the study roadway segments and intersections under the Near-Term Year 2015 Base conditions. These volumes were developed by adding the identified specific cumulative project traffic volumes (displayed in Figure 5-2) to existing traffic volumes (displayed in Figure 4-2).

5.3 Near-Term Year 2015 Base Traffic Conditions

LOS analyses for the Near-Term Year 2015 Base conditions were conducted using the methodologies described in Chapter 2.0. Roadway segment and intersection LOS analysis results for Year 2015 Base conditions are discussed separately below.

Roadway Segment Analysis

Table 5.2 displays the LOS analysis results for key roadway segments under Near-Term Year 2015 Base conditions.

TABLE 5.2
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
NEAR-TERM YEAR 2015 BASE CONDITIONS

Roadway	Segment	Functional Classification	ADT	Capacity (LOS E)	V/C	LOS
West Valley Parkway	Between 9th Avenue and 11th Avenue	4-L Major Road (NP)	25,270	37,000	0.683	C
	Between 11th Avenue and Avenida Del Diablo	4-L Major Road (NP)	23,330	37,000	0.631	C
	Between Avenida Del Diablo and Citracado Parkway	4-L Major Road (NP)	23,280	37,000	0.629	C
Del Dios Road	Between 11th Avenue and Avenida Del Diablo	2-Lane Local Collector (WP)	3,340	10,000	0.334	A
11th Avenue	Between South Hale Avenue and West Valley Parkway	2-Lane Local Collector (WP)	1,890	10,000	0.189	A
	Between West Valley Parkway and Del Dios Road	2-Lane Local Collector (WP)	2,140	10,000	0.214	A
Avenida Del Diablo	Between South Hale Avenue and West Valley Parkway	2-Lane Local Collector (NP)	2,910	15,000	0.194	A
	Between West Valley Parkway and Del Dios Road	2-Lane Local Collector (WP)	2,140	10,000	0.214	A

Source: Chen Ryan Associates; November 2014

Notes:
V/C = Volume to Capacity Ratio.
NP = No Parking.
WP = With Parking.

As shown in Table 5.2, all of the key study roadway segments are projected to operate at acceptable LOS C or better under Near Term Year 2015 Base conditions.

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Figure 5-4

Traffic Volumes -
Near-Term Year 2015 Base Conditions

Intersection Analysis

Table 5.3 displays intersection LOS and average vehicle delay results under Near-Term Year 2015 Base conditions. Peak hour LOS analysis worksheets are provided in **Appendix E**.

TABLE 5.3
PEAK HOUR INTERSECTION LEVEL OF SERVICE RESULTS
NEAR-TERM YEAR 2015 BASE CONDITIONS

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS
1. West Valley Parkway / 11th Avenue	Signal	24.6	C	18.4	B
2. Del Dios Road / 11th Avenue	AWSC	8.4	A	9.1	A
3. West Valley Parkway / Avenida Del Diablo	Signal	16.7	B	13.1	B
4. Del Dios Road / Avenida Del Diablo	SSSC	9.5	A	9.5	A

Source: Chen Ryan Associates; November 2014

Notes:
AWSC = All Way Stop Control.
SSSC = Side Street Stop Control.
For SSSC intersections, the delay shown is the worst delay experienced by any of the approaches.

As shown in Table 5.3, all of the study intersections are projected to operate at acceptable LOS C or better during both AM and PM peak hours under Near-Term Year 2015 Base conditions.

5.4 Near-Term Year 2015 Base Plus Project Roadway Network and Traffic Volumes

Roadway and intersection lane configurations under Near-Term Year 2015 Base Plus Project conditions were assumed to be identical to the Near-Term Year 2015 Base conditions. Near-Term Year 2015 Base Plus Project conditions traffic volumes were derived by combining the Near-Term Year 2015 Base traffic volumes (Figure 5-4) and the project trip assignment volumes (Figure 3-3). **Figure 5-5** displays the projected traffic volumes under Near-Term Year 2015 Plus Project conditions.

5.5 Near-Term Year 2015 Base Plus Project Traffic Conditions

LOS analyses for the Near-Term Year 2015 Base Plus Project conditions were conducted using the methodologies described in Chapter 2.0. Roadway segment and intersection LOS analysis results for Year 2015 Base Plus Project conditions are discussed separately below.

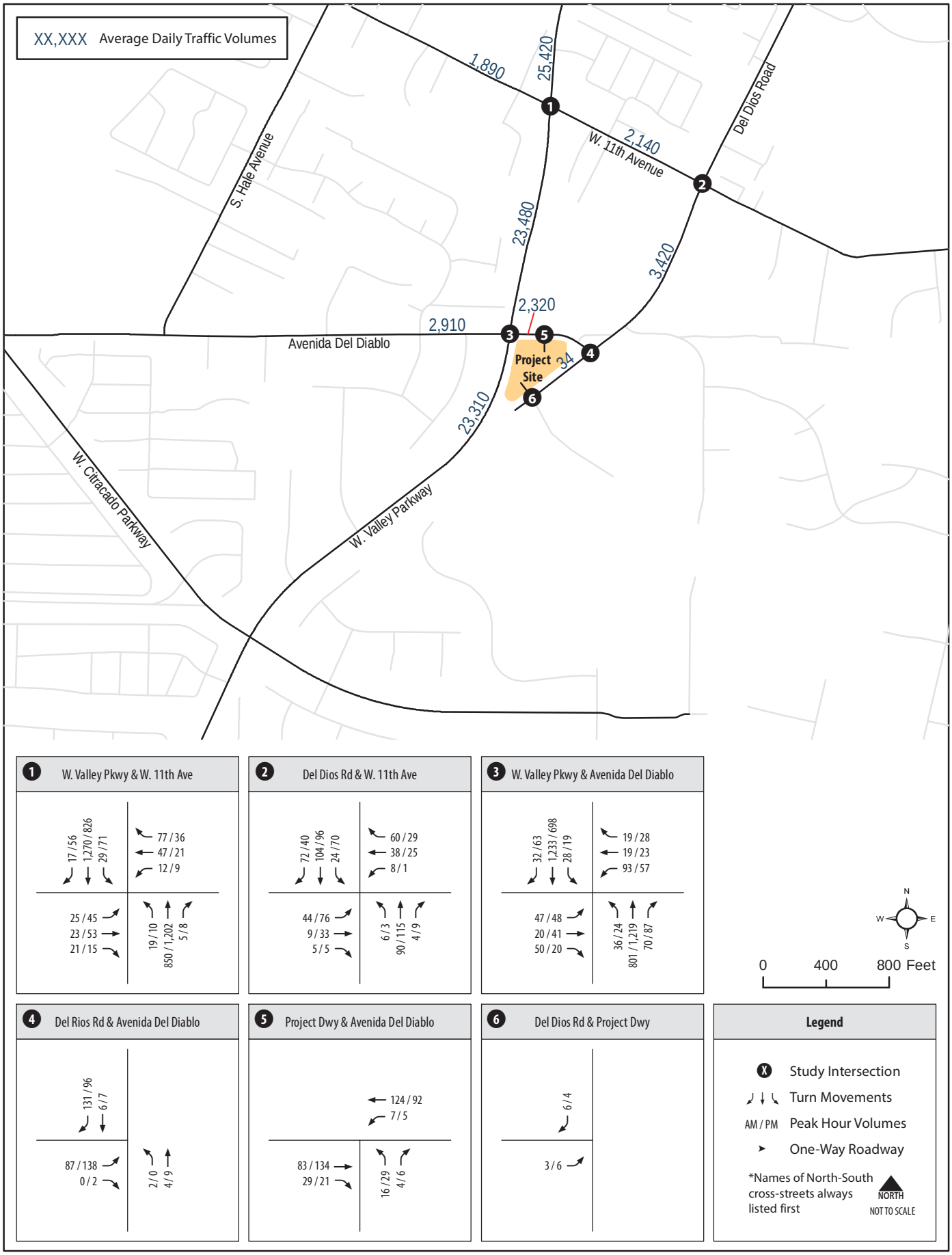

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Figure 5-5

Traffic Volumes -
Near-Term Year 2015 Base Plus Project Conditions

Roadway Segment Analysis

Table 5.4 displays the LOS analysis results for key roadway segments under Near Term Year 2015 Base Plus Project conditions.

TABLE 5.4
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
NEAR-TERM YEAR 2015 BASE PLUS PROJECT CONDITIONS

Roadway	Segment	Functional Classification	ADT	Capacity (LOS E)	With Project		Base		Δ in V/C	S?
					V/C	LOS	V/C	LOS		
West Valley Parkway	Between 9th Avenue and 11th Avenue	4-Lane Major Road (NP)	25,880	37,000	0.699	C	0.695	C	0.004	N
	Between 11th Avenue and Avenida Del Diablo	4-Lane Major Road (NP)	23,940	37,000	0.647	C	0.643	C	0.004	N
	Between Avenida Del Diablo and Citracado Parkway	4-Lane Major Road (NP)	23,760	37,000	0.642	C	0.641	C	0.001	N
Del Dios Road	Between 11th Avenue and Avenida Del Diablo	2-Lane Local Collector (WP)	3,420	10,000	0.342	B	0.334	A	0.008	N
11th Avenue	Between South Hale Avenue and West Valley Parkway	2-Lane Local Collector (WP)	1,890	10,000	0.189	A	0.189	A	0.000	N
	Between West Valley Parkway and Del Dios Road	2-Lane Local Collector (WP)	2,140	10,000	0.214	A	0.214	A	0.000	N
Avenida Del Diablo	Between South Hale Avenue and West Valley Parkway	2-Lane Local Collector (NP)	2,910	15,000	0.194	A	0.194	A	0.000	N
	Between West Valley Parkway and Del Dios Road	2-Lane Local Collector (WP)	2,320	10,000	0.232	A	0.214	A	0.018	N

Source: Chen Ryan Associates; November 2014

Notes:
V/C = Volume to Capacity Ratio.
NP = No Parking.
WP = With Parking.
S? = Significant Impact.

As shown in Table 5.4, all of the study area roadway segments would continue to operate at acceptable LOS C or better under Near-Term Year 2015 Base Plus Project conditions.

Intersection Analysis

Table 5.5 displays intersection LOS and average vehicle delay results under Near-Term Year 2015 Base conditions. Peak hour LOS analysis worksheets are provided in **Appendix F**.

TABLE 5.5
PEAK HOUR INTERSECTION LEVEL OF SERVICE RESULTS
NEAR-TERM YEAR 2015 BASE PLUS PROJECT CONDITIONS

Intersection	Control	AM Peak Hour		PM Peak Hour		Delay w/o Project (sec) AM/PM	LOS w/o Project AM/PM	Δ in Delay (sec)	S?
		Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS				
1. West Valley Parkway / 11th Avenue	Signal	24.6	C	18.5	B	24.6/18.4	C/B	0.0/0.1	N
2. Del Dios Road / 11th Avenue	AWSC	8.5	A	9.2	A	8.4/9.1	A/A	0.1/0.1	N
3. West Valley Parkway / Avenida Del Diablo	Signal	17.8	B	14.8	B	16.7/13.1	B/B	1.1/1.7	N
4. Del Dios Road / Avenida Del Diablo	SSSC	9.6	A	9.6	A	9.5/9.5	A/A	0.1/0.1	N
5. Project Driveway @ Avenida Del Diablo	SSSC	9.5	A	9.6	A	-	-	-	N
6. Project Driveway @ Del Dios Road	SSSC	8.5	A	8.5	A	-	-	-	N

Source: Chen Ryan Associates; November 2014

Notes:
AWSC = All Way Stop Control.
SSSC = Side Street Stop Control.
For SSSC intersections, the delay shown is the worst delay experienced by any of the approaches.
S? = Significant Impact.

As shown in Table 5.5, all of the study intersections would continue to operate at acceptable LOS C or better during both AM and PM peak hours under Near Term 2015 Base Plus Project conditions.

5.6 Impact Significance and Mitigation

Based on the traffic impact criteria outlined in Section 2.4, the addition of project traffic would not have any identified significant traffic impacts to the project study area under Near-Term Year 2015 Base Plus Project conditions. Therefore, no mitigation measures would be required.

6.0 Horizon Year 2035 Cumulative Traffic Conditions

This section provides a description of Horizon Year 2035 Cumulative Traffic conditions both with and without the proposed Escondido Youth Care Facility project. Scenarios analyzed in this section included:

- Horizon Year 2035 Base Conditions
- Horizon Year 2035 Base Plus Project Conditions

6.1 Horizon Year 2035 Base Roadway Network and Traffic Volumes

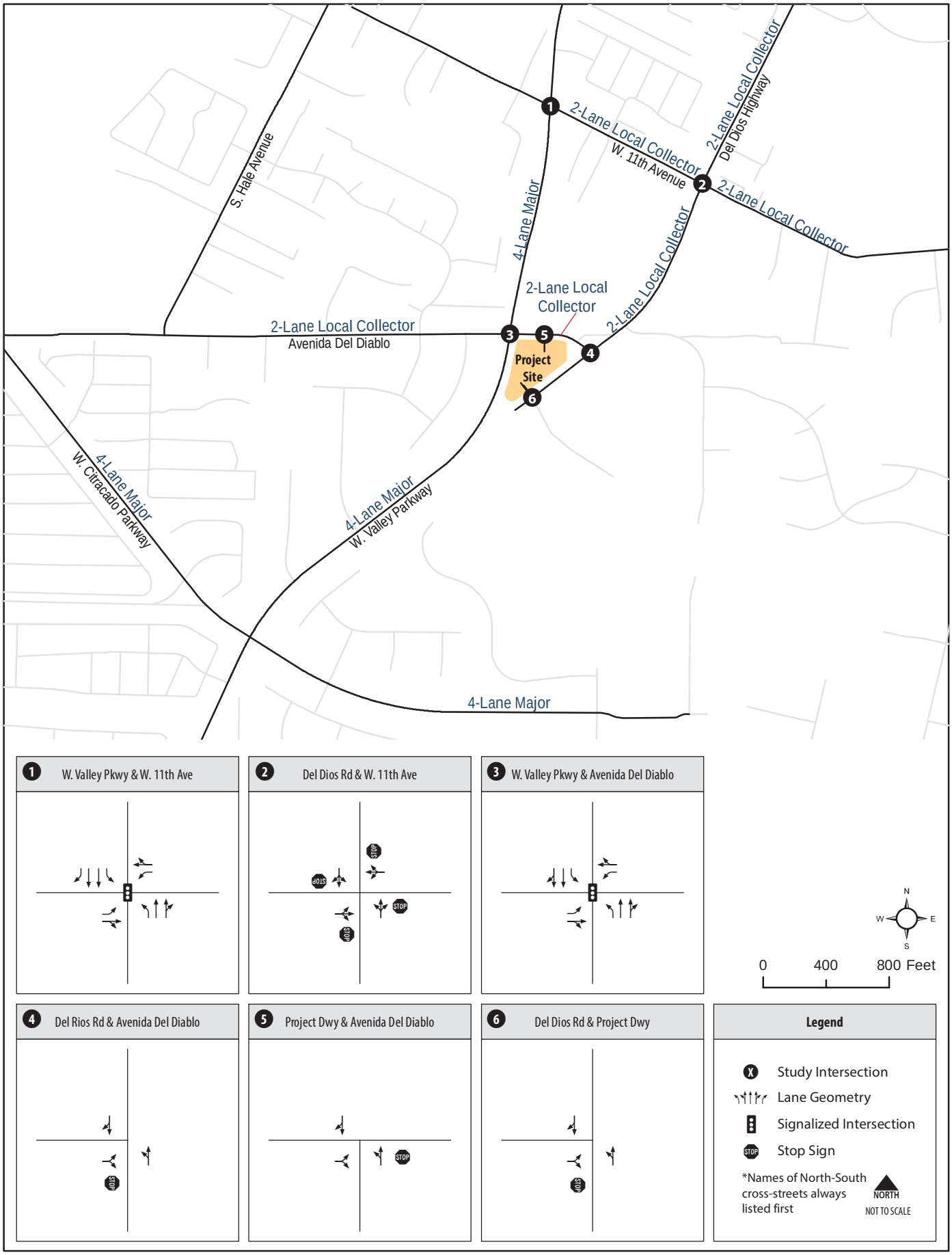
Roadway and intersection geometrics under Horizon Year 2035 conditions were assumed to be identical to the buildout of the City's Circulation Element, as shown in **Figure 6-1. Figure 6-2** displays average daily roadway and peak hour intersection volumes for the study roadway segments and intersections under Horizon Year 2035 Base Conditions. The City of Escondido's General Plan Update Circulation Element was modeled with a 2030 Horizon Year traffic forecast, however, the horizon year for this traffic impact analysis is year 2035. Based on discussion with the GPU consultant (LLG), a 0.5% per year growth factor was applied to derive the 2035 traffic forecast volumes. It is important to note that some of the Near-Term Year 2015 traffic volumes within the study area were higher than the projected Horizon Year forecast in which case a 0.5% growth factor was applied between year 2015 (Near-Term) and 2035 (Horizon Year), for a total of 10% increase. Horizon Year 2035 peak hour intersection turning movements at these locations were developed by comparing existing and forecasted Year 2035 ADTs as well as peak hour approach and departure volumes, then applying the respective growth factors. Manual adjustments were also made to ensure that traffic volumes among adjacent intersections are reasonably balanced.

6.2 Horizon Year 2035 Base Traffic Conditions

LOS analyses for the Horizon Year 2035 Base conditions were conducted using the methodologies described in Chapter 2.0. Roadway segment and intersection level of service analysis results for Horizon Year 2035 Base conditions are discussed separately below.

Roadway Segment Analysis

Table 6.1 displays the LOS analysis results for key roadway segments under Horizon Year 2035 Base conditions.



Escondido Youth Care Facility
Traffic Impact Analysis
CHEN RYAN

Figure 6-1

Roadway and Intersection Geometrics - Horizon Year 2035 Conditions

Escondido Youth Care Facility
Traffic Impact Analysis
CHEN RYAN

Figure 6-2

Traffic Volumes -
Horizon Year 2035 Base Conditions

TABLE 6.1
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
HORIZON YEAR 2035 BASE CONDITIONS

Roadway	Segment	Classification	ADT	Capacity (LOS E)	V/C	LOS
West Valley Parkway	Between 9th Avenue and 11th Avenue	4-L Major Road (NP)	27,800	37,000	0.751	D
	Between 11th Avenue and Avenida Del Diablo	4-L Major Road (NP)	25,660	37,000	0.694	C
	Between Avenida Del Diablo and Citracado Parkway	4-L Major Road (NP)	25,610	37,000	0.692	C
Del Dios Road	Between 11th Avenue and Avenida Del Diablo	2-Lane Local Collector (WP)	8,920	10,000	0.892	E
11th Avenue	Between South Hale Avenue and West Valley Parkway	2-Lane Local Collector (WP)	1,790	10,000	0.179	A
	Between West Valley Parkway and Del Dios Road	2-Lane Local Collector (WP)	2,350	10,000	0.235	A
Avenida Del Diablo	Between South Hale Avenue and West Valley Parkway	2-Lane Local Collector (NP)	3,200	15,000	0.213	A
	Between West Valley Parkway and Del Dios Road	2-Lane Local Collector (WP)	7,690	10,000	0.769	D

Source: Chen Ryan Associates; November 2014

Notes:
V/C = Volume to Capacity Ratio.
NP = No Parking.
WP = With Parking.
Bold letter indicates LOS D, E or F.

As shown in Table 6.1, all of the study area road segments are projected to operate at acceptable LOS C or better under Horizon 2035 Base conditions, with the following exceptions:

- West Valley Parkway, between 9th Avenue and 11th Avenue - LOS D;
- Del Dios Road, between 11th Avenue and Avenida Del Diablo - LOS E; and
- Avenida Del Diablo, between West Valley Parkway and Del Dios Road – LOS D.

Intersection Analysis

Table 6.2 displays intersection Level of Service and average vehicle delay results under Horizon Year 2035 Base conditions. Peak hour LOS analysis worksheets are provided in **Appendix G**.

TABLE 6.2
PEAK HOUR INTERSECTION LEVEL OF SERVICE RESULTS
HORIZON YEAR 2035 BASE CONDITIONS

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS
1. West Valley Parkway / 11th Avenue	Signal	29.8	C	29.0	C
2. Del Dios Road / 11th Avenue	AWSC	8.8	A	9.3	A
3. West Valley Parkway / Avenida Del Diablo	Signal	21.6	C	16.7	B
4. Del Dios Road / Avenida Del Diablo	SSSC	9.5	A	9.8	A

Source: Chen Ryan Associates; November 2014

Notes:
AWSC = All Way Stop Control.
SSSC = Side Street Stop Control.
For SSSC intersections, the delay shown is the worst delay experienced by any of the approaches.

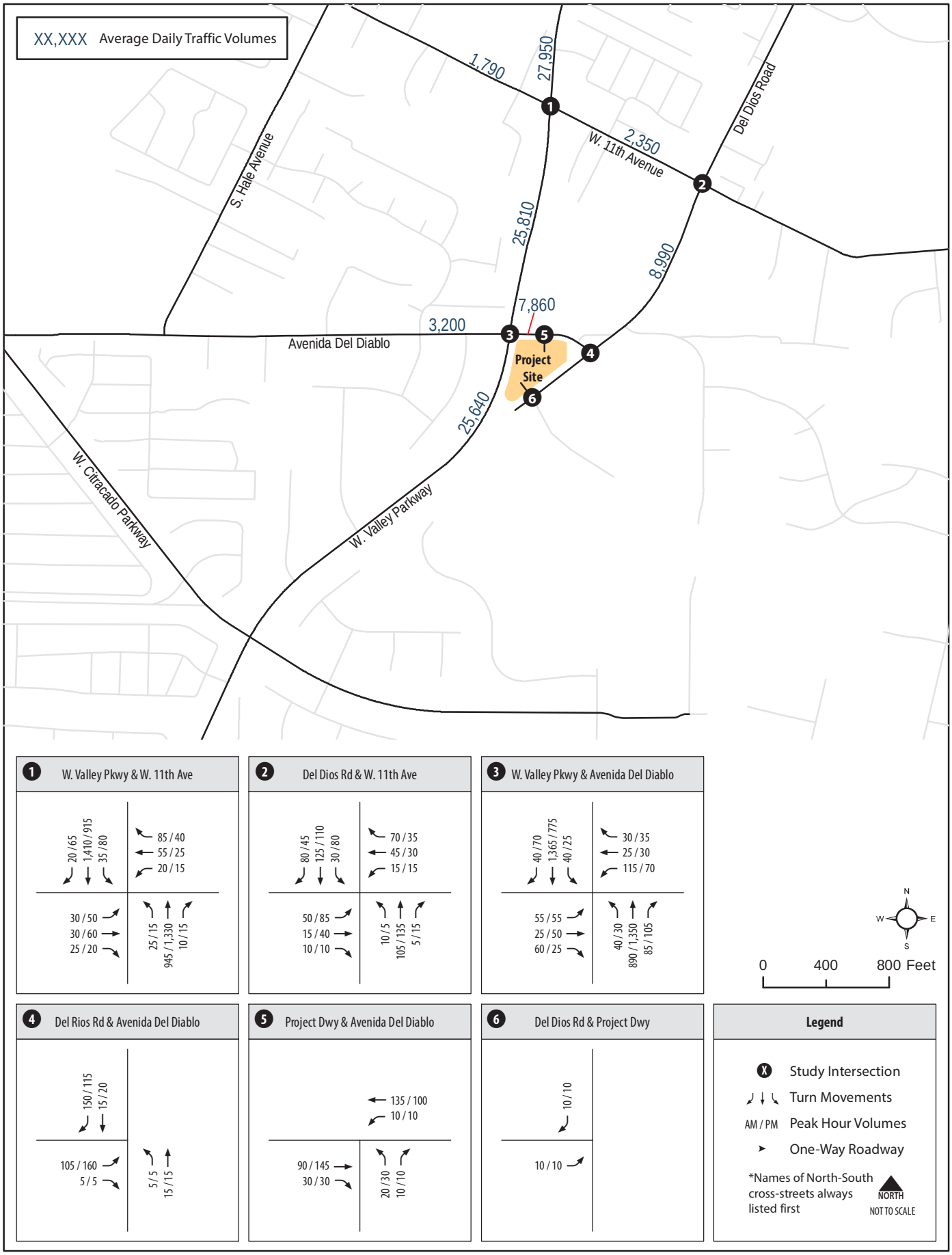
As shown in the table, all of the study area intersections are projected to operate at acceptable LOS C or better during AM and PM peak hours under Horizon Year 2035 Base conditions.

6.3 Horizon Year 2035 Base Plus Project Roadway Network and Traffic Volumes

Roadway and intersection geometrics under Horizon Year 2035 Base Plus Project conditions were assumed to be identical to Horizon Year 2035 Base conditions geometrics. Horizon Year 2035 Base Plus Project conditions traffic volumes were derived by combining the Horizon Year 2035 Base traffic volumes (Figure 6-2) and the project trip assignment volumes (Figure 3-3). **Figure 6-3** displays average daily roadway and peak hour intersection volumes for the study roadway segments and intersections under Horizon Year 2035 Base Plus Project Conditions.

6.4 Horizon Year 2035 Base Plus Project Traffic Conditions

Horizon Year 2035 Base Plus Project traffic volumes were derived by combining the Horizon Year 2035 Base traffic volumes and the project trip assignment volume.



Escondido Youth Care Facility
Traffic Impact Analysis
CHEN RYAN

Figure 6-3

Traffic Volumes -
Horizon Year 2035 Base Plus Project Conditions

Roadway Segment Analysis

Table 6.3 displays LOS analysis results for key roadway segments under Horizon Year 2035 Base Plus Project conditions.

TABLE 6.3
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
HORIZON YEAR 2035 BASE PLUS PROJECT CONDITIONS

Roadway	Segment	Classification	ADT	Capacity (LOS E)	With Project		Base		Δ in V/C	S?
					V/C	LOS	V/C	LOS		
West Valley Parkway	Between 9th Avenue and 11th Avenue	4-Lane Major Road (NP)	28,450	37,000	0.769	D	0.751	D	0.004	N
	Between 11th Avenue and Avenida Del Diablo	4-Lane Major Road (NP)	26,320	37,000	0.711	C	0.694	C	0.004	N
	Between Avenida Del Diablo and Citracado Parkway	4-Lane Major Road (NP)	26,130	37,000	0.706	C	0.692	C	0.001	N
Del Dios Road	Between 11th Avenue and Avenida Del Diablo	2-Lane Local Collector (WP)	8,990	10,000	0.899	E	0.892	E	0.007	N
11th Avenue	Between South Hale Avenue and West Valley Parkway	2-Lane Local Collector (WP)	1,790	10,000	0.179	A	0.179	A	0.000	N
	Between West Valley Parkway and Del Dios Road	2-Lane Local Collector (WP)	2,350	10,000	0.235	A	0.235	A	0.000	N
Avenida Del Diablo	Between South Hale Avenue and West Valley Parkway	2-Lane Local Collector (NP)	3,200	15,000	0.213	A	0.213	A	0.000	N
	Between West Valley Parkway and Del Dios Road	2-Lane Local Collector (WP)	7,860	10,000	0.786	D	0.769	D	0.017	N

Source: Chen Ryan Associates; November 2014

Notes:
V/C = Volume to Capacity Ratio.
NP = No Parking.
WP = With Parking.
Bold letter indicates LOS D, E or F.
S? = Significant Impact.

As shown in Table 6.3, all of the study area roadway segments are expected to operate at acceptable LOS C or better under Horizon Year 2035 Base Plus Project conditions, with the exceptions of:

- West Valley Parkway, between 9th Avenue and 11th Avenue - LOS D;
- Del Dios Road, between 11th Avenue and Avenida Del Diablo - LOS E; and
- Avenida Del Diablo, between West Valley Parkway and Del Dios Road - LOS D.

Intersection Analysis

Table 6.4 displays intersection Level of Service and average vehicle delay results under Horizon Year 2035 Base Plus Project conditions. Peak hour LOS analysis worksheets are provided in **Appendix H**.

TABLE 6.4
PEAK HOUR INTERSECTION LEVEL OF SERVICE RESULTS
HORIZON YEAR 2035 BASE PLUS PROJECT CONDITIONS

Intersection	Control	AM Peak Hour		PM Peak Hour		Delay w/o Project (sec) AM/PM	LOS w/o Project AM/PM	Δ in Delay (sec)	S?
		Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS				
1. West Valley Parkway / 11th Avenue	Signal	33.5	C	31.2	C	29.8/29.0	C/C	3.7/2.2	N
2. Del Dios Road / 11th Avenue	AWSC	9.1	A	9.6	A	8.8/9.3	A/A	0.3/0.3	N
3. West Valley Parkway / Avenida Del Diablo	Signal	23.7	C	20.1	C	21.6/16.7	C/B	2.1/3.4	N
4. Del Dios Road / Avenida Del Diablo	SSSC	9.8	A	10.1	B	9.5/9.8	A/A	0.3/0.3	N
5. Project Driveway @ Avenida Del Diablo	SSSC	9.9	A	10.3	B	-	-	-	N
6. Project Driveway @ Del Dios Road	SSSC	8.6	A	8.6	A	-	-	-	N

Source: Chen Ryan Associates; November 2014

Notes:
AWSC = All Way Stop Control.
SSSC = Side Street Stop Control.
For SSSC intersections, the delay shown is the worst delay experienced by any of the approaches.
S? = Significant Impact.

As shown in the table, all of the study area intersections are projected to operate at acceptable LOS C or better during AM and PM peak hours under Horizon Year 2035 Base Plus Project conditions.

6.5 Impact Significance and Mitigation

Based on the traffic impact criteria outlined in Section 2.4, the traffic associated with the proposed Escondido Youth Care Facility would not cause any significant change (less than 0.02 increase in V/C) to those LOS D/E/F roadways, and would not cause the intersection operations to degrade to unacceptable levels under Horizon Year 2035 Base Plus Project conditions. Therefore, no significant project related impacts were identified and no mitigation is required.

7.0 Findings and Recommendations

This chapter provides a summary of the key findings and study recommendations, including the LOS results for each scenario analyzed. Specific recommendations related to mitigation of the Escondido Youth Care Facility project traffic impacts on the roadway network are listed. Issues relating to site-access and parking requirements are also discussed.

7.1 Summary of Roadway and Intersection Analyses

Summary of Roadway Segment Analyses

Table 7.1 displays roadway segment LOS results for each scenario analyzed.

TABLE 7.1
SUMMARY OF ROADWAY SEGMENT LEVEL OF SERVICE RESULTS

Roadway	Segment	Existing	Existing Plus Project	2015 Base	2015 Base Plus Project	2035 Base	2035 Base Plus Project
West Valley Parkway	Between 9th Avenue and 11th Avenue	C	C	C	C	D	D
	Between 11th Avenue and Avenida Del Diablo	B	C	C	C	C	C
	Between Avenida Del Diablo and Citracado Parkway	B	B	C	C	C	C
Del Dios Road	Between 11th Avenue and Avenida Del Diablo	A	A	A	B	E	E
11th Avenue	Between South Hale Avenue and West Valley Parkway	A	A	A	A	A	A
	Between West Valley Parkway and Del Dios Road	A	A	A	A	A	A
Avenida Del Diablo	Between South Hale Avenue and West Valley Parkway	A	A	A	A	A	A
	Between West Valley Parkway and Del Dios Road	A	A	A	A	D	D

Source: Chen Ryan Associates; November 2014

Note:
Bold letter indicates LOS D, E or F.

The following key points summarize the roadway segment analyses:

1. *Under Existing and Existing Plus Project conditions* - The addition of the proposed Escondido Youth Care Facility project traffic would not cause any significant change or deterioration in roadway segment LOS under Existing Plus Project conditions. Therefore, no significant project related impacts were identified and no mitigation is required.

2. *Under Near-Term Year 2015 scenarios* - The addition of the proposed Escondido Youth Care Facility project traffic would not cause any significant change or deterioration in roadway segment LOS under Near-Term Year 2015 Base Plus Project conditions. Therefore, no significant project related impacts were identified and no mitigation is required.

3. *Under Horizon Year 2035 scenarios* - The addition of the proposed Escondido Youth Care Facility project traffic would not cause any significant change (less than 0.02 increase in V/C) or further deterioration in roadway segment LOS under Horizon Year 2035 Base Plus Project conditions. Therefore, no significant project related impacts were identified and no mitigation is required.

Summary of Intersection Analyses

Table 7.2 displays intersection LOS results for each of the analyzed scenarios.

TABLE 7.2
SUMMARY OF INTERSECTION PEAK HOUR LEVEL OF SERVICE RESULTS

Intersection	Existing		Existing Plus Project		2015 Base		2015 Base Plus Project		2035 Base		2035 Base Plus Project	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1. West Valley Parkway / 11th Avenue	C	B	C	B	C	B	C	B	C	C	C	C
2. Del Dios Road / 11th Avenue	A	A	A	A	A	A	A	A	A	A	A	A
3. West Valley Parkway / Avenida Del Diablo	B	B	B	B	B	B	B	B	C	B	C	C
4. Del Dios Road / Avenida Del Diablo	A	A	A	A	A	A	A	A	A	A	A	B
5. Project Driveway @ Avenida Del Diablo	-	-	A	A	-	-	A	A	-	-	A	B
6. Project Driveway @ Del Dios Road	-	-	A	A	-	-	A	A	-	-	A	A

Source: Chen Ryan Associates; November 2014

The following key points summarize the intersection analyses:

1. *Existing conditions* - The addition of the proposed Escondido Youth Care Facility project traffic would not cause any significant change or deterioration in intersection operations under Existing Plus Project conditions. Therefore, no significant project related impacts were identified and no mitigation is required.

2. *Near-Term Year 2015 conditions* - The addition of the proposed Escondido Youth Care Facility project traffic would not cause any significant change or deterioration in intersection

operations under Near Term Year 2015 Base Plus Project conditions. Therefore, no significant project related impacts were identified and no mitigation is required.

3. *Horizon Year 2035 conditions* - The addition of the proposed Escondido Youth Care Facility project traffic would not cause any significant change or deterioration in intersection operations under Horizon Year 2035 Base Plus Project conditions. Therefore, no significant project related impacts were identified and no mitigation is required.

7.2 Summary of Mitigation Measures

This section summarizes the mitigation measures at study area intersections under the various timeframes analyzed.

Existing Plus Project: None.

Near-Term Year 2015 Base Plus Project: None.

Horizon Year 2035 Base Plus Project: None.

7.3 Site Access

The project site currently has two access points which are located on Avenida Del Diablo and Del Dios Road, respectively. The primary access point, leading to the main parking lot, is located along Avenida Del Diablo, while the a second access point, leading to a small parking lot in the rear of the facility, is located on Del Dios Road. There are currently no internal vehicular connections between the parking lots; therefore, the two access points operate independently of each other.

Based upon review of the project site plan and conditions in the field, the following comments on site access are offered:

- Both project driveways are side-street stop controlled T-intersections and would operate at acceptable Levels of Service B or better under all of the study scenarios.
- Both project driveways should be designed in accordance to the City of Escondido standards and should have sufficient storage for traffic exiting the proposed project.

7.4 Parking Assessment

Parking Requirements

Per City of Escondido Municipal Code (Chapter 33 Zoning, Article 39 Off-Street Parking, Section 33-765), one parking space is required for each 3 beds as pertaining to Land Use Destined to Sanitariums, Children's Homes, Homes for the Aged, Asylums, and Nursing Homes. This requirement should accommodate all parking situations associated with the use of "Children's

Homes" including staff shift changes especially given the fact that residents at this facility will not have vehicles or be able to drive.

Table 7.3 summarizes the required number of parking spaces for the proposed 96-bed children's home facility.

TABLE 7.3
PARKING SPACES REQUIRED

Land Use	Requirement	Rate	Units	Required number of Parking Spaces
Children's Home	City Code	1 Space/3 Beds	96 Beds	32 Spaces
	ADA	2 Spaces/26-50 Spaces	32 Required Spaces	2 Spaces

Source: Escondido Municipal Code; ADA Design Guide, Chen Ryan Associates; November 2014

As shown, the proposed project will be required to provide a minimum of 32 on-site standard parking spaces and two accessible parking spaces.

Parking Supply

There are currently 53 parking spaces provided on the proposed project site including 12 accessible spaces. Based on information provided by the project applicant, the project expects a total of 75 staff on site per day divided into three shifts with general starting times at 7 am-3 pm-11 pm (approximately 30-25-20 staff, respectively). The facility may also have daily FedEx and UPS deliveries; one weekly service visit; three daily intake visits (very brief); two daily recreation trips (five to eight vans per trip); and five visits per week from volunteers. In addition, there will be approximately 12 spaces designated to vans providing transportation for off-site activities, which would result in a total of 41 parking spaces for staff and other personnel visiting the facility. As indicated above, a maximum of 30 staff will be working during the 7 am-3 pm shift (highest) and this will leave 11 parking spaces for deliveries, service visits, intake visits, and volunteers. Given the low numbers of anticipated activities, the 11 parking spaces are adequate to accommodate parking needs.

However, temporary parking over-flow may be experienced during shift changes. The project applicant is planning on implement the follow strategies to reduce parking demand, including:

- A staggered arrival/departure staffing plan to avoid any potential for parking overflow during shift changes – for example, the project applicant could have 10 employees arrive at 7 am, another 10 employees at 7:15 am, and the last group at 7:30 am; and

- A Transportation Demand Management (TDM) program that incentivizes employee carpooling and riding public transit.

On-Street Parking

Even though the project is not relying on on-street public parking to accommodate its parking needs, an on-street parking inventory was collected (on 9/30/2014) for information only. The figure below displays the survey result.

On-street parking is generally permitted along Del Dios Road and a small segment along the south side of Avenida Del Diablo. Assuming 25 feet is required for each parking space, at least 26 on-street parking spaces are available on the project's immediate frontage. In addition, on-street parking occupancy was 0% on the day of the field observation - meaning no vehicle was parked on the street.

In summary, the number of parking spaces provided on-site meets and exceeds the minimum parking requirements indicated in both Escondido's Municipal Code and ADA Design Guide for the proposed 96-bed unaccompanied youth care facility.

Appendix A
Count Data and Signal Timing Plans

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

W Valley Pkwy and W 11th Ave , Escondido

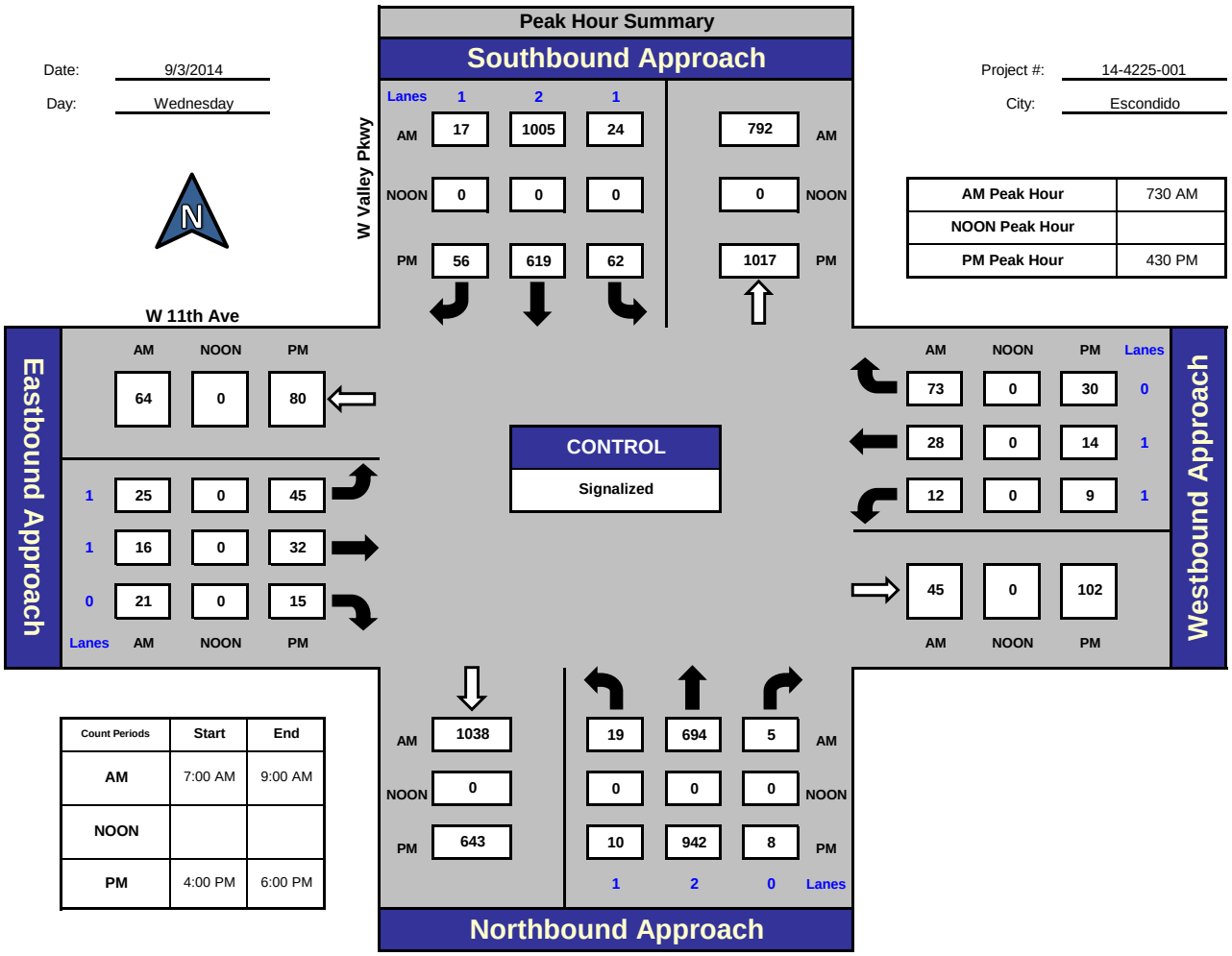
Date: 9/3/2014

Day: Wednesday

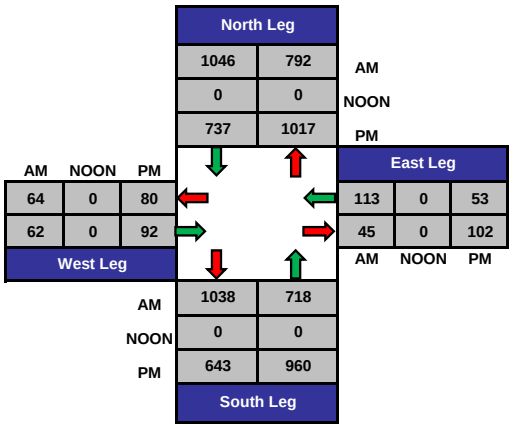
Project #: 14-4225-001

City: Escondido

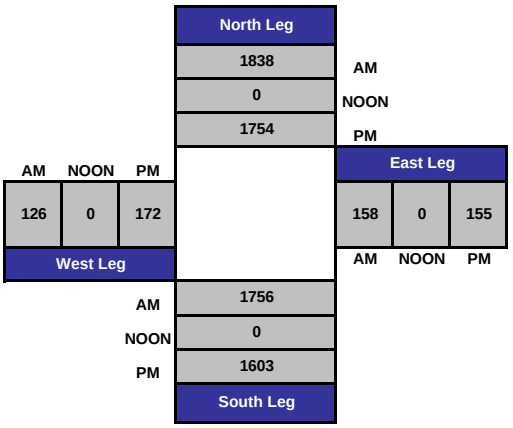
AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	430 PM



Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 14-4225-001 **Day:** Wednesday

City: Escondido **Date:** 9/3/2014

AM

NS/EW Streets:	W Valley Pkwy			W Valley Pkwy			W 11th Ave			W 11th Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	1	1	1	0	1	1	0	
7:00 AM	4	105	0	5	225	1	6	2	6	4	7	4	369
7:15 AM	1	114	0	5	277	3	4	6	4	6	11	9	440
7:30 AM	5	134	0	6	234	3	6	5	4	6	8	29	440
7:45 AM	2	189	0	4	259	2	8	6	6	2	8	18	504
8:00 AM	8	164	2	4	257	6	5	5	4	2	8	14	479
8:15 AM	4	207	3	10	255	6	6	0	7	2	4	12	516
8:30 AM	3	130	1	8	219	14	8	3	5	1	5	12	409
8:45 AM	7	140	2	4	179	7	5	3	2	2	3	9	363
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	34	1183	8	46	1905	42	48	30	38	25	54	107	3520
APPROACH %'s :	2.78%	96.57%	0.65%	2.31%	95.58%	2.11%	41.38%	25.86%	32.76%	13.44%	29.03%	57.53%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	19	694	5	24	1005	17	25	16	21	12	28	73	1939
PEAK HR FACTOR :		0.839			0.965			0.775			0.657		0.939

UTURNS

NB	SB	EB	WB
NB	SB	EB	WB
0	0	0	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 14-4225-001 **Day:** Wednesday

City: Escondido **Date:** 9/3/2014

PM

NS/EW Streets:	W Valley Pkwy			W Valley Pkwy			W 11th Ave			W 11th Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	1	1	1	0	1	1	0	
4:00 PM	3	270	1	15	135	10	10	5	2	3	2	3	459
4:15 PM	2	273	2	15	150	11	7	6	2	1	2	8	479
4:30 PM	1	256	1	9	149	10	12	5	4	5	1	5	458
4:45 PM	1	229	3	12	143	14	8	9	1	1	5	9	435
5:00 PM	1	226	1	19	139	18	14	7	4	2	5	8	444
5:15 PM	7	231	3	22	188	14	11	11	6	1	3	8	505
5:30 PM	4	236	3	15	151	11	12	11	2	0	1	9	455
5:45 PM	1	222	2	13	142	10	5	12	2	2	3	7	421
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	20	1943	16	120	1197	98	79	66	23	15	22	57	3656
APPROACH %'s :	1.01%	98.18%	0.81%	8.48%	84.59%	6.93%	47.02%	39.29%	13.69%	15.96%	23.40%	60.64%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	10	942	8	62	619	56	45	32	15	9	14	30	1842
PEAK HR FACTOR :		0.930			0.823			0.821			0.883		0.912

UTURNS				
NB	SB	EB	WB	
NB	SB	EB	WB	
0	0	0	0	

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Del Dios Hwy and W 11th Ave , Escondido

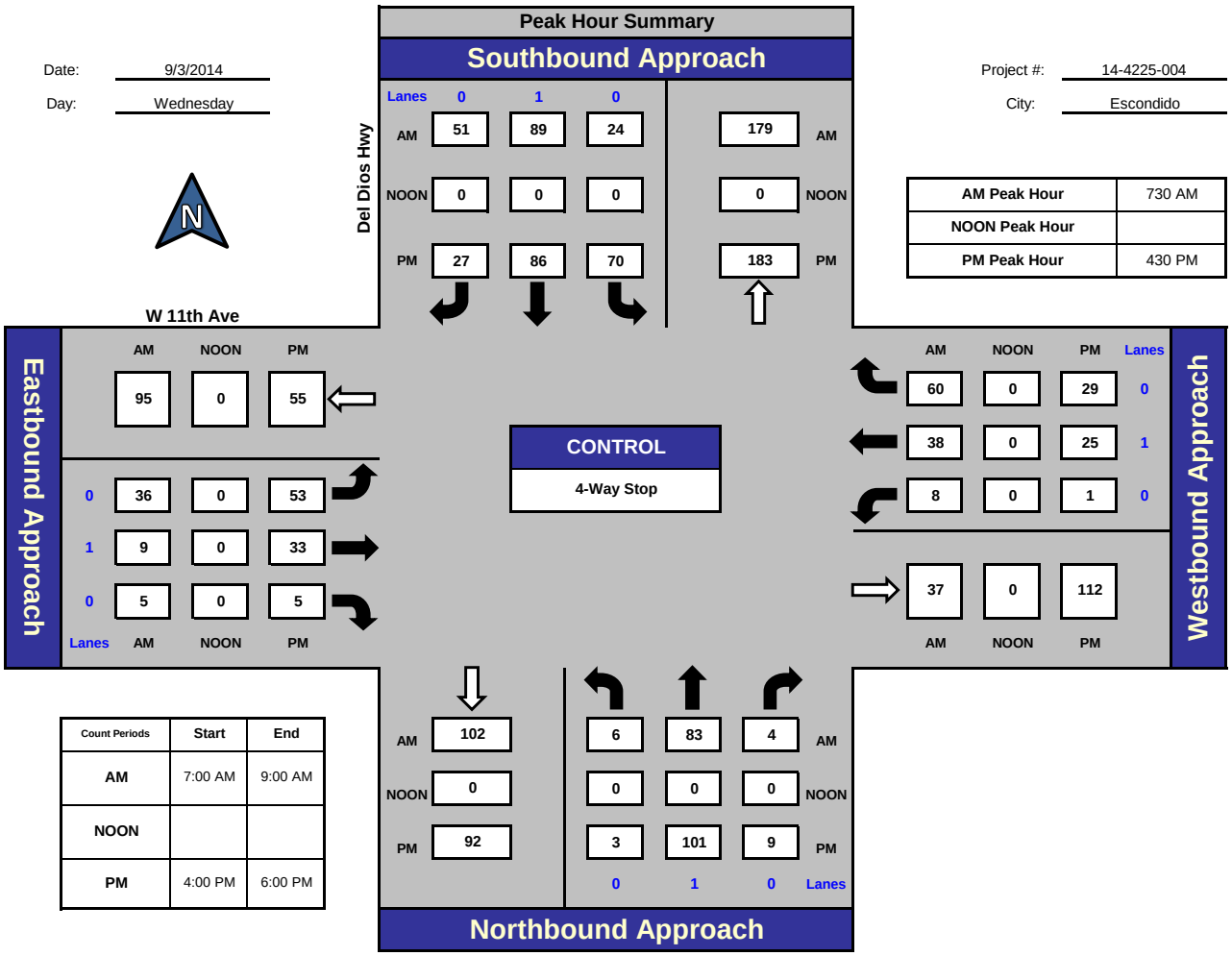
Date: 9/3/2014

Day: Wednesday

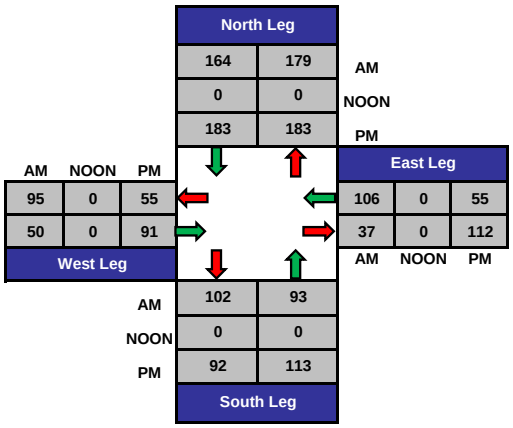
Project #: 14-4225-004

City: Escondido

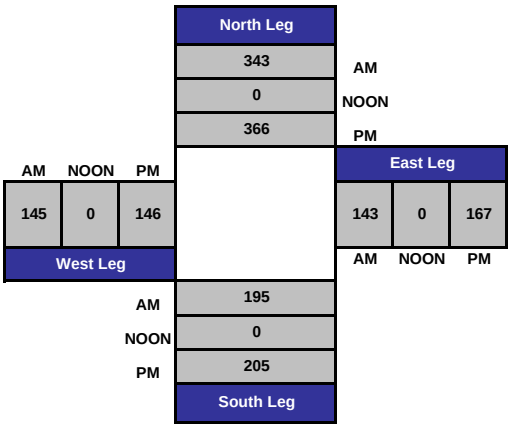
AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	430 PM



Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 14-4225-004 **Day:** Wednesday

City: Escondido **Date:** 9/3/2014

AM

NS/EW Streets:	Del Dios Hwy			Del Dios Hwy			W 11th Ave			W 11th Ave				UTURNS			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND							
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB
LANES:	0	1	0	0	1	0	0	1	0	0	1	0					
7:00 AM	2	10	3	4	17	8	10	2	2	3	10	16	87				
7:15 AM	5	15	1	2	19	11	11	5	1	1	9	14	94				
7:30 AM	4	23	3	6	12	20	8	2	0	4	8	17	107				
7:45 AM	1	28	0	4	31	13	12	0	1	1	13	18	122				
8:00 AM	1	15	0	5	27	13	7	2	1	1	7	9	88				
8:15 AM	0	17	1	9	19	5	9	5	3	2	10	16	96				
8:30 AM	1	12	0	5	15	4	7	4	1	1	10	14	74				
8:45 AM	0	11	0	6	16	4	6	3	0	2	6	13	67				
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB
TOTAL VOLUMES :	14	131	8	41	156	78	70	23	9	15	73	117	735	0	0	0	0
APPROACH %'s :	9.15%	85.62%	5.23%	14.91%	56.73%	28.36%	68.63%	22.55%	8.82%	7.32%	35.61%	57.07%					
PEAK HR START TIME :	730 AM												TOTAL				
PEAK HR VOL :	6	83	4	24	89	51	36	9	5	8	38	60	413				
PEAK HR FACTOR :	0.775			0.854			0.735			0.828			0.846				

CONTROL : 4-Way Stop

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 14-4225-004 **Day:** Wednesday

City: Escondido **Date:** 9/3/2014

PM

NS/EW Streets:	Del Dios Hwy			Del Dios Hwy			W 11th Ave			W 11th Ave				UTURNS			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND							
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB
LANES:	0	1	0	0	1	0	0	1	0	0	1	0					
4:00 PM	1	16	0	7	14	6	11	8	0	1	1	9	74				
4:15 PM	0	22	1	10	14	7	11	3	1	1	5	5	80				
4:30 PM	1	29	4	16	23	8	12	6	0	0	6	2	107				
4:45 PM	1	25	2	15	15	7	11	4	4	0	11	6	101				
5:00 PM	0	26	1	18	24	6	16	8	1	1	5	13	119				
5:15 PM	1	21	2	21	24	6	14	15	0	0	3	8	115				
5:30 PM	1	12	4	15	19	8	16	10	0	0	6	8	99				
5:45 PM	0	13	0	13	18	5	16	7	1	0	5	5	83				
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB
TOTAL VOLUMES :	5	164	14	115	151	53	107	61	7	3	42	56	778	0	0	0	0
APPROACH %'s :	2.73%	89.62%	7.65%	36.05%	47.34%	16.61%	61.14%	34.86%	4.00%	2.97%	41.58%	55.45%					
PEAK HR START TIME :	430 PM												TOTAL				
PEAK HR VOL :	3	101	9	70	86	27	53	33	5	1	25	29	442				
PEAK HR FACTOR :		0.831			0.897			0.784			0.724		0.929				

CONTROL : 4-Way Stop

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

W Valley Pkwy and Avenida Del Diablo , Escondido

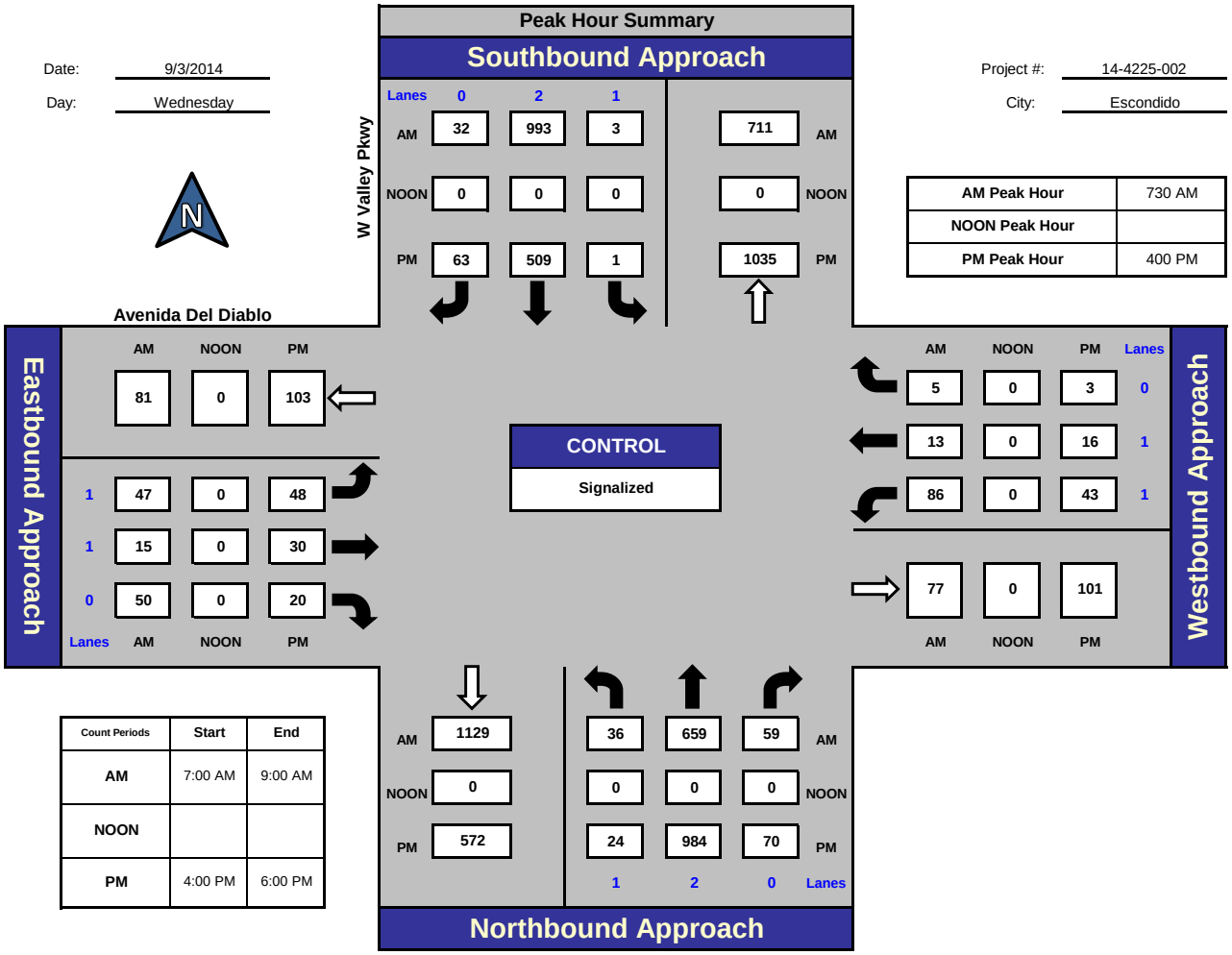
Date: 9/3/2014

Day: Wednesday

Project #: 14-4225-002

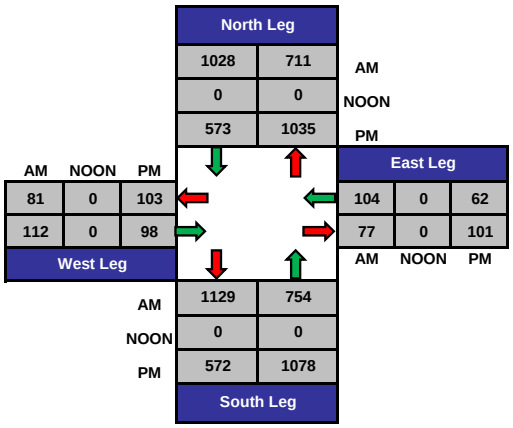
City: Escondido

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	400 PM

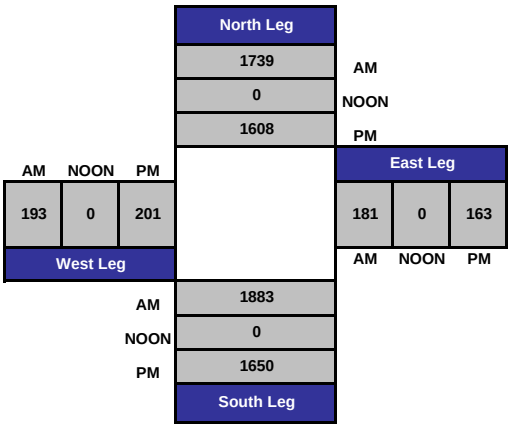


Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 14-4225-002 **Day:** Wednesday

City: Escondido **Date:** 9/3/2014

AM

NS/EW Streets:	W Valley Pkwy			W Valley Pkwy			Avenida Del Diablo			Avenida Del Diablo			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	1	1	0	1	1	0	
7:00 AM	1	87	4	2	274	4	13	3	7	22	1	2	420
7:15 AM	5	120	8	1	290	5	6	8	12	26	3	4	488
7:30 AM	12	141	15	1	260	6	12	7	17	15	2	3	491
7:45 AM	8	146	21	0	229	10	13	3	4	28	3	1	466
8:00 AM	7	176	10	0	266	5	14	2	11	26	3	1	521
8:15 AM	9	196	13	2	238	11	8	3	18	17	5	0	520
8:30 AM	6	124	1	3	210	11	13	3	3	14	2	0	390
8:45 AM	4	120	2	0	156	7	9	5	4	13	3	0	323
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	52	1110	74	9	1923	59	88	34	76	161	22	11	3619
APPROACH %'s :	4.21%	89.81%	5.99%	0.45%	96.58%	2.96%	44.44%	17.17%	38.38%	82.99%	11.34%	5.67%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	36	659	59	3	993	32	47	15	50	86	13	5	1998
PEAK HR FACTOR :		0.865			0.948			0.778			0.813		0.959

UTURNS				
NB	SB	EB	WB	
NB	SB	EB	WB	
0	0	0	0	

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 14-4225-002 **Day:** Wednesday

City: Escondido **Date:** 9/3/2014

PM

NS/EW Streets:	W Valley Pkwy			W Valley Pkwy			Avenida Del Diablo			Avenida Del Diablo				UTURNS			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND							
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB
LANES:	1	2	0	1	2	0	1	1	0	1	1	0					
4:00 PM	5	256	13	0	115	20	7	3	5	7	6	2	439				
4:15 PM	4	273	18	0	134	7	15	5	8	14	2	0	480				
4:30 PM	10	223	22	0	144	18	15	10	4	14	7	0	467				
4:45 PM	5	232	17	1	116	18	11	12	3	8	1	1	425				
5:00 PM	4	197	13	4	139	10	7	7	6	15	4	0	406				
5:15 PM	5	232	16	3	171	10	9	3	7	7	11	2	476				
5:30 PM	9	221	8	2	145	13	13	5	5	9	4	1	435				
5:45 PM	6	220	3	1	128	14	13	7	1	8	11	0	412				
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB
TOTAL VOLUMES :	48	1854	110	11	1092	110	90	52	39	82	46	6	3540	0	0	0	0
APPROACH %'s :	2.39%	92.15%	5.47%	0.91%	90.02%	9.07%	49.72%	28.73%	21.55%	61.19%	34.33%	4.48%					
PEAK HR START TIME :	400 PM												TOTAL				
PEAK HR VOL :	24	984	70	1	509	63	48	30	20	43	16	3	1811				
PEAK HR FACTOR :		0.914			0.884			0.845			0.738		0.943				

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Del Dios Hwy and Avenida Del Diablo , Escondido

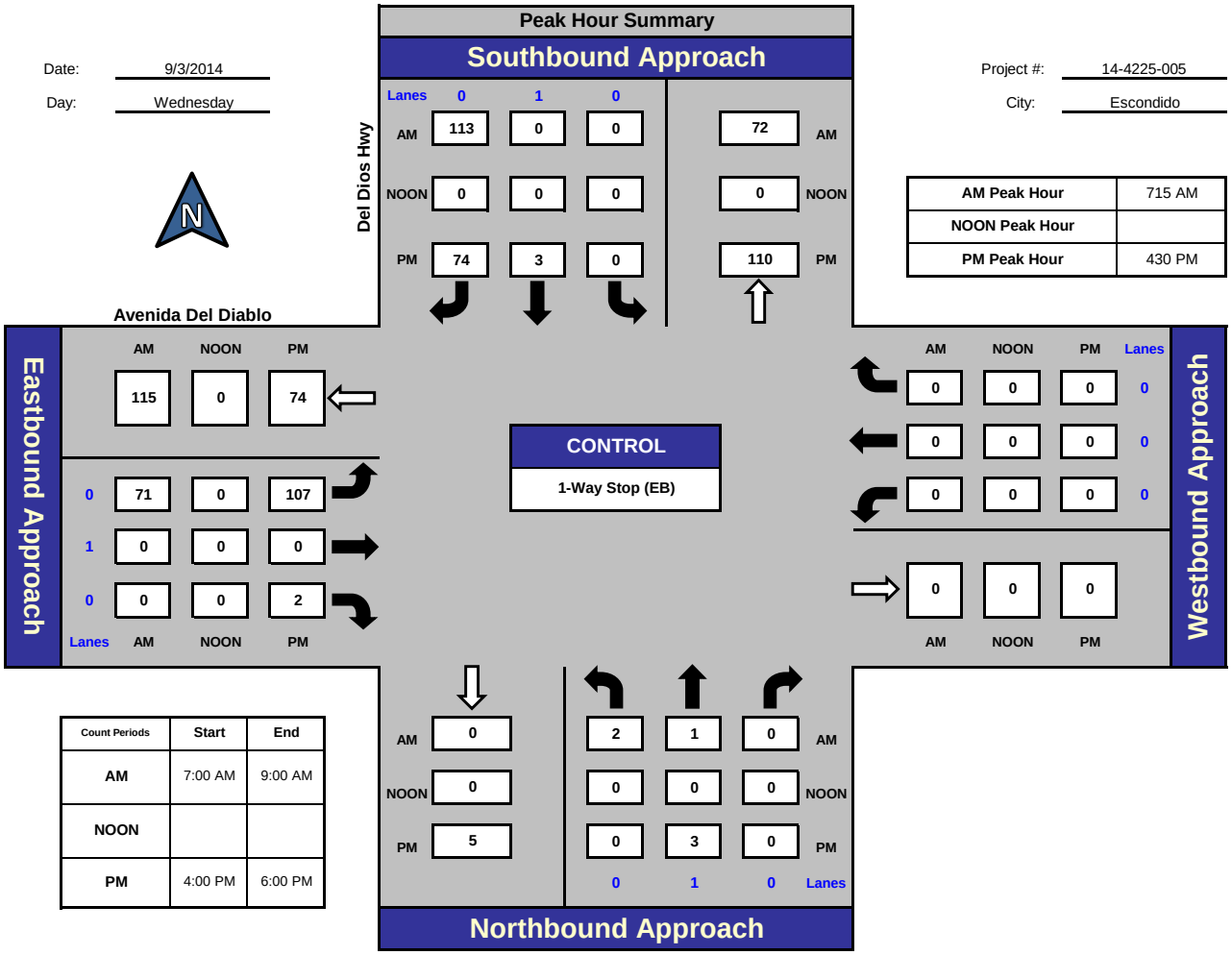
Date: 9/3/2014

Day: Wednesday

Project #: 14-4225-005

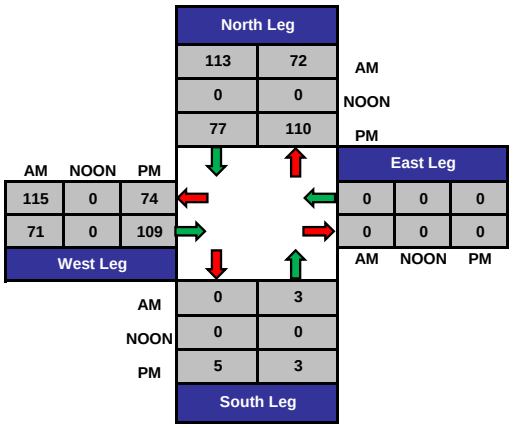
City: Escondido

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	430 PM

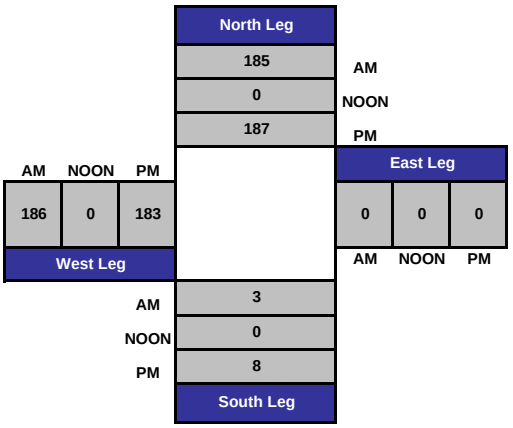


Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 14-4225-005 **Day:** Wednesday

City: Escondido **Date:** 9/3/2014

AM

NS/EW Streets:	Del Dios Hwy			Del Dios Hwy			Avenida Del Diablo			Avenida Del Diablo			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	0	0	
7:00 AM	2	2			1	21	9		1				36
7:15 AM	1	0			0	32	15		0				48
7:30 AM	1	1			0	21	23		0				46
7:45 AM	0	0			0	30	23		0				53
8:00 AM	0	0			0	30	10		0				40
8:15 AM	0	2			1	22	16		2				43
8:30 AM	1	0			0	19	9		0				29
8:45 AM	0	0			1	15	9		0				25
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	5	5	0	0	3	190	114	0	3	0	0	0	320
APPROACH %'s :	50.00%	50.00%	0.00%	0.00%	1.55%	98.45%	97.44%	0.00%	2.56%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	2	1	0	0	0	113	71	0	0	0	0	0	187
PEAK HR FACTOR :	0.375			0.883			0.772			0.000			0.882

UTURNS				
NB	SB	EB	WB	
NB	SB	EB	WB	
0	0	0	0	

CONTROL : 1-Way Stop (EB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 14-4225-005 **Day:** Wednesday

City: Escondido **Date:** 9/3/2014

PM

NS/EW Streets:	Del Dios Hwy			Del Dios Hwy			Avenida Del Diablo			Avenida Del Diablo				UTURNS			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND							
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB
LANES:	0	1	0	0	1	0	0	1	0	0	0	0					
4:00 PM	3	0			0	12	15		1				31				
4:15 PM	1	2			1	16	20		1				41				
4:30 PM	0	0			0	19	34		1				54				
4:45 PM	0	0			0	14	29		1				44				
5:00 PM	0	2			1	19	23		0				45				
5:15 PM	0	1			2	22	21		0				46				
5:30 PM	0	2			1	14	16		0				33				
5:45 PM	0	1			0	18	11		3				33				
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB
TOTAL VOLUMES :	4	8	0	0	5	134	169	0	7	0	0	0	327	0	0	0	0
APPROACH %'s :	33.33%	66.67%	0.00%	0.00%	3.60%	96.40%	96.02%	0.00%	3.98%	#DIV/0!	#DIV/0!	#DIV/0!					
PEAK HR START TIME :	430 PM												TOTAL				
PEAK HR VOL :	0	3	0	0	3	74	107	0	2	0	0	0	189				
PEAK HR FACTOR :		0.375			0.802			0.779			0.000		0.875				

CONTROL : 1-Way Stop (EB)

Prepared by NDS/ATD

VOLUME

W Valley Pkwy Bet. Faith Rd & 11th Ave

Day: Wednesday
Date: 9/3/2014

City: Escondido
Project #: CA14_4226_001

DAILY TOTALS	NB	SB	EB	WB	Total
	10,592	11,051	0	0	21,643

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	5		13				18		12:00	150		147				297	
00:15	11		10				21		12:15	129		162				291	
00:30	3		11				14		12:30	137		168				305	
00:45	4	23	11	45			15	68	12:45	143	559	177	654			320	1213
01:00	4		10				14		13:00	138		154				292	
01:15	6		9				15		13:15	140		160				300	
01:30	3		1				4		13:30	193		152				345	
01:45	4	17	2	22			6	39	13:45	160	631	151	617			311	1248
02:00	3		6				9		14:00	171		138				309	
02:15	7		2				9		14:15	155		147				302	
02:30	3		3				6		14:30	190		133				323	
02:45	4	17	4	15			8	32	14:45	204	720	176	594			380	1314
03:00	4		11				15		15:00	191		200				391	
03:15	5		3				8		15:15	248		204				452	
03:30	10		5				15		15:30	349		212				561	
03:45	9	28	7	26			16	54	15:45	268	1056	159	775			427	1831
04:00	6		9				15		16:00	292		156				448	
04:15	10		9				19		16:15	284		180				464	
04:30	18		16				34		16:30	277		165				442	
04:45	20	54	18	52			38	106	16:45	243	1096	173	674			416	1770
05:00	26		36				62		17:00	251		207				458	
05:15	36		49				85		17:15	246		208				454	
05:30	39		58				97		17:30	260		167				427	
05:45	54	155	96	239			150	394	17:45	227	984	168	750			395	1734
06:00	59		143				202		18:00	187		173				360	
06:15	84		241				325		18:15	224		169				393	
06:30	79		263				342		18:30	200		123				323	
06:45	120	342	245	892			365	1234	18:45	142	753	131	596			273	1349
07:00	126		223				349		19:00	129		131				260	
07:15	124		288				412		19:15	150		103				253	
07:30	182		235				417		19:30	131		117				248	
07:45	180	612	269	1015			449	1627	19:45	100	510	83	434			183	944
08:00	218		265				483		20:00	117		118				235	
08:15	217		277				494		20:15	89		125				214	
08:30	151		232				383		20:30	68		104				172	
08:45	141	727	202	976			343	1703	20:45	73	347	95	442			168	789
09:00	124		187				311		21:00	61		73				134	
09:15	123		148				271		21:15	57		72				129	
09:30	117		138				255		21:30	35		61				96	
09:45	116	480	137	610			253	1090	21:45	28	181	43	249			71	430
10:00	137		122				259		22:00	47		40				87	
10:15	121		161				282		22:15	38		31				69	
10:30	139		125				264		22:30	26		29				55	
10:45	136	533	158	566			294	1099	22:45	40	151	26	126			66	277
11:00	133		151				284		23:00	13		21				34	
11:15	164		148				312		23:15	20		21				41	
11:30	132		155				287		23:30	13		9				22	
11:45	131	560	160	614			291	1174	23:45	10	56	17	68			27	124
TOTALS		3548		5072				**8620**	**TOTALS**		7044		5979				**13023**
SPLIT %		41.2%		58.8%				**39.8%**	**SPLIT %**		54.1%		45.9%				**60.2%**

DAILY TOTALS	NB	SB	EB	WB	Total
	10,592	11,051	0	0	21,643

AM Peak Hour	07:30	07:15						**07:30**	**PM Peak Hour**	15:30	14:45							**15:30**
AM Pk Volume	797	1057						**1843**	**PM Pk Volume**	1193	792							**1900**
Pk Hr Factor	0.914	0.918						**0.933**	**Pk Hr Factor**	0.855	0.934							**0.847**
7 - 9 Volume	1339	1991	0	0				**3330**	**4 - 6 Volume**	2080	1424	0	0					**3504**
7 - 9 Peak Hour	07:30	07:15						**07:30**	**4 - 6 Peak Hour**	16:00	16:45							**16:15**
7 - 9 Pk Volume	797	1057	0	0				**1843**	**4 - 6 Pk Volume**	1096	755	0	0					**1780**
Pk Hr Factor	0.914	0.918	0.000	0.000				**0.933**	**Pk Hr Factor**	0.938	0.907	0.000	0.000					**0.959**

Prepared by NDS/ATD

VOLUME

W Valley Pkwy Bet. 11th Ave & Avenida Del Diablo

Day: Wednesday
Date: 9/3/2014

City: Escondido
Project #: CA14_4226_002

DAILY TOTALS	NB	SB	EB	WB	Total
	9,871	9,998	0	0	19,869

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	4		11				15		12:00	134		131				265	
00:15	8		10				18		12:15	117		133				250	
00:30	3		8				11		12:30	126		144				270	
00:45	4	19	9	38			13	57	12:45	133	510	168	576			301	1086
01:00	4		7				11		13:00	130		136				266	
01:15	6		9				15		13:15	124		139				263	
01:30	2		0				2		13:30	176		121				297	
01:45	2	14	2	18			4	32	13:45	147	577	131	527			278	1104
02:00	2		5				7		14:00	158		112				270	
02:15	6		1				7		14:15	145		132				277	
02:30	3		3				6		14:30	186		119				305	
02:45	4	15	4	13			8	28	14:45	176	665	145	508			321	1173
03:00	5		8				13		15:00	188		181				369	
03:15	3		3				6		15:15	231		180				411	
03:30	8		4				12		15:30	346		168				514	
03:45	9	25	6	21			15	46	15:45	266	1031	134	663			400	1694
04:00	1		9				10		16:00	272		158				430	
04:15	11		7				18		16:15	278		137				415	
04:30	15		12				27		16:30	257		164				421	
04:45	15	42	13	41			28	83	16:45	238	1045	142	601			380	1646
05:00	21		32				53		17:00	217		200				417	
05:15	32		51				83		17:15	242		183				425	
05:30	34		54				88		17:30	239		150				389	
05:45	48	135	94	231			142	366	17:45	218	916	149	682			367	1598
06:00	54		144				198		18:00	178		141				319	
06:15	77		232				309		18:15	214		146				360	
06:30	78		249				327		18:30	197		108				305	
06:45	103	312	258	883			361	1195	18:45	135	724	107	502			242	1226
07:00	103		250				353		19:00	113		111				224	
07:15	125		280				405		19:15	145		84				229	
07:30	133		249				382		19:30	115		98				213	
07:45	192	553	252	1031			444	1584	19:45	101	474	64	357			165	831
08:00	178		278				456		20:00	105		102				207	
08:15	201		257				458		20:15	78		86				164	
08:30	130		238				368		20:30	66		89				155	
08:45	159	668	183	956			342	1624	20:45	79	328	83	360			162	688
09:00	106		183				289		21:00	52		63				115	
09:15	114		143				257		21:15	53		60				113	
09:30	107		133				240		21:30	32		52				84	
09:45	102	429	125	584			227	1013	21:45	23	160	33	208			56	368
10:00	127		108				235		22:00	49		37				86	
10:15	124		141				265		22:15	34		19				53	
10:30	134		117				251		22:30	25		22				47	
10:45	128	513	136	502			264	1015	22:45	36	144	20	98			56	242
11:00	124		139				263		23:00	12		16				28	
11:15	148		131				279		23:15	20		17				37	
11:30	121		129				250		23:30	13		10				23	
11:45	124	517	144	543			268	1060	23:45	10	55	12	55			22	110
TOTALS		3242		4861				8103	TOTALS		6629		5137				11766
SPLIT %		40.0%		60.0%				40.8%	SPLIT %		56.3%		43.7%				59.2%

DAILY TOTALS	NB	SB	EB	WB	Total
	9,871	9,998	0	0	19,869

AM Peak Hour	07:30	07:15						07:30	PM Peak Hour	15:30	16:30							15:30
AM Pk Volume	704	1059						1740	PM Pk Volume	1162	689							1759
Pk Hr Factor	0.876	0.946						0.950	Pk Hr Factor	0.840	0.861							0.856
7 - 9 Volume	1221	1987	0	0				3208	4 - 6 Volume	1961	1283	0	0					3244
7 - 9 Peak Hour	07:30	07:15						07:30	4 - 6 Peak Hour	16:00	16:30							16:00
7 - 9 Pk Volume	704	1059	0	0				1740	4 - 6 Pk Volume	1045	689	0	0					1646
Pk Hr Factor	0.876	0.946	0.000	0.000				0.950	Pk Hr Factor	0.940	0.861	0.000	0.000					0.957

Prepared by NDS/ATD

VOLUME

W Valley Pkwy Bet. Avenida Del Diablo & Vermel Ave

Day: Wednesday
Date: 9/3/2014

City: Escondido
Project #: CA14_4226_003

DAILY TOTALS	NB	SB	EB	WB	Total
	9,560	10,003	0	0	19,563

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	3		10				13		12:00	124		127				251	
00:15	9		8				17		12:15	112		125				237	
00:30	3		10				13		12:30	119		132				251	
00:45	2	17	6	34			8	51	12:45	128	483	169	553			297	1036
01:00	2		6				8		13:00	122		134				256	
01:15	5		8				13		13:15	120		132				252	
01:30	3		2				5		13:30	174		120				294	
01:45	3	13	1	17			4	30	13:45	141	557	135	521			276	1078
02:00	3		5				8		14:00	161		114				275	
02:15	5		2				7		14:15	166		122				288	
02:30	3		4				7		14:30	180		126				306	
02:45	5	16	4	15			9	31	14:45	176	683	144	506			320	1189
03:00	4		7				11		15:00	183		170				353	
03:15	3		4				7		15:15	241		178				419	
03:30	6		3				9		15:30	266		187				453	
03:45	8	21	6	20			14	41	15:45	266	956	136	671			402	1627
04:00	1		8				9		16:00	272		143				415	
04:15	12		7				19		16:15	301		106				407	
04:30	14		17				31		16:30	252		171				423	
04:45	12	39	15	47			27	86	16:45	229	1054	142	562			371	1616
05:00	21		35				56		17:00	240		185				425	
05:15	27		53				80		17:15	248		167				415	
05:30	26		58				84		17:30	244		144				388	
05:45	45	119	89	235			134	354	17:45	216	948	141	637			357	1585
06:00	51		156				207		18:00	189		139				328	
06:15	67		235				302		18:15	191		139				330	
06:30	77		286				363		18:30	192		110				302	
06:45	102	297	259	936			361	1233	18:45	133	705	93	481			226	1186
07:00	94		314				408		19:00	113		96				209	
07:15	117		314				431		19:15	149		82				231	
07:30	178		301				479		19:30	105		90				195	
07:45	156	545	260	1189			416	1734	19:45	89	456	59	327			148	783
08:00	168		300				468		20:00	106		89				195	
08:15	156		277				433		20:15	69		82				151	
08:30	125		207				332		20:30	63		79				142	
08:45	120	569	182	966			302	1535	20:45	70	308	84	334			154	642
09:00	99		183				282		21:00	46		60				106	
09:15	112		138				250		21:15	53		60				113	
09:30	103		131				234		21:30	33		40				73	
09:45	103	417	127	579			230	996	21:45	21	153	30	190			51	343
10:00	122		109				231		22:00	43		34				77	
10:15	107		144				251		22:15	34		17				51	
10:30	141		117				258		22:30	28		22				50	
10:45	121	491	139	509			260	1000	22:45	26	131	21	94			47	225
11:00	132		133				265		23:00	13		15				28	
11:15	150		133				283		23:15	18		16				34	
11:30	121		129				250		23:30	12		7				19	
11:45	125	528	135	530			260	1058	23:45	11	54	12	50			23	104
TOTALS		3072		5077				8149	TOTALS		6488		4926				11414
SPLIT %		37.7%		62.3%				41.7%	SPLIT %		56.8%		43.2%				58.3%

DAILY TOTALS	NB	SB	EB	WB	Total
	9,560	10,003	0	0	19,563

AM Peak Hour	07:30	07:00					07:30	PM Peak Hour	15:30	14:45					15:15
AM Pk Volume	658	1189					1796	PM Pk Volume	1105	679					1689
Pk Hr Factor	0.924	0.947					0.937	Pk Hr Factor	0.918	0.908					0.932
7 - 9 Volume	1114	2155	0	0			3269	4 - 6 Volume	2002	1199	0	0			3201
7 - 9 Peak Hour	07:30	07:00					07:30	4 - 6 Peak Hour	16:00	16:30					16:30
7 - 9 Pk Volume	658	1189	0	0			1796	4 - 6 Pk Volume	1054	665	0	0			1634
Pk Hr Factor	0.924	0.947	0.000	0.000			0.937	Pk Hr Factor	0.875	0.899	0.000	0.000			0.961

Prepared by NDS/ATD

VOLUME

W Valley Pkwy Bet. Knoll View & Claudan Rd

Day: Wednesday
Date: 9/3/2014

City: Escondido
Project #: CA14_4226_004

DAILY TOTALS	NB	SB	EB	WB	Total
	9,218	9,514	0	0	18,732

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	4		4				8		12:00	122		124				246	
00:15	7		4				11		12:15	109		105				214	
00:30	3		7				10		12:30	108		129				237	
00:45	2	16	7	22			9	38	12:45	133	472	145	503			278	975
01:00	5		2				7		13:00	112		126				238	
01:15	4		5				9		13:15	110		133				243	
01:30	2		0				2		13:30	166		111				277	
01:45	4	15	1	8			5	23	13:45	126	514	129	499			255	1013
02:00	2		5				7		14:00	155		127				282	
02:15	3		2				5		14:15	189		108				297	
02:30	2		2				4		14:30	205		125				330	
02:45	0	7	3	12			3	19	14:45	186	735	120	480			306	1215
03:00	1		4				5		15:00	221		118				339	
03:15	1		5				6		15:15	288		132				420	
03:30	7		5				12		15:30	269		141				410	
03:45	4	13	8	22			12	35	15:45	258	1036	112	503			370	1539
04:00	1		9				10		16:00	258		112				370	
04:15	8		10				18		16:15	297		128				425	
04:30	5		23				28		16:30	258		150				408	
04:45	7	21	22	64			29	85	16:45	234	1047	111	501			345	1548
05:00	14		49				63		17:00	251		157				408	
05:15	18		62				80		17:15	243		138				381	
05:30	22		82				104		17:30	234		150				384	
05:45	36	90	104	297			140	387	17:45	220	948	109	554			329	1502
06:00	36		161				197		18:00	196		117				313	
06:15	42		276				318		18:15	200		113				313	
06:30	55		329				384		18:30	191		102				293	
06:45	92	225	342	1108			434	1333	18:45	129	716	67	399			196	1115
07:00	92		372				464		19:00	112		72				184	
07:15	117		369				486		19:15	136		54				190	
07:30	179		344				523		19:30	108		53				161	
07:45	153	541	261	1346			414	1887	19:45	98	454	41	220			139	674
08:00	170		269				439		20:00	93		56				149	
08:15	146		258				404		20:15	74		52				126	
08:30	122		233				355		20:30	55		50				105	
08:45	101	539	196	956			297	1495	20:45	70	292	54	212			124	504
09:00	83		202				285		21:00	56		35				91	
09:15	91		145				236		21:15	53		42				95	
09:30	96		148				244		21:30	35		28				63	
09:45	84	354	122	617			206	971	21:45	20	164	19	124			39	288
10:00	93		113				206		22:00	42		25				67	
10:15	98		146				244		22:15	31		10				41	
10:30	105		121				226		22:30	24		8				32	
10:45	105	401	123	503			228	904	22:45	28	125	10	53			38	178
11:00	120		119				239		23:00	13		12				25	
11:15	115		129				244		23:15	17		8				25	
11:30	97		123				220		23:30	10		3				13	
11:45	110	442	108	479			218	921	23:45	11	51	9	32			20	83
TOTALS		2664		5434				**8098**	**TOTALS**		6554		4080				**10634**
SPLIT %		32.9%		67.1%				**43.2%**	**SPLIT %**		61.6%		38.4%				**56.8%**

DAILY TOTALS	NB	SB	EB	WB	Total
	9,218	9,514	0	0	18,732

AM Peak Hour	07:30	06:45						**06:45**	**PM Peak Hour**	15:30	16:30							**16:15**
AM Pk Volume	648	1427						**1907**	**PM Pk Volume**	1082	556							**1586**
Pk Hr Factor	0.905	0.959						**0.912**	**Pk Hr Factor**	0.911	0.885							**0.933**
7 - 9 Volume	1080	2302	0	0				**3382**	**4 - 6 Volume**	1995	1055	0	0					**3050**
7 - 9 Peak Hour	07:30	07:00						**07:00**	**4 - 6 Peak Hour**	16:00	16:30							**16:15**
7 - 9 Pk Volume	648	1346	0	0				**1887**	**4 - 6 Pk Volume**	1047	556	0	0					**1586**
Pk Hr Factor	0.905	0.905	0.000	0.000				**0.902**	**Pk Hr Factor**	0.881	0.885	0.000	0.000					**0.933**

Prepared by NDS/ATD

VOLUME

11th Ave Bet. Masonry Pl & Chambers St

Day: Wednesday
Date: 9/3/2014

City: Escondido
Project #: CA14_4226_005

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	763	866	1,629

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			0		1		1		12:00			12		14		26	
00:15			1		2		3		12:15			11		25		36	
00:30			0		3		3		12:30			9		18		27	
00:45			0	1	0	6	0	7	12:45			13	45	14	71	27	116
01:00			0		0		0		13:00			6		19		25	
01:15			0		0		0		13:15			11		11		22	
01:30			1		1		2		13:30			11		7		18	
01:45			2	3	0	1	2	4	13:45			15	43	12	49	27	92
02:00			1		1		2		14:00			10		14		24	
02:15			1		1		2		14:15			10		9		19	
02:30			0		0		0		14:30			16		18		34	
02:45			1	3	0	2	1	5	14:45			18	54	15	56	33	110
03:00			0		1		1		15:00			10		13		23	
03:15			1		1		2		15:15			13		15		28	
03:30			2		1		3		15:30			12		25		37	
03:45			1	4	0	3	1	7	15:45			16	51	16	69	32	120
04:00			1		0		1		16:00			10		16		26	
04:15			1		2		3		16:15			21		10		31	
04:30			0		2		2		16:30			16		13		29	
04:45			1	3	2	6	3	9	16:45			23	70	18	57	41	127
05:00			4		0		4		17:00			23		26		49	
05:15			3		2		5		17:15			31		19		50	
05:30			4		4		8		17:30			20		19		39	
05:45			6	17	10	16	16	33	17:45			20	94	13	77	33	171
06:00			6		2		8		18:00			11		14		25	
06:15			14		12		26		18:15			15		18		33	
06:30			6		10		16		18:30			6		14		20	
06:45			27	53	11	35	38	88	18:45			9	41	16	62	25	103
07:00			13		18		31		19:00			4		9		13	
07:15			16		14		30		19:15			8		8		16	
07:30			18		13		31		19:30			2		3		5	
07:45			11	58	22	67	33	125	19:45			3	17	21	41	24	58
08:00			14		15		29		20:00			7		9		16	
08:15			12		17		29		20:15			5		11		16	
08:30			20		18		38		20:30			2		8		10	
08:45			10	56	16	66	26	122	20:45			6	20	6	34	12	54
09:00			8		5		13		21:00			5		1		6	
09:15			12		9		21		21:15			1		3		4	
09:30			9		8		17		21:30			1		2		3	
09:45			12	41	5	27	17	68	21:45			4	11	4	10	8	21
10:00			8		10		18		22:00			3		4		7	
10:15			8		11		19		22:15			1		2		3	
10:30			8		13		21		22:30			0		1		1	
10:45			6	30	12	46	18	76	22:45			1	5	3	10	4	15
11:00			8		10		18		23:00			1		3		4	
11:15			10		12		22		23:15			2		0		2	
11:30			8		16		24		23:30			1		1		2	
11:45			13	39	12	50	25	89	23:45			0	4	1	5	1	9
TOTALS				308		325		633	TOTALS				455		541		996
SPLIT %				48.7%		51.3%		38.9%	SPLIT %				45.7%		54.3%		61.1%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	763	866	1,629

AM Peak Hour			06:45	07:45	06:45	PM Peak Hour			16:45	16:45	16:45
AM Pk Volume			74	72	130	PM Pk Volume			97	82	179
Pk Hr Factor			0.685	0.818	0.855	Pk Hr Factor			0.782	0.788	0.895
7 - 9 Volume	0	0	114	133	247	4 - 6 Volume	0	0	164	134	298
7 - 9 Peak Hour			07:15	07:45	07:45	4 - 6 Peak Hour			16:45	16:45	16:45
7 - 9 Pk Volume	0	0	59	72	129	4 - 6 Pk Volume	0	0	97	82	179
Pk Hr Factor	0.000	0.000	0.819	0.818	0.849	Pk Hr Factor	0.000	0.000	0.782	0.788	0.895

Prepared by NDS/ATD

VOLUME

11th Ave Bet. Fun Ln & Del Dios Hwy

Day: Wednesday
Date: 9/3/2014

City: Escondido
Project #: CA14_4226_006

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	915	793	1,708

AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00			1	4	5	12:00			15	9	24
00:15			1	2	3	12:15			8	11	19
00:30			0	1	1	12:30			13	6	19
00:45			1	3 2 9	3 12	12:45			13	49 15 41	28 90
01:00			1	0	1	13:00			6	10	16
01:15			1	0	1	13:15			10	13	23
01:30			0	0	0	13:30			16	9	25
01:45			0	2 0	0 2	13:45			20	52 16 48	36 100
02:00			0	1	1	14:00			25	7	32
02:15			2	0	2	14:15			22	11	33
02:30			0	1	1	14:30			19	20	39
02:45			1	3 0 2	1 5	14:45			14	80 26 64	40 144
03:00			0	0	0	15:00			18	15	33
03:15			0	0	0	15:15			17	19	36
03:30			0	0	0	15:30			15	18	33
03:45			1	1 2 2	3 3	15:45			18	68 11 63	29 131
04:00			0	2	2	16:00			23	13	36
04:15			2	0	2	16:15			16	4	20
04:30			0	1	1	16:30			19	29	48
04:45			2	4 1 4	3 8	16:45			18	76 6 52	24 128
05:00			1	0	1	17:00			29	10	39
05:15			3	3	6	17:15			33	13	46
05:30			3	5	8	17:30			34	15	49
05:45			7	14 9 17	16 31	17:45			25	121 2 40	27 161
06:00			5	1	6	18:00			14	13	27
06:15			13	8	21	18:15			21	8	29
06:30			9	8	17	18:30			13	10	23
06:45			15	42 13 30	28 72	18:45			16	64 6 37	22 101
07:00			10	15	25	19:00			13	13	26
07:15			12	38	50	19:15			15	10	25
07:30			14	26	40	19:30			11	12	23
07:45			7	43 30 109	37 152	19:45			4	43 13 48	17 91
08:00			13	19	32	20:00			9	13	22
08:15			11	20	31	20:15			16	7	23
08:30			14	13	27	20:30			6	6	12
08:45			6	44 16 68	22 112	20:45			11	42 7 33	18 75
09:00			6	13	19	21:00			7	3	10
09:15			7	8	15	21:15			7	8	15
09:30			11	9	20	21:30			4	4	8
09:45			12	36 4 34	16 70	21:45			2	20 7 22	9 42
10:00			11	9	20	22:00			3	3	6
10:15			15	5	20	22:15			7	1	8
10:30			13	8	21	22:30			3	2	5
10:45			11	50 3 25	14 75	22:45			1	14 4 10	5 24
11:00			9	3	12	23:00			1	3	4
11:15			11	8	19	23:15			3	1	4
11:30			8	10	18	23:30			1	0	1
11:45			10	38 10 31	20 69	23:45			1	6 0 4	1 10
TOTALS				280 331	**611**	**TOTALS**				635 462	**1097**
SPLIT %				45.8% 54.2%	**35.8%**	**SPLIT %**				57.9% 42.1%	**64.2%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	915	793	1,708

AM Peak Hour			06:45	07:15	**07:15**	**PM Peak Hour**			17:00	14:30	**17:00**
AM Pk Volume			51	113	**159**	**PM Pk Volume**			121	80	**161**
Pk Hr Factor			0.850	0.743	**0.795**	**Pk Hr Factor**			0.890	0.769	**0.821**
7 - 9 Volume	0	0	87	177	**264**	**4 - 6 Volume**	0	0	197	92	**289**
7 - 9 Peak Hour			07:15	07:15	**07:15**	**4 - 6 Peak Hour**			17:00	16:30	**17:00**
7 - 9 Pk Volume	0	0	46	113	**159**	**4 - 6 Pk Volume**	0	0	121	58	**161**
Pk Hr Factor	0.000	0.000	0.821	0.743	**0.795**	**Pk Hr Factor**	0.000	0.000	0.890	0.500	**0.821**

Prepared by NDS/ATD

VOLUME

Avenida Del Diablo Bet. Autumn Woods Pl & W Valley Pkwy

Day: Wednesday
Date: 9/3/2014

City: Escondido
Project #: CA14_4226_007

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,166	1,186	2,352

AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00			1	2	3	12:00			6	13	19
00:15			1	1	2	12:15			14	13	27
00:30			0	1	1	12:30			9	19	28
00:45			1	3	3	7	4	10	12:45			18	47	15	60	33	107
01:00			1	2	3	13:00			12	10	22
01:15			2	0	2	13:15			16	21	37
01:30			0	1	1	13:30			16	17	33
01:45			0	3	1	4	1	7	13:45			21	65	14	62	35	127
02:00			1	0	1	14:00			16	14	30
02:15			0	0	0	14:15			13	24	37
02:30			0	0	0	14:30			18	23	41
02:45			0	1	0	0	1	14:45			17	64	23	84	40	148
03:00			0	1	1	15:00			13	20	33
03:15			1	0	1	15:15			17	26	43
03:30			2	2	4	15:30			23	27	50
03:45			1	4	1	4	2	8	15:45			18	71	27	100	45	171
04:00			2	0	2	16:00			18	24	42
04:15			2	0	2	16:15			31	23	54
04:30			5	1	6	16:30			26	30	56
04:45			3	12	1	2	4	14	16:45			20	95	23	100	43	195
05:00			5	1	6	17:00			26	26	52
05:15			10	1	11	17:15			20	35	55
05:30			8	4	12	17:30			21	20	41
05:45			11	34	6	12	17	46	17:45			25	92	30	111	55	203
06:00			18	6	24	18:00			15	26	41
06:15			20	6	26	18:15			21	16	37
06:30			29	13	42	18:30			23	23	46
06:45			19	86	8	33	27	119	18:45			12	71	24	89	36	160
07:00			27	10	37	19:00			19	23	42
07:15			37	12	49	19:15			8	23	31
07:30			24	23	47	19:30			10	20	30
07:45			26	114	16	61	42	175	19:45			14	51	14	80	28	131
08:00			28	17	45	20:00			14	26	40
08:15			20	23	43	20:15			7	13	20
08:30			19	19	38	20:30			8	12	20
08:45			22	89	17	76	39	165	20:45			4	33	15	66	19	99
09:00			19	11	30	21:00			4	21	25
09:15			21	11	32	21:15			4	14	18
09:30			17	14	31	21:30			3	13	16
09:45			15	72	12	48	27	120	21:45			5	16	6	54	11	70
10:00			19	11	30	22:00			4	7	11
10:15			29	8	37	22:15			4	5	9
10:30			15	18	33	22:30			1	3	4
10:45			21	84	14	51	35	135	22:45			4	13	3	18	7	31
11:00			11	16	27	23:00			0	4	4
11:15			13	14	27	23:15			0	1	1
11:30			11	11	22	23:30			0	3	3
11:45			11	46	14	55	25	101	23:45			0		1	9	1	9
TOTALS				548	353	901	TOTALS				618	833	1451
SPLIT %				60.8%	39.2%	38.3%	SPLIT %				42.6%	57.4%	61.7%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,166	1,186	2,352

AM Peak Hour			07:15	07:30	07:15	PM Peak Hour			16:15	16:30	16:30
AM Pk Volume			115	79	183	PM Pk Volume			103	114	206
Pk Hr Factor			0.777	0.859	0.934	Pk Hr Factor			0.831	0.814	0.920
7 - 9 Volume	0	0	203	137	340	4 - 6 Volume	0	0	187	211	398
7 - 9 Peak Hour			07:15	07:30	07:15	4 - 6 Peak Hour			16:15	16:30	16:30
7 - 9 Pk Volume	0	0	115	79	183	4 - 6 Pk Volume	0	0	103	114	206
Pk Hr Factor	0.000	0.000	0.777	0.859	0.934	Pk Hr Factor	0.000	0.000	0.831	0.814	0.920

Prepared by NDS/ATD

VOLUME

Avenida Del Diablo Bet. W Valley Pkwy & Del Dios Hwy

Day: Wednesday
Date: 9/3/2014

City: Escondido
Project #: CA14_4226_008

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	886	981	1,867

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			0		0		0		12:00			7		7		14	
00:15			0		0		0		12:15			9		11		20	
00:30			0		0		0		12:30			7		16		23	
00:45			0		0		0		12:45			4	27	10	44	14	71
01:00			0		0		0		13:00			10		11		21	
01:15			0		0		0		13:15			17		14		31	
01:30			0		1		1		13:30			12		8		20	
01:45			1	1	0	1	1	2	13:45			14	53	9	42	23	95
02:00			0		0		0		14:00			24		11		35	
02:15			0		1		1		14:15			14		17		31	
02:30			0		0		0		14:30			18		12		30	
02:45			0		0	1	0	1	14:45			14	70	22	62	36	132
03:00			0		0		0		15:00			14		19		33	
03:15			0		1		1		15:15			25		22		47	
03:30			0		0		0		15:30			30		21		51	
03:45			0		0	1	0	1	15:45			23	92	19	81	42	173
04:00			1		0		1		16:00			13		17		30	
04:15			2		0		2		16:15			31		12		43	
04:30			3		3		6		16:30			31		23		54	
04:45			0	6	2	5	2	11	16:45			26	101	16	68	42	169
05:00			3		3		6		17:00			30		19		49	
05:15			5		6		11		17:15			15		20		35	
05:30			2		7		9		17:30			13		14		27	
05:45			4	14	10	26	14	40	17:45			20	78	17	70	37	148
06:00			8		14		22		18:00			11		19		30	
06:15			15		22		37		18:15			23		11		34	
06:30			17		29		46		18:30			21		12		33	
06:45			8	48	15	80	23	128	18:45			9	64	17	59	26	123
07:00			16		31		47		19:00			9		9		18	
07:15			16		30		46		19:15			9		10		19	
07:30			21		29		50		19:30			8		12		20	
07:45			20	73	23	113	43	186	19:45			3	29	4	35	7	64
08:00			13		27		40		20:00			6		11		17	
08:15			13		22		35		20:15			7		6		13	
08:30			10		16		26		20:30			9		7		16	
08:45			10	46	17	82	27	128	20:45			9	31	17	41	26	72
09:00			11		10		21		21:00			1		13		14	
09:15			9		12		21		21:15			4		11		15	
09:30			13		10		23		21:30			3		5		8	
09:45			8	41	14	46	22	87	21:45			4	12	5	34	9	46
10:00			15		13		28		22:00			0		1		1	
10:15			18		5		23		22:15			2		1		3	
10:30			18		11		29		22:30			1		4		5	
10:45			5	56	12	41	17	97	22:45			2	5	4	10	6	15
11:00			12		5		17		23:00			2		4		6	
11:15			9		16		25		23:15			0		0		0	
11:30			10		7		17		23:30			0		1		1	
11:45			5	36	6	34	11	70	23:45			1	3	0	5	1	8
TOTALS				321		430		751	TOTALS				565		551		1116
SPLIT %				42.7%		57.3%		40.2%	SPLIT %				50.6%		49.4%		59.8%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	886	981	1,867

AM Peak Hour			07:00	07:00	07:00		PM Peak Hour			16:15	14:45	16:15
AM Pk Volume			73	113	186		PM Pk Volume			118	84	188
Pk Hr Factor			0.869	0.911	0.930		Pk Hr Factor			0.952	0.955	0.870
7 - 9 Volume	0	0	119	195	314		4 - 6 Volume	0	0	179	138	317
7 - 9 Peak Hour			07:00	07:00	07:00		4 - 6 Peak Hour			16:15	16:30	16:15
7 - 9 Pk Volume	0	0	73	113	186		4 - 6 Pk Volume	0	0	118	78	188
Pk Hr Factor	0.000	0.000	0.869	0.911	0.930		Pk Hr Factor	0.000	0.000	0.952	0.848	0.870

Prepared by NDS/ATD

VOLUME

Citracado Pkwy Bet. W Valley Pkwy & Mesa Grande Rd

Day: Wednesday
Date: 9/3/2014

City: Escondido
Project #: CA14_4226_010

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,619	1,214	2,833

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00					2		0		2		12:00					22		12		34	
00:15					0		0		0		12:15					15		6		21	
00:30					0		0		0		12:30					7		11		18	
00:45					0	2	0		0	2	12:45					20	64	12	41	32	105
01:00					1		0		1		13:00					16		20		36	
01:15					0		1		1		13:15					12		14		26	
01:30					0		0		0		13:30					18		15		33	
01:45					0	1	0	1	0	2	13:45					16	62	26	75	42	137
02:00					0		0		0		14:00					14		17		31	
02:15					0		0		0		14:15					19		12		31	
02:30					0		1		1		14:30					28		17		45	
02:45					2	2	2	3	4	5	14:45					30	91	8	54	38	145
03:00					2		1		3		15:00					72		15		87	
03:15					0		1		1		15:15					93		35		128	
03:30					0		3		3		15:30					72		71		143	
03:45					0	2	3	8	3	10	15:45					44	281	23	144	67	425
04:00					0		1		1		16:00					42		27		69	
04:15					1		0		1		16:15					39		20		59	
04:30					2		6		8		16:30					41		17		58	
04:45					0	3	3	10	3	13	16:45					33	155	25	89	58	244
05:00					2		8		10		17:00					34		11		45	
05:15					1		7		8		17:15					28		19		47	
05:30					1		6		7		17:30					26		26		52	
05:45					4	8	8	29	12	37	17:45					17	105	13	69	30	174
06:00					12		10		22		18:00					27		10		37	
06:15					13		19		32		18:15					26		16		42	
06:30					5		13		18		18:30					18		29		47	
06:45					14	44	32	74	46	118	18:45					14	85	14	69	28	154
07:00					17		37		54		19:00					18		11		29	
07:15					34		32		66		19:15					10		15		25	
07:30					67		42		109		19:30					25		2		27	
07:45					77	195	35	146	112	341	19:45					13	66	8	36	21	102
08:00					135		48		183		20:00					20		19		39	
08:15					38		34		72		20:15					19		5		24	
08:30					9		32		41		20:30					9		6		15	
08:45					12	194	15	129	27	323	20:45					14	62	1	31	15	93
09:00					8		17		25		21:00					13		1		14	
09:15					8		14		22		21:15					11		5		16	
09:30					9		11		20		21:30					9		4		13	
09:45					10	35	9	51	19	86	21:45					4	37	2	12	6	49
10:00					8		21		29		22:00					4		3		7	
10:15					16		15		31		22:15					5		3		8	
10:30					8		19		27		22:30					3		0		3	
10:45					16	48	18	73	34	121	22:45					1	13	0	6	1	19
11:00					15		10		25		23:00					2		2		4	
11:15					18		23		41		23:15					1		0		1	
11:30					9		15		24		23:30					0		1		1	
11:45					19	61	13	61	32	122	23:45					0	3	0	3	0	6
TOTALS						595		585		1180	TOTALS						1024		629		1653
SPLIT %						50.4%		49.6%		41.7%	SPLIT %						61.9%		38.1%		58.3%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,619	1,214	2,833

AM Peak Hour			07:30	07:30	07:30	PM Peak Hour			15:00	15:15	15:00
AM Pk Volume			317	159	476	PM Pk Volume			281	156	425
Pk Hr Factor			0.587	0.828	0.650	Pk Hr Factor			0.755	0.549	0.743
7 - 9 Volume	0	0	389	275	664	4 - 6 Volume	0	0	260	158	418
7 - 9 Peak Hour			07:30	07:30	07:30	4 - 6 Peak Hour			16:00	16:00	16:00
7 - 9 Pk Volume	0	0	317	159	476	4 - 6 Pk Volume	0	0	155	89	244
Pk Hr Factor	0.000	0.000	0.587	0.828	0.650	Pk Hr Factor	0.000	0.000	0.923	0.824	0.884

Prepared by NDS/ATD

VOLUME

Citracado Pkwy Bet. Yankee Ct & W Valley Pkwy

Day: Wednesday
Date: 9/3/2014

City: Escondido
Project #: CA14_4226_009

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,128	2,027	4,155

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			1		4		5		12:00			16		23		39	
00:15			2		4		6		12:15			16		25		41	
00:30			1		0		1		12:30			22		23		45	
00:45			1	5	1	9	2	14	12:45			20	74	25	96	45	170
01:00			0		4		4		13:00			27		38		65	
01:15			0		2		2		13:15			27		21		48	
01:30			0		1		1		13:30			33		30		63	
01:45			0		0	7	0	7	13:45			40	127	29	118	69	245
02:00			4		0		4		14:00			39		24		63	
02:15			3		2		5		14:15			30		51		81	
02:30			2		2		4		14:30			44		53		97	
02:45			2	11	1	5	3	16	14:45			33	146	34	162	67	308
03:00			3		2		5		15:00			29		54		83	
03:15			1		0		1		15:15			34		52		86	
03:30			4		2		6		15:30			31		51		82	
03:45			1	9	0	4	1	13	15:45			35	129	48	205	83	334
04:00			1		0		1		16:00			29		40		69	
04:15			5		0		5		16:15			42		40		82	
04:30			9		1		10		16:30			36		27		63	
04:45			7	22	1	2	8	24	16:45			19	126	40	147	59	273
05:00			21		6		27		17:00			43		42		85	
05:15			15		6		21		17:15			36		55		91	
05:30			18		4		22		17:30			30		57		87	
05:45			24	78	8	24	32	102	17:45			37	146	51	205	88	351
06:00			18		5		23		18:00			26		36		62	
06:15			41		11		52		18:15			32		39		71	
06:30			49		11		60		18:30			24		47		71	
06:45			59	167	20	47	79	214	18:45			18	100	37	159	55	259
07:00			63		29		92		19:00			20		40		60	
07:15			100		32		132		19:15			19		19		38	
07:30			83		51		134		19:30			16		31		47	
07:45			55	301	47	159	102	460	19:45			16	71	32	122	48	193
08:00			48		41		89		20:00			11		23		34	
08:15			35		30		65		20:15			16		28		44	
08:30			34		21		55		20:30			11		21		32	
08:45			27	144	21	113	48	257	20:45			8	46	25	97	33	143
09:00			38		14		52		21:00			7		24		31	
09:15			33		14		47		21:15			11		21		32	
09:30			32		19		51		21:30			12		17		29	
09:45			23	126	22	69	45	195	21:45			10	40	10	72	20	112
10:00			31		16		47		22:00			7		10		17	
10:15			27		15		42		22:15			6		10		16	
10:30			34		16		50		22:30			3		8		11	
10:45			20	112	22	69	42	181	22:45			5	21	11	39	16	60
11:00			34		20		54		23:00			1		2		3	
11:15			34		20		54		23:15			2		4		6	
11:30			23		20		43		23:30			1		5		6	
11:45			28	119	20	80	48	199	23:45			4	8	6	17	10	25
TOTALS				1094		588		1682	TOTALS				1034		1439		2473
SPLIT %				65.0%		35.0%		40.5%	SPLIT %				41.8%		58.2%		59.5%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,128	2,027	4,155

AM Peak Hour			06:45	07:15	07:00	PM Peak Hour			13:45	15:00	17:00
AM Pk Volume			305	171	460	PM Pk Volume			153	205	351
Pk Hr Factor			0.763	0.838	0.858	Pk Hr Factor			0.869	0.949	0.964
7 - 9 Volume	0	0	445	272	717	4 - 6 Volume	0	0	272	352	624
7 - 9 Peak Hour			07:00	07:15	07:00	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	301	171	460	4 - 6 Pk Volume	0	0	146	205	351
Pk Hr Factor	0.000	0.000	0.753	0.838	0.858	Pk Hr Factor	0.000	0.000	0.849	0.899	0.964

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Pedestrian Count Peak Hour

	Start:	End:
AM	7:00	9:00
NOON		
PM	16:00	18:00

PROJECT#: 14-4225-001
N/S Street: W Valley Pkwy
E/W Street: W 11th Ave
DATE: 9/3/2014
CITY: Escondido

DAY: Wednesday

AM	1
NOON	0
PM	0

0	AM
0	NOON
0	PM

AM	NOON	PM
1	0	1

NORTH LEG

AM	NOON	PM
7	0	0

WEST LEG

EAST LEG

1	0	1
AM	NOON	PM

3	0	2
AM	NOON	PM

SOUTH LEG

AM	1
NOON	0
PM	0

0	AM
0	NOON
0	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Bicycle Count Peak Hour

	Start:	End:
AM	7:00	9:00
NOON		
PM	16:00	18:00

PROJECT#: 14-4225-001
N/S Street: W Valley Pkwy
E/W Street: W 11th Ave
DATE: 9/3/2014
CITY: Escondido

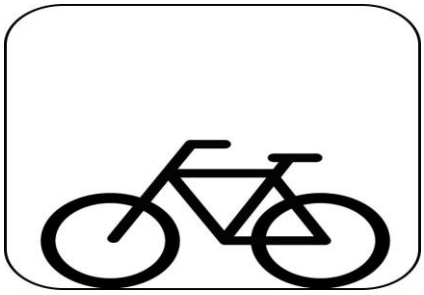
DAY: Wednesday

AM	0	2	0
NOON	0	0	0
PM	0	3	0

NORTH LEG

AM	NOON	PM
0	0	0
0	0	0
1	0	0

WEST LEG



EAST LEG

AM	NOON	PM
2	0	0
0	0	0
0	0	0

SOUTH LEG

AM	0	1	0
NOON	0	0	0
PM	0	3	0

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 14-4225-001
N/S Street: W Valley Pkwy
E/W Street: W 11th Ave
DATE: 9/3/2014 DAY: Wednesday
CITY: Escondido

A M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	1	0	1	0	1	7	1	0
7:15 AM	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	2	0	0	0
8:00 AM	0	0	0	0	0	1	0	1
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	1	0	0	1	0	0
8:45 AM	1	0	0	0	1	0	1	1
TOTALS	**2**	**0**	**2**	**0**	**4**	**9**	**2**	**3**

BIKES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	1	0	0	1	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	1	0	0	1
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	1	0	0	0	0	0	0	0	0	0	0
TOTALS	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**2**

P M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
4:00 PM	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	2	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	1	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	1	0	0	1
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**3**	**0**	**1**	**2**

BIKES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	1	0	0	0	0	0	0	0
4:30 PM	0	2	0	0	1	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	2	0	0	0	0	0	0	0
5:15 PM	0	1	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0
TOTALS	**0**	**4**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Pedestrian Count Peak Hour

	Start:	End:
AM	7:00	9:00
NOON		
PM	16:00	18:00

PROJECT#: 14-4225-004
N/S Street: Del Dios Hwy
E/W Street: W 11th Ave
DATE: 9/3/2014
CITY: Escondido

DAY: Wednesday

AM	3
NOON	0
PM	1

0	AM
0	NOON
1	PM

AM	NOON	PM
0	0	0

AM	NOON	PM
1	0	3

NORTH LEG

WEST LEG

EAST LEG

0	0	0
AM	NOON	PM

5	0	0
AM	NOON	PM

SOUTH LEG

AM	1
NOON	0
PM	0

1	AM
0	NOON
1	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Bicycle Count Peak Hour

	Start:	End:
AM	7:00	9:00
NOON		
PM	16:00	18:00

PROJECT#: 14-4225-004
N/S Street: Del Dios Hwy
E/W Street: W 11th Ave
DATE: 9/3/2014
CITY: Escondido

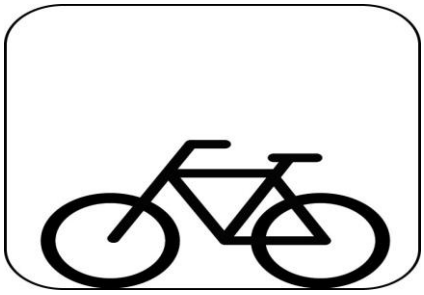
DAY: Wednesday

AM	0	1	0
NOON	0	0	0
PM	0	0	0

NORTH LEG

AM	NOON	PM
0	0	0
0	0	0
0	0	0

WEST LEG



EAST LEG

AM	NOON	PM
0	0	0
0	0	0
0	0	0

SOUTH LEG

AM	0	0	0
NOON	0	0	0
PM	0	0	0

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 14-4225-004
N/S Street: Del Dios Hwy
E/W Street: W 11th Ave
DATE: 9/3/2014 DAY: Wednesday
CITY: Escondido

A M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	1	0	1	0	2	0	0	0
7:15 AM	0	0	0	0	1	0	0	0
7:30 AM	0	0	0	1	0	0	0	0
7:45 AM	2	0	0	0	2	1	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	1	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	1	0	0	0	0	0	0	0
TOTALS	**4**	**1**	**1**	**1**	**5**	**1**	**0**	**0**

BIKES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

P M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
4:00 PM	1	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	2	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	1	0	0	1	0	1	0	0
5:30 PM	0	1	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**2**	**1**	**0**	**1**	**0**	**3**	**0**	**0**

BIKES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Pedestrian Count Peak Hour

	Start:	End:
AM	7:00	9:00
NOON		
PM	16:00	18:00

PROJECT#: 14-4225-002
N/S Street: W Valley Pkwy
E/W Street: Avenida Del Diablo
DATE: 9/3/2014
DAY: Wednesday
CITY: Escondido

AM	10
NOON	0
PM	0

12	AM
0	NOON
1	PM

AM	NOON	PM
0	0	1

NORTH LEG

AM	NOON	PM
2	0	0

WEST LEG

EAST LEG

0	0	0
AM	NOON	PM

SOUTH LEG

1	0	0
AM	NOON	PM

AM	0
NOON	0
PM	0

2	AM
0	NOON
2	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Bicycle Count Peak Hour

	Start:	End:
AM	7:00	9:00
NOON		
PM	16:00	18:00

PROJECT#: 14-4225-002
N/S Street: W Valley Pkwy
E/W Street: Avenida Del Diablo
DATE: 9/3/2014
CITY: Escondido

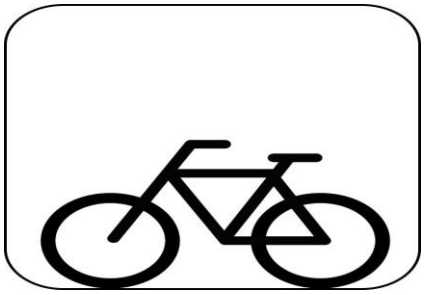
DAY: Wednesday

AM	0	0	3
NOON	0	0	0
PM	0	0	2

NORTH LEG

AM	NOON	PM
0	0	0
0	0	0
0	0	0

WEST LEG



EAST LEG

AM	NOON	PM
0	0	0
0	0	0
0	0	0

SOUTH LEG

AM	0	0	1
NOON	0	0	0
PM	2	0	2

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 14-4225-002
N/S Street: W Valley Pkwy
E/W Street: Avenida Del Diablo
DATE: 9/3/2014 DAY: Wednesday
CITY: Escondido

A M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	9	12	0	0	1	2	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	1	0	0	0	0	0	0	0
7:45 AM	0	0	0	2	0	0	0	0
8:00 AM	1	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	1	1	0	1	0	1	0
8:45 AM	0	2	2	0	1	0	1	0
TOTALS	**11**	**15**	**3**	**2**	**3**	**2**	**2**	**0**

BIKES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	1	0	0	0	0	0	0	0	0
7:45 AM	0	0	1	1	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	1	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	1	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**1**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

P M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	1	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	1	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**1**

BIKES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0
4:30 PM	2	0	0	1	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	1	0	0	0	0	0	0	0	0
5:15 PM	0	0	1	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	1	0	0	0	0	0	0	0	0	0
TOTALS	**2**	**0**	**4**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Pedestrian Count Peak Hour

	Start:	End:
AM	7:00	9:00
NOON		
PM	16:00	18:00

PROJECT#: 14-4225-005
N/S Street: Del Dios Hwy
E/W Street: Avenida Del Diablo
DATE: 9/3/2014
DAY: Wednesday
CITY: Escondido

AM	1
NOON	0
PM	0

1	AM
0	NOON
0	PM

AM	NOON	PM
1	0	0

NORTH LEG

AM	NOON	PM
0	0	0

WEST LEG

EAST LEG

0	0	1
AM	NOON	PM

SOUTH LEG

0	0	0
AM	NOON	PM

AM	0
NOON	0
PM	0

1	AM
0	NOON
0	PM

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

Bicycle Count Peak Hour

	Start:	End:
AM	7:00	9:00
NOON		
PM	16:00	18:00

PROJECT#: 14-4225-005
N/S Street: Del Dios Hwy
E/W Street: Avenida Del Diablo
DATE: 9/3/2014
CITY: Escondido

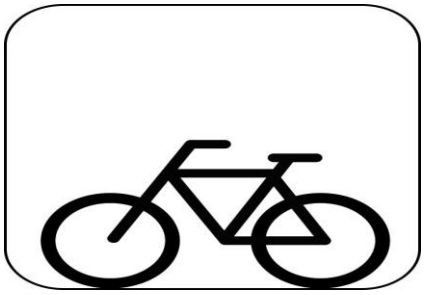
DAY: Wednesday

AM	0	1	0
NOON	0	0	0
PM	0	0	0

NORTH LEG

AM	NOON	PM
1	0	0
0	0	0
0	0	0

WEST LEG



EAST LEG

AM	NOON	PM
0	0	0
0	0	0
0	0	0

SOUTH LEG

AM	0	0	0
NOON	0	0	0
PM	0	0	0

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 14-4225-005
N/S Street: Del Dios Hwy
E/W Street: Avenida Del Diablo
DATE: 9/3/2014 DAY: Wednesday
CITY: Escondido

A M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	1	0	0	0	0	0
7:15 AM	1	0	0	0	0	0	0	0
7:30 AM	0	0	0	1	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	1	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTALS	**1**	**1**	**1**	**1**	**0**	**0**	**0**	**1**

BIKES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	1	0	1	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**

P M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	1	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

BIKES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

INTERSECTION: Eleventh & Valley

Group Assignment: **4018**
Field Master Assignment: **NONE**
System Reference Number: **77**

N/S Street Name: **Eleventh**
E/W Street Name: **Valley**

Last Database Change: **10/23/2008 14:07**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Drop Number	6	<C+0+0>
Zone Number		<C+0+1>
Area Number	0	<C+0+2>
Area Address	77	<C+0+3>
QuicNet Channel	DIGI3:	(QuicNet)

Communication Addresses

Manual Plan		<C+A+1>
Manual Offset		<C+B+1>

Manual Selection

Max Initial	20	<F+0+E>
Red Revert	2.0	<F+0+F>
All Red Start	5.0	<F+C+0>

Start / Revert Times

	Phase										
	Column Numbers ---->	1	2	3	4	5	6	7	8	E	F
Row	*Phase Names ---->*										Row
0	Ped Walk	0	5	0	5	0	5	0	5	RR-1 Delay 0	Permit 12_456_8	0
1	Ped FDW	0	12	0	19	0	12	0	19	RR-1 Clear 10	Red Lock	1
2	Min Green	4	4	3	4	4	4	3	4	EV-A Delay 0	Yellow Lock	2
3	Type 3 Limit	0	99	0	99	0	99	0	99	EV-A Clear 1	Min Recall	3
4	Added Initial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	EV-B Delay 0	Ped Recall	4
5	Veh Extension	2.5	2.5	2.0	2.5	2.5	2.5	2.0	2.5	EV-B Clear 1	*View Set Peds* - - - - -	5
6	Max Gap	2.5	2.5	2.0	2.5	2.5	2.5	2.0	2.5	EV-C Delay 0	Rest In Walk	6
7	Min Gap	2.5	2.5	2.0	2.5	2.5	2.5	2.0	2.5	EV-C Clear 1	Red Rest	7
8	Max Limit	20	40	20	20	20	40	20	20	EV-D Delay 0	Dual Entry	8
9	Max Limit 2	30	70	30	70	30	70	30	70	EV-D Clear 1	Max Recall	9
A	- - - - - -	0	0	0	0	0	0	0	0	RR-2 Delay 0	Soft Recall _2___6__	A
B	Call To Phase	0	0	0	0	0	0	0	0	RR-2 Clear 10	Max 2	B
C	Reduce By	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	*View EV Delay* - - -	Cond. Service	C
D	Reduce Every	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	*View EV Clear* - - -	Man Cntrl Calls	D
E	Yellow Change	4.0	4.5	3.5	4.0	4.0	4.5	3.0	4.0	*View RR Delay* - - -	Yellow Start 1___5___	E
F	Red Clear	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	*View RR Clear* - - -	First Phases _2___6__	F

Phase Timing - Bank 1 <F Page>

Preempt Timing

Phase Functions <F Page>

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Coordination <C Page>

Row	Column Numbers ---->	Plan 1	2	3	4	5	6	7	8	9	Row
	Plan Name ---->										
0	Cycle Length	0	100	105	0	0	105	100	110	0	0
1	Phase 1 - ForceOff	0	38	43	0	0	12	16	64	0	1
2	Phase 2 - ForceOff	0	12	12	0	0	0	0	23	0	2
3	Phase 3 - ForceOff	0	0	0	0	0	255	255	255	0	3
4	Phase 4 - ForceOff	0	27	32	0	0	27	31	38	0	4
5	Phase 5 - ForceOff	0	10	12	0	0	64	62	23	0	5
6	Phase 6 - ForceOff	0	0	0	0	0	11	16	0	0	6
7	Phase 7 - ForceOff	0	0	0	0	0	255	255	255	0	7
8	Phase 8 - ForceOff	0	27	32	0	0	42	46	53	0	8
9	Ring Offset	0	0	0	0	0	0	0	0	0	9
A	Offset 1	0	68	56	0	0	101	21	6	0	A
B	Offset 2	0	0	0	0	0	0	0	0	0	B
C	Offset 3	0	0	0	0	0	0	0	0	0	C
D	Permissive	0	14	14	0	0	14	30	25	0	D
E	Hold Release	0	255	75	0	0	255	85	255	0	E
F	Zone Offset	0	0	0	0	0	0	0	0	0	F

(* = Coordination Recall)

Sync Phases <C Page>

Row		E	Row
0			0
1	Plan 1 - Sync	_2___6__	1
2	Plan 2 - Sync	_2___6__	2
3	Plan 3 - Sync	_2___6__	3
4	Plan 4 - Sync	_2___6__	4
5	Plan 5 - Sync	_2___6__	5
6	Plan 6 - Sync	_2___6__	6
7	Plan 7 - Sync	_2___6__	7
8	Plan 8 - Sync	_2___6__	8
9	Plan 9 - Sync	_2___6__	9
A	Coord Ped *	_____	A
B	NEMA Hold	_____	B
C			C
D			D
E			E
F			F

Configuration <E Page>

Row	Column Numbers ---->	E	Row
0	Exclusive Phases	___4___8	0
1	RR-1 Clear Phases	_____	1
2	RR-2 Clear Phases	_____	2
3	RR-2 Limited Service	_____	3
4	Prot / Perm Phases	_____	4
5	Overlap A - Green Omit	_____	5
6	Overlap B - Green Omit	_____	6
7	Overlap C - Green Omit	_____	7
8	Overlap D - Green Omit	_____	8
9	Overlap Yellow Flash	_____	9
A	EV-A Phases	_2__5___	A
B	EV-B Phases	___4____	B
C	EV-C Phases	1____6__	C
D	EV-D Phases	_____8	D
E	Extra 1 Config. Bits	1_3_____	E
F	IC Select (Interconnect)	_2_____	F

Configuration <E Page>

	F
RR Overlap A - Phases	_____
RR Overlap B - Phases	_____
RR Overlap C - Phases	_____
RR Overlap D - Phases	_____
Ped 2P	_2_____
Ped 6P	_____6__
Ped 4P	___4____
Ped 8P	_____8
Yellow Flash Phases	_____
Overlap A - Phases	_____
Overlap B - Phases	_____
Overlap C - Phases	_____
Overlap D - Phases	_____
Restricted Phases	_____
Assign 5 Outputs	_____

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = EV Advance
5 =
6 = Special Event
7 = Pretimed Operation
8 = Split Ring Operation

Assign 5 Outputs
(Ped Loadswitch Yellows)
1 = Right Turn Overlap
2 = TOD Outputs
3 = EV Beacon - Steady
4 = EV Beacon - Flashing
5 = Special Event Outputs
6 = Phase 3 & 7 Ped
7 = Advanced Warning Sign
8 =

Force-Off Adjust	14

Coord Force-Off Adjust for Ped Service <C+D+F>

Transition Type	0

TBC Transition <C+D+D>

Transition Type
0 = Shortway
Non-zero = Lengthen

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

Lag Phases <C Page>

Row		F	Row
0	Free Lag	_2_4_6_8	0
1	Plan 1 - Lag	_2_4_6_8	1
2	Plan 2 - Lag	_2_45__8	2
3	Plan 3 - Lag	_2_45__8	3
4	Plan 4 - Lag	_2_4_6_8	4
5	Plan 5 - Lag	_2_4_6_8	5
6	Plan 6 - Lag	1__4_6_8	6
7	Plan 7 - Lag	1__4_6_8	7
8	Plan 8 - Lag	_2_45__8	8
9	Plan 9 - Lag	_2_4_6_8	9
A	Coord Max *	_____	A
B	Coord Lag *	_____	B
C			C
D			D
E			E
F			F

Row	Time	Plan	Offset	Day of Week
0	06 : 00	6	A	_23456_
1	09 : 00	7	A	_23456_
2	15 : 00	8	A	_23456_
3	18 : 00	7	A	_23456_
4	21 : 30	E	A	_23456_
5	07 : 00	7	A	1_____
6	15 : 00	8	A	1_____
7	18 : 00	7	A	1_____
8	21 : 00	E	A	1_____
9	07 : 30	7	A	_____7
A	15 : 00	8	A	_____7
B	18 : 00	7	A	_____7
C	21 : 00	E	A	_____7
D	00 : 00	0	A	_____
E	00 : 00	0	A	_____
F	00 : 00	0	A	_____

TOD Coordination
<9 Key with C+D+9=0>

Time	Funct.	Day of Week	Column F Phases/Bits
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____

TOD Function
<7 Key>
<D Page>

Time	Plan	Offset	Day of Week
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____

Holiday # 1
TOD Coordination
<9 Key with C+D+9=1>

Time	Plan	Offset	Day of Week
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____

Holiday # 2
TOD Coordination
<9 Key with C+D+9=2>

Time	Plan	Offset	Day of Week	Row
00 : 00	0	0	_____	0
00 : 00	0	0	_____	1
00 : 00	0	0	_____	2
00 : 00	0	0	_____	3
00 : 00	0	0	_____	4
00 : 00	0	0	_____	5
00 : 00	0	0	_____	6
00 : 00	0	0	_____	7
00 : 00	0	0	_____	8
00 : 00	0	0	_____	9
00 : 00	0	0	_____	A
00 : 00	0	0	_____	B
00 : 00	0	0	_____	C
00 : 00	0	0	_____	D
00 : 00	0	0	_____	E
00 : 00	0	0	_____	F

Holiday # 3
TOD Coordination
<9 Key with C+D+9=3>

Plan Select
1 thru 9 = Coordination Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Row		Day	Year	Month	Day of Week
A	Holiday # 1 Date	0	0	0	_____
B	Holiday # 2 Date	0	0	0	_____
C	Holiday # 3 Date	0	0	0	_____

Holiday Dates
<8 Key>

Row	1 Delay	3 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		I-1	14
1	0.0	0.0		I-2U	1
2	0.0	0.0		I-2L	5
3	0.0	0.0		I-3U	21
4	0.0	0.0		I-3L	25
5	0.0	0.0		I-4	9
6	0.0	0.0		I-5	16
7	0.0	0.0		I-6U	3
8	0.0	0.0		I-6L	7
9	0.0	0.0		I-7U	23
A	0.0	0.0		I-7L	27
B	0.0	0.0		I-8	11
C	0.0	0.0		I-9U	18
D	0.0	0.0		I-9L	20
E	- - -	- - -	- - -	- - -	- - -
F	- - -	- - -	- - -	- - -	- - -

Row	2 Delay	4 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		J-1	13
1	0.0	0.0		J-2U	2
2	0.0	0.0		J-2L	6
3	0.0	0.0		J-3U	22
4	0.0	0.0		J-3L	26
5	0.0	0.0		J-4	10
6	0.0	0.0		J-5	15
7	0.0	0.0		J-6U	4
8	0.0	0.0		J-6L	8
9	0.0	0.0		J-7U	24
A	0.0	0.0		J-7L	28
B	0.0	0.0		J-8	12
C	0.0	0.0		J-9U	17
D	0.0	0.0		J-9L	19
E	- - -	- - -	- - -	- - -	- - -
F	- - -	- - -	- - -	- - -	- - -

Detector Delay & Carryover <D Page>

Row		9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
A	Overlap A	0.0	0.0	0.0	0
B	Overlap B	0.0	0.0	0.0	0
C	Overlap C	0.0	0.0	0.0	0
D	Overlap D	0.0	0.0	0.0	0

Overlap Timing <F Page> <D Page>

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234____
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	____5678
E	-- -- -- -- -- -- -- --	1234____
F	-- 25 26 27 28 -- -- --	_2345___

Active Detectors <D Page>

Note: Initialized data is for all detectors to be active (ie, all flag bits set). A Detector which is "not flagged", will not be active as a Phase Detector, and WILL NOT call or extend its associated phase. It will still function as a System Detector.

Row		0 Detector Number
0		
1	System Det. # 1	0
2	System Det. # 2	0
3	System Det. # 3	0
4	System Det. # 4	0
5	System Det. # 5	0
6	System Det. # 6	0
7	System Det. # 7	0
8	System Det. # 8	0

System Detectors <D Page>

Max ON (minutes)	5	<D+A+E>
Max OFF (minutes)	60	<D+A+F>

Detector Failure Monitor

Phase Number	0	<F+C+1>
Time Before Yellow	0.0	<F+C+3>

Advance Warning Beacon - Sign 1

Phase Number	0	<F+D+1>
Time Before Yellow	0.0	<F+D+3>

Advance Warning Beacon - Sign 2

Long Failure	0.0	<F+0+6>
Short Failure	0.0	<F+0+7>

Power Cycle Correction (Default = 0.5)

Disable Parity	0	<D+B+0>

Dial-Up Telephone Communications
(If set to a non-zero value, parity will be disabled)

Row	Column Numbers ---->	Phase 1	2	3	4	5	6	7	8
	Phase Names ----->								
0	Ped Walk	0	5	0	5	0	5	0	5
1	Ped FDW	0	12	0	19	0	12	0	19
2	Min Green	4	4	3	4	4	4	3	4
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Veh Extension	0.4	2.0	2.0	2.0	2.0	2.0	2.0	2.0
6	Max Gap	8.4	2.0	2.0	2.0	2.0	2.0	2.0	2.0
7	Min Gap	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
8	Max Limit	20	40	20	20	20	40	20	20
9	Max Limit 2	30	70	30	70	30	70	30	70
A	- - - - - -	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0
D	Reduce Every	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0
E	Yellow Change	4.0	4.5	3.5	4.0	4.0	4.5	3.0	4.0
F	Red Clear	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

Phase Timing - Bank 2 <F Page>

Row	Column Numbers ---->	Phase 1	2	3	4	5	6	7	8
	Phase Names ----->								
0	Ped Walk	0	5	0	5	0	5	0	5
1	Ped FDW	0	12	0	10	0	12	0	10
2	Min Green	3	4	3	4	1	4	1	4
3	Type 3 Limit	0	0	0	0	0	0	4	0
4	Added Initial	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Veh Extension	2.8	2.0	2.0	2.0	2.0	2.0	2.0	2.0
6	Max Gap	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0
7	Min Gap	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
8	Max Limit	20	40	20	20	20	40	20	20
9	Max Limit 2	30	70	30	70	30	70	30	0
A	- - - - - -	0	0	0	0	0	0	0	66
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.0	0.1	0.0	0.0	0.0	0.0	1.0
D	Reduce Every	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0
E	Yellow Change	4.0	4.5	3.5	4.0	4.0	4.5	3.0	4.0
F	Red Clear	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

Phase Timing - Bank 3 <F Page>

Row		7 Time	8 Dwell	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0	Delay Only --->	0	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
1		0	0							
2		0	0							
3		0	0							
4		0	0							
5		0	0							
6		0	0							
7		0	0							
8		0	0							
9	Limited Service Int. --->	0	0							
A		- - -	0							
B		0	0							
C		0	0							
D		0	0							
E		0	0							
F		0	0							

<--- Limited Service Interval
(Set Dwell = 255)

Special Event Schedule <C Page with F+9+F=22>

INTERSECTION: Ave. del Diablo & Valley

Group Assignment: **4010**
Field Master Assignment: **NONE**
System Reference Number: **90**

N/S Street Name: **Valley**
E/W Street Name: **Ave. del Diablo**

Last Database Change: **11/23/2011 10:55**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Drop Number	**12**	<C+0+0>
Zone Number		<C+0+1>
Area Number	**0**	<C+0+2>
Area Address	**90**	<C+0+3>
QuicNet Channel	**COM103:**	(QuicNet)

Communication Addresses

Manual Plan		<C+A+1>
Manual Offset		<C+B+1>

Manual Selection

Max Initial	**20**	<F+0+E>
Red Revert	**5.0**	<F+0+F>
All Red Start	**5.0**	<F+C+0>

Start / Revert Times

	Phase							
Column Numbers ---->	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Row *Phase Names ---->*								
0 Ped Walk	**0**	**7**	**0**	**7**	**0**	**7**	**0**	**7**
1 Ped FDW	**0**	**10**	**0**	**20**	**0**	**10**	**0**	**20**
2 Min Green	**5**	**6**	**3**	**6**	**5**	**6**	**3**	**6**
3 Type 3 Limit	**0**	**99**	**0**	**0**	**0**	**99**	**0**	**0**
4 Added Initial	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
5 Veh Extension	**2.0**	**4.0**	**0.5**	**2.5**	**2.0**	**4.0**	**0.5**	**2.5**
6 Max Gap	**2.0**	**4.0**	**0.5**	**2.5**	**2.0**	**4.0**	**0.5**	**2.5**
7 Min Gap	**2.0**	**4.0**	**0.5**	**2.5**	**2.0**	**4.0**	**0.5**	**2.5**
8 Max Limit	**20**	**40**	**10**	**15**	**20**	**40**	**10**	**15**
9 Max Limit 2	**30**	**70**	**17**	**40**	**30**	**70**	**17**	**40**
A - - - - - -	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
B Call To Phase	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
C Reduce By	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
D Reduce Every	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
E Yellow Change	**4.5**	**5.0**	**3.0**	**4.5**	**4.0**	**5.5**	**3.0**	**4.5**
F Red Clear	**0.5**	**1.0**	**0.0**	**1.0**	**0.5**	**1.0**	**0.0**	**1.0**

Phase Timing - Bank 1 <F Page>

	E
RR-1 Delay	**0**
RR-1 Clear	**10**
EV-A Delay	**0**
EV-A Clear	**1**
EV-B Delay	**0**
EV-B Clear	**1**
EV-C Delay	**0**
EV-C Clear	**1**
EV-D Delay	**0**
EV-D Clear	**1**
RR-2 Delay	**0**
RR-2 Clear	**10**
View EV Delay	- - -
View EV Clear	- - -
View RR Delay	- - -
View RR Clear	- - -

Preempt Timing

	F	Row
Permit	**12_456_8**	**0**
Red Lock	_____	**1**
Yellow Lock	_____	**2**
Min Recall	_____	**3**
Ped Recall	_____	**4**
View Set Peds	**- - - - -**	**5**
Rest In Walk	_____	**6**
Red Rest	_____	**7**
Dual Entry	**___4___8**	**8**
Max Recall	_____	**9**
Soft Recall	**_2___6__**	**A**
Max 2	_____	**B**
Cond. Service	_____	**C**
Man Cntrl Calls	_____	**D**
Yellow Start	**___4___8**	**E**
First Phases	**_2___6__**	**F**

Phase Functions <F Page>

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

(* = Coordination Recall)

Row	Column Numbers ---->	Plan 1	2	3	4	5	6	7	8	9	Row
	Plan Name ----->										
0	Cycle Length	100	100	100	100	100	100	100	100	100	0
1	Phase 1 - ForceOff	55	60	60	63	60	61	65	65	65	1
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0	2
3	Phase 3 - ForceOff	20	15	20	25	20	25	25	25	25	3
4	Phase 4 - ForceOff	40	40	40	40	40	40	40	40	40	4
5	Phase 5 - ForceOff	55	60	60	61	60	63	65	65	65	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	20	15	20	25	20	25	25	25	25	7
8	Phase 8 - ForceOff	40	40	40	40	40	40	40	40	40	8
9	Ring Offset	0	0	0	0	0	0	0	0	0	9
A	Offset 1	0	0	0	0	0	0	0	0	0	A
B	Offset 2	0	0	0	0	0	0	0	0	0	B
C	Offset 3	0	0	0	0	0	0	0	0	0	C
D	Permissive	12	12	12	12	12	12	12	12	0	D
E	Hold Release	255	255	255	255	255	255	255	255	0	E
F	Zone Offset	0	0	0	0	0	0	0	0	0	F

Coordination <C Page>

Row		E	Row
			0
1	Plan 1 - Sync	_2___6__	1
2	Plan 2 - Sync	_2___6__	2
3	Plan 3 - Sync	_2___6__	3
4	Plan 4 - Sync	_2___6__	4
5	Plan 5 - Sync	_2___6__	5
6	Plan 6 - Sync	_2___6__	6
7	Plan 7 - Sync	_2___6__	7
8	Plan 8 - Sync	_2___6__	8
9	Plan 9 - Sync	_2___6__	9
A	Coord Ped *	_____	A
B	NEMA Hold	_____	B
C			C
D			D
E			E
F			F

Sync Phases <C Page>

Row	Column Numbers ---->	E
0	Exclusive Phases	_____
1	RR-1 Clear Phases	_____
2	RR-2 Clear Phases	_____
3	RR-2 Limited Service	_____
4	Prot / Perm Phases	_____
5	Overlap A - Green Omit	_____
6	Overlap B - Green Omit	_____
7	Overlap C - Green Omit	_____
8	Overlap D - Green Omit	_____
9	Overlap Yellow Flash	_____
A	EV-A Phases	_2__5___
B	EV-B Phases	___4____
C	EV-C Phases	1____6__
D	EV-D Phases	_____8
E	Extra 1 Config. Bits	1_3_____
F	IC Select (Interconnect)	_2_____

Configuration <E Page>

	F
RR Overlap A - Phases	_____
RR Overlap B - Phases	_____
RR Overlap C - Phases	_____
RR Overlap D - Phases	_____
Ped 2P	_2_____
Ped 6P	_____6__
Ped 4P	___4____
Ped 8P	_____8
Yellow Flash Phases	_____
Overlap A - Phases	_____
Overlap B - Phases	_____
Overlap C - Phases	_____
Overlap D - Phases	_____
Restricted Phases	_____
Assign 5 Outputs	_____

Configuration <E Page>

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = EV Advance
5 =
6 = Special Event
7 = Pretimed Operation
8 = Split Ring Operation

Assign 5 Outputs
(Ped Loadswitch Yellows)
1 = Right Turn Overlap
2 = TOD Outputs
3 = EV Beacon - Steady
4 = EV Beacon - Flashing
5 = Special Event Outputs
6 = Phase 3 & 7 Ped
7 = Advanced Warning Sign
8 =

Force-Off Adjust	0

Coord Force-Off Adjust for Ped Service <C+D+F>

Transition Type	0

TBC Transition <C+D+D>

Transition Type
0 = Shortway
Non-zero = Lengthen

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

Row		F	Row
			0
1	Free Lag	_2_4_6_8	1
2	Plan 1 - Lag	_2_4_6_8	2
3	Plan 2 - Lag	_2_4_6_8	3
4	Plan 3 - Lag	_2_4_6_8	4
5	Plan 4 - Lag	_2_4_6_8	5
6	Plan 5 - Lag	_2_4_6_8	6
7	Plan 6 - Lag	_2_4_6_8	7
8	Plan 7 - Lag	_2_4_6_8	8
9	Plan 8 - Lag	_2_4_6_8	9
A	Plan 9 - Lag	_2_4_6_8	A
B	Coord Max *	_____	B
C	Coord Lag *	_____	C
D			D
E			E
F			F

Lag Phases <C Page>

Row	Time	Plan	Offset	Day of Week
0	00 : 00	0	0	_____
1	00 : 00	0	0	_____
2	00 : 00	0	0	_____
3	00 : 00	0	0	_____
4	00 : 00	0	0	_____
5	00 : 00	0	0	_____
6	00 : 00	0	0	_____
7	00 : 00	0	0	_____
8	00 : 00	0	0	_____
9	00 : 00	0	0	_____
A	00 : 00	0	0	_____
B	00 : 00	0	0	_____
C	00 : 00	0	0	_____
D	00 : 00	0	0	_____
E	00 : 00	0	0	_____
F	00 : 00	0	0	_____

TOD Coordination
<9 Key with C+D+9=0>

Time	Funct.	Day of Week	Column F Phases/Bits
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____

TOD Function
<7 Key>

<D Page>

Time	Plan	Offset	Day of Week
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____

Holiday # 1
TOD Coordination
<9 Key with C+D+9=1>

Time	Plan	Offset	Day of Week
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____

Holiday # 2
TOD Coordination
<9 Key with C+D+9=2>

Time	Plan	Offset	Day of Week	Row
00 : 00	0	0	_____	0
00 : 00	0	0	_____	1
00 : 00	0	0	_____	2
00 : 00	0	0	_____	3
00 : 00	0	0	_____	4
00 : 00	0	0	_____	5
00 : 00	0	0	_____	6
00 : 00	0	0	_____	7
00 : 00	0	0	_____	8
00 : 00	0	0	_____	9
00 : 00	0	0	_____	A
00 : 00	0	0	_____	B
00 : 00	0	0	_____	C
00 : 00	0	0	_____	D
00 : 00	0	0	_____	E
00 : 00	0	0	_____	F

Holiday # 3
TOD Coordination
<9 Key with C+D+9=3>

Plan Select
1 thru 9 = Coordination Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Row		Day	Year	Month	Day of Week
A	Holiday # 1 Date	0	0	0	_____
B	Holiday # 2 Date	0	0	0	_____
C	Holiday # 3 Date	0	0	0	_____

Holiday Dates
<8 Key>

Row	1 Delay	3 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		I-1	14
1	0.0	0.0		I-2U	1
2	0.0	0.0		I-2L	5
3	0.0	0.0		I-3U	21
4	0.0	0.0		I-3L	25
5	0.0	0.0		I-4	9
6	0.0	0.0		I-5	16
7	10.0	0.0		I-6U	3
8	5.5	0.0		I-6L	7
9	2.5	0.0		I-7U	23
A	2.5	0.0		I-7L	27
B	0.0	0.0		I-8	11
C	0.0	0.0		I-9U	18
D	0.0	0.0		I-9L	20
E	- - -	- - -	- - -	- - -	- - -
F	- - -	- - -	- - -	- - -	- - -

Row	2 Delay	4 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		J-1	13
1	0.0	0.0		J-2U	2
2	0.0	0.0		J-2L	6
3	0.0	0.0		J-3U	22
4	0.0	0.0		J-3L	26
5	0.0	0.0		J-4	10
6	0.0	0.0		J-5	15
7	10.0	0.0		J-6U	4
8	5.5	0.0		J-6L	8
9	2.5	0.0		J-7U	24
A	2.5	0.0		J-7L	28
B	0.0	0.0		J-8	12
C	0.0	0.0		J-9U	17
D	0.0	0.0		J-9L	19
E	- - -	- - -	- - -	- - -	- - -
F	- - -	- - -	- - -	- - -	- - -

Detector Delay & Carryover <D Page>

Row		9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
A	Overlap A	0.0	0.0	0.0	0
B	Overlap B	0.0	0.0	0.0	0
C	Overlap C	0.0	0.0	0.0	0
D	Overlap D	0.0	0.0	0.0	0

Overlap Timing <F Page> <D Page>

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234____
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	____5678
E	-- -- -- -- -- -- -- --	1234____
F	-- 25 26 27 28 -- -- --	_2345___

Active Detectors <D Page>

Note: Initialized data is for all detectors to be active (ie, all flag bits set). A Detector which is "not flagged", will not be active as a Phase Detector, and WILL NOT call or extend its associated phase. It will still function as a System Detector.

Row		0 Detector Number
0		
1	System Det. # 1	0
2	System Det. # 2	0
3	System Det. # 3	0
4	System Det. # 4	0
5	System Det. # 5	0
6	System Det. # 6	0
7	System Det. # 7	0
8	System Det. # 8	0

System Detectors <D Page>

Max ON (minutes)	5	<D+A+E>
Max OFF (minutes)	60	<D+A+F>

Detector Failure Monitor

Phase Number	0	<F+C+1>
Time Before Yellow	0.0	<F+C+3>

Advance Warning Beacon - Sign 1

Phase Number	0	<F+D+1>
Time Before Yellow	0.0	<F+D+3>

Advance Warning Beacon - Sign 2

Long Failure	0.0	<F+0+6>
Short Failure	0.0	<F+0+7>

Power Cycle Correction (Default = 0.5)

Disable Parity	0	<D+B+0>

Dial-Up Telephone Communications
(If set to a non-zero value, parity will be disabled)

Row	Column Numbers ---->	Phase 1	2	3	4	5	6	7	8
	Phase Names ----->								
0	Ped Walk	0	0	0	0	0	0	0	0
1	Ped FDW	0	0	0	0	0	0	0	0
2	Min Green	0	0	0	0	0	0	0	0
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Veh Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	Max Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	Max Limit	0	0	0	0	0	0	0	0
9	Max Limit 2	0	0	0	0	0	0	0	0
A	- - - - - -	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
D	Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Timing - Bank 2 <F Page>

Row	Column Numbers ---->	Phase 1	2	3	4	5	6	7	8
	Phase Names ----->								
0	Ped Walk	0	0	0	0	0	0	0	0
1	Ped FDW	0	0	0	0	0	0	0	0
2	Min Green	0	0	0	0	0	0	0	0
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Veh Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	Max Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	Max Limit	0	0	0	0	0	0	0	0
9	Max Limit 2	0	0	0	0	0	0	0	0
A	- - - - - -	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
D	Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Timing - Bank 3 <F Page>

Row		7 Time	8 Dwell	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0	Delay Only --->	0	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
1		0	0							
2		0	0							
3		0	0							
4		0	0							
5		0	0							
6		0	0							
7		0	0							
8		0	0							
9	Limited Service Int. --->	0	0							
A		- - -	0							
B		0	0							
C		0	0							
D		0	0							
E		0	0							
F		0	0							

<--- Limited Service Interval
(Set Dwell = 255)

Special Event Schedule <C Page with F+9+F=22>

Appendix B
Peak Hour Intersection LOS Worksheets
Existing Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	25	16	21	12	28	73	19	694	5	24	1005	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	32	21	27	18	42	111	23	826	6	25	1036	18
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.78	0.78	0.78	0.66	0.66	0.66	0.84	0.84	0.84	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	32	41	186	47	124	33	1938	14	236	2326	1039
Arrive On Green	0.04	0.04	0.04	0.10	0.10	0.10	0.02	0.54	0.54	0.13	0.66	0.66
Sat Flow, veh/h	1774	741	953	1774	447	1180	1774	3601	26	1774	3539	1581
Grp Volume(v), veh/h	32	0	48	18	0	153	23	406	426	25	1036	18
Grp Sat Flow(s),veh/h/ln	1774	0	1695	1774	0	1627	1774	1770	1857	1774	1770	1581
Q Serve(g_s), s	1.8	0.0	2.9	1.0	0.0	9.8	1.4	14.4	14.4	1.3	14.9	0.4
Cycle Q Clear(g_c), s	1.8	0.0	2.9	1.0	0.0	9.8	1.4	14.4	14.4	1.3	14.9	0.4
Prop In Lane	1.00		0.56	1.00		0.73	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	77	0	73	186	0	170	33	952	999	236	2326	1039
V/C Ratio(X)	0.42	0.00	0.66	0.10	0.00	0.90	0.70	0.43	0.43	0.11	0.45	0.02
Avail Cap(c_a), veh/h	186	0	178	186	0	170	304	952	999	236	2326	1039
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.0	0.0	49.5	42.5	0.0	46.4	51.2	14.5	14.5	40.0	8.7	6.2
Incr Delay (d2), s/veh	2.7	0.0	7.2	0.2	0.0	40.8	17.7	1.4	1.3	0.9	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	1.0	0.0	1.5	0.5	0.0	6.3	0.8	7.4	7.7	0.7	7.4	0.2
LnGrp Delay(d),s/veh	51.6	0.0	56.7	42.7	0.0	87.2	69.0	15.9	15.9	40.9	9.3	6.3
LnGrp LOS	D		E	D		F	E	B	B	D	A	A
Approach Vol, veh/h		80			171			855			1079	
Approach Delay, s/veh		54.7			82.5			17.3			10.0	
Approach LOS		D			F			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	19.0	61.5		9.0	6.5	74.0		15.5
Change Period (Y+Rc), s	5.0	5.0		4.5	4.5	5.0		4.5
Max Green Setting (Gmax), s	7.5	56.5		11.0	18.0	46.5		11.0
Max Q Clear Time (g_c+I1), s	3.3	16.4		4.9	3.4	16.9		11.8
Green Ext Time (p_c), s	2.2	4.1		0.1	0.0	6.3		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	20.2
HCM 2010 LOS	C

Existing AM
1: 11th Avenue & W. Valley Parkway 11/17/2014

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	36	9	5	0	8	38	60	0	6	83	4	0	24	89	51
Peak Hour Factor	0.92	0.74	0.74	0.74	0.92	0.83	0.83	0.83	0.92	0.78	0.78	0.78	0.92	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	49	12	7	0	10	46	72	0	8	106	5	0	28	105	60
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.4	8.3	8.4	8.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	72%	8%	15%
Vol Thru, %	89%	18%	36%	54%
Vol Right, %	4%	10%	57%	31%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	93	50	106	164
LT Vol	6	36	8	24
Through Vol	83	9	38	89
RT Vol	4	5	60	51
Lane Flow Rate	119	68	128	193
Geometry Grp	1	1	1	1
Degree of Util (X)	0.152	0.092	0.156	0.234
Departure Headway (Hd)	4.591	4.878	4.404	4.37
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	781	734	814	822
Service Time	2.621	2.912	2.434	2.397
HCM Lane V/C Ratio	0.152	0.093	0.157	0.235
HCM Control Delay	8.4	8.4	8.3	8.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.3	0.6	0.9

Two Way Analysis cannot be performed on an All Way Stop Intersection.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	47	15	50	86	13	5	36	659	59	3	993	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	60	19	64	106	16	6	41	757	68	3	1045	34
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.78	0.78	0.78	0.81	0.81	0.81	0.87	0.87	0.87	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	373	70	235	316	243	91	75	1666	150	7	1672	54
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.04	0.51	0.51	0.00	0.48	0.48
Sat Flow, veh/h	1380	370	1248	1306	1291	484	1774	3285	295	1774	3498	114
Grp Volume(v), veh/h	60	0	83	106	0	22	41	408	417	3	529	550
Grp Sat Flow(s),veh/h/ln	1380	0	1618	1306	0	1775	1774	1770	1811	1774	1770	1843
Q Serve(g_s), s	2.1	0.0	2.5	4.3	0.0	0.6	1.3	8.3	8.3	0.1	12.6	12.6
Cycle Q Clear(g_c), s	2.7	0.0	2.5	6.7	0.0	0.6	1.3	8.3	8.3	0.1	12.6	12.6
Prop In Lane	1.00		0.77	1.00		0.27	1.00		0.16	1.00		0.06
Lane Grp Cap(c), veh/h	373	0	304	316	0	334	75	897	918	7	846	881
V/C Ratio(X)	0.16	0.00	0.27	0.34	0.00	0.07	0.55	0.45	0.45	0.42	0.62	0.63
Avail Cap(c_a), veh/h	785	0	788	694	0	849	173	897	918	157	846	881
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.0	0.0	19.6	22.5	0.0	18.9	26.5	8.9	8.9	28.1	11.0	11.0
Incr Delay (d2), s/veh	0.3	0.0	0.7	0.9	0.0	0.1	2.3	1.7	1.6	13.5	3.5	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	0.9	0.0	1.2	1.6	0.0	0.3	0.7	4.4	4.5	0.1	6.8	7.1
LnGrp Delay(d),s/veh	20.2	0.0	20.3	23.4	0.0	19.0	28.9	10.6	10.5	41.6	14.5	14.3
LnGrp LOS	C		C	C		B	C	B	B	D	B	B
Approach Vol, veh/h		143			128			866			1082	
Approach Delay, s/veh		20.3			22.6			11.4			14.5	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.2	34.1		17.1	6.9	32.5		17.1
Change Period (Y+Rc), s	5.0	5.5		* 6.5	4.5	5.5		6.5
Max Green Setting (Gmax), s	5.6	27.0		* 28	5.5	27.0		27.0
Max Q Clear Time (g_c+I1), s	12.1	10.3		4.7	3.3	14.6		8.7
Green Ext Time (p_c), s	0.0	8.7		1.6	0.0	7.2		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	14.1
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Existing AM
3: Avenida Del Diablo & W. Valley Parkway 11/17/2014

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	71	0	2	1	0	113
Conflicting Peds, #/hr	1	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	38	38	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	92	0	5	3	0	128

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	78	66	129	0	-	0
Stage 1	65	-	-	-	-	-
Stage 2	13	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	925	998	1457	-	-	-
Stage 1	958	-	-	-	-	-
Stage 2	1010	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	921	996	1456	-	-	-
Mov Cap-2 Maneuver	921	-	-	-	-	-
Stage 1	957	-	-	-	-	-
Stage 2	1006	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1456	-	921	-	-
HCM Lane V/C Ratio	0.004	-	0.1	-	-
HCM Control Delay (s)	7.5	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	71	0	0	113	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	91	91	25	25
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	100	0	0	124	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	100	0	224	100
Stage 1	-	-	-	-	100	-
Stage 2	-	-	-	-	124	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1493	-	764	956
Stage 1	-	-	-	-	924	-
Stage 2	-	-	-	-	902	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1493	-	764	956
Mov Cap-2 Maneuver	-	-	-	-	764	-
Stage 1	-	-	-	-	924	-
Stage 2	-	-	-	-	902	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1493	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	0	2	2	1
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	25	25	25	25	33	33
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	8	6	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	17	10	10	0	-	0
Stage 1	9	-	-	-	-	-
Stage 2	8	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1001	1071	1610	-	-	-
Stage 1	1014	-	-	-	-	-
Stage 2	1015	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	999	1069	1609	-	-	-
Mov Cap-2 Maneuver	999	-	-	-	-	-
Stage 1	1013	-	-	-	-	-
Stage 2	1014	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1609	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	45	32	15	9	14	30	10	942	8	62	619	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	55	39	18	10	16	34	11	1013	9	76	755	68
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.82	0.82	0.82	0.88	0.88	0.88	0.93	0.93	0.93	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	88	60	28	72	22	46	18	2026	18	307	2587	1157
Arrive On Green	0.05	0.05	0.05	0.04	0.04	0.04	0.01	0.56	0.56	0.17	0.73	0.73
Sat Flow, veh/h	1774	1207	557	1774	532	1131	1774	3595	32	1774	3539	1582
Grp Volume(v), veh/h	55	0	57	10	0	50	11	499	523	76	755	68
Grp Sat Flow(s),veh/h/ln	1774	0	1764	1774	0	1663	1774	1770	1857	1774	1770	1582
Q Serve(g_s), s	3.3	0.0	3.5	0.6	0.0	3.3	0.7	18.8	18.8	4.1	8.0	1.3
Cycle Q Clear(g_c), s	3.3	0.0	3.5	0.6	0.0	3.3	0.7	18.8	18.8	4.1	8.0	1.3
Prop In Lane	1.00		0.32	1.00		0.68	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	88	0	88	72	0	68	18	997	1047	307	2587	1157
V/C Ratio(X)	0.62	0.00	0.65	0.14	0.00	0.74	0.60	0.50	0.50	0.25	0.29	0.06
Avail Cap(c_a), veh/h	177	0	176	177	0	166	306	997	1047	307	2587	1157
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.3	0.0	51.3	50.9	0.0	52.2	54.2	14.6	14.6	39.3	5.1	4.2
Incr Delay (d2), s/veh	7.1	0.0	7.9	0.9	0.0	14.2	27.2	1.8	1.7	0.4	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	1.8	0.0	1.9	0.3	0.0	1.8	0.5	9.6	10.1	2.0	4.0	0.6
LnGrp Delay(d),s/veh	58.3	0.0	59.2	51.7	0.0	66.4	81.4	16.4	16.3	39.7	5.3	4.3
LnGrp LOS	E		E	D		E	F	B	B	D	A	A
Approach Vol, veh/h		112			60			1033			899	
Approach Delay, s/veh		58.8			64.0			17.0			8.2	
Approach LOS		E			E			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	24.0	67.0		10.0	5.6	85.4		9.0
Change Period (Y+Rc), s	5.0	5.0		4.5	4.5	5.0		4.5
Max Green Setting (Gmax), s	7.0	62.0		11.0	19.0	50.5		11.0
Max Q Clear Time (g_c+I1), s	6.1	20.8		5.5	2.7	10.0		5.3
Green Ext Time (p_c), s	0.0	7.1		0.2	0.0	5.9		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	16.8
HCM 2010 LOS	B

Existing PM
1: 11th Avenue & W. Valley Parkway 11/17/2014

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	53	33	5	0	1	25	29	0	3	101	9	0	70	86	27
Peak Hour Factor	0.92	0.78	0.78	0.78	0.92	0.72	0.72	0.72	0.92	0.83	0.83	0.83	0.92	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	68	42	6	0	1	35	40	0	4	122	11	0	78	96	30
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.9	8.1	8.6	9.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	58%	2%	38%
Vol Thru, %	89%	36%	45%	47%
Vol Right, %	8%	5%	53%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	113	91	55	183
LT Vol	3	53	1	70
Through Vol	101	33	25	86
RT Vol	9	5	29	27
Lane Flow Rate	136	117	76	203
Geometry Grp	1	1	1	1
Degree of Util (X)	0.174	0.159	0.097	0.257
Departure Headway (Hd)	4.591	4.895	4.559	4.545
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	780	732	784	789
Service Time	2.629	2.936	2.602	2.58
HCM Lane V/C Ratio	0.174	0.16	0.097	0.257
HCM Control Delay	8.6	8.9	8.1	9.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.6	0.3	1

Two Way Analysis cannot be performed on an All Way Stop Intersection.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	48	30	20	43	16	3	24	984	70	1	509	63
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	56	35	24	58	22	4	26	1081	77	1	578	72
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.74	0.74	0.74	0.91	0.91	0.91	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	291	122	84	262	183	33	54	1805	128	4	1649	205
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.03	0.54	0.54	0.00	0.52	0.52
Sat Flow, veh/h	1379	1024	702	1338	1535	279	1774	3346	238	1774	3169	394
Grp Volume(v), veh/h	56	0	59	58	0	26	26	571	587	1	322	328
Grp Sat Flow(s),veh/h/ln	1379	0	1726	1338	0	1814	1774	1770	1815	1774	1770	1793
Q Serve(g_s), s	1.9	0.0	1.6	2.1	0.0	0.6	0.7	11.0	11.0	0.0	5.3	5.4
Cycle Q Clear(g_c), s	2.5	0.0	1.6	3.6	0.0	0.6	0.7	11.0	11.0	0.0	5.3	5.4
Prop In Lane	1.00		0.41	1.00		0.15	1.00		0.13	1.00		0.22
Lane Grp Cap(c), veh/h	291	0	205	262	0	216	54	954	979	4	921	933
V/C Ratio(X)	0.19	0.00	0.29	0.22	0.00	0.12	0.48	0.60	0.60	0.28	0.35	0.35
Avail Cap(c_a), veh/h	899	0	967	852	0	1016	195	954	979	178	921	933
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.8	0.0	20.1	21.7	0.0	19.7	23.8	7.8	7.8	24.9	7.0	7.0
Incr Delay (d2), s/veh	0.3	0.0	0.8	0.4	0.0	0.2	6.6	2.8	2.7	38.4	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	0.7	0.0	0.8	0.8	0.0	0.3	0.5	6.0	6.1	0.1	2.9	2.9
LnGrp Delay(d),s/veh	21.1	0.0	20.8	22.1	0.0	19.9	30.4	10.6	10.5	63.3	8.1	8.1
LnGrp LOS	C		C	C		B	C	B	B	E	A	A
Approach Vol, veh/h		115			84			1184			651	
Approach Delay, s/veh		21.0			21.5			11.0			8.2	
Approach LOS		C			C			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.1	33.4		11.4	6.0	32.5		11.4
Change Period (Y+Rc), s	5.0	* 6.5		5.5	4.5	6.5		5.5
Max Green Setting (Gmax), s	5.6	* 27		28.0	5.5	26.0		28.0
Max Q Clear Time (g_c+I1), s	12.0	13.0		4.5	2.7	7.4		5.6
Green Ext Time (p_c), s	0.0	8.5		0.7	0.0	10.5		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	11.1
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	107	2	0	3	3	74
Conflicting Peds, #/hr	1	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	38	38	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	137	3	0	8	4	92

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	59	51	97	0	-	0
Stage 1	51	-	-	-	-	-
Stage 2	8	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	948	1017	1496	-	-	-
Stage 1	971	-	-	-	-	-
Stage 2	1015	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	946	1016	1496	-	-	-
Mov Cap-2 Maneuver	946	-	-	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	1014	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1496	-	947	-	-
HCM Lane V/C Ratio	-	-	0.148	-	-
HCM Control Delay (s)	0	-	9.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	109	0	0	75	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	85	85	25	25
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	0	0	88	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	135	0	223	135
Stage 1	-	-	-	-	135	-
Stage 2	-	-	-	-	88	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1449	-	765	914
Stage 1	-	-	-	-	891	-
Stage 2	-	-	-	-	935	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1449	-	765	914
Mov Cap-2 Maneuver	-	-	-	-	765	-
Stage 1	-	-	-	-	891	-
Stage 2	-	-	-	-	935	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1449	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	2	0	0	3	4	0
Conflicting Peds, #/hr	2	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	25	25	25	25	33	33
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	0	0	12	12	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	26	14	14	0	-	0
Stage 1	14	-	-	-	-	-
Stage 2	12	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	989	1066	1604	-	-	-
Stage 1	1009	-	-	-	-	-
Stage 2	1011	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	986	1064	1604	-	-	-
Mov Cap-2 Maneuver	986	-	-	-	-	-
Stage 1	1007	-	-	-	-	-
Stage 2	1009	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1604	-	986	-	-
HCM Lane V/C Ratio	-	-	0.008	-	-
HCM Control Delay (s)	0	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Appendix C
Peak Hour Intersection LOS Worksheets
Existing Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	25	16	21	12	28	73	19	708	5	24	1030	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	32	21	27	18	42	111	23	843	6	25	1062	18
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.78	0.78	0.78	0.66	0.66	0.66	0.84	0.84	0.84	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	32	41	186	47	124	33	1938	14	236	2326	1039
Arrive On Green	0.04	0.04	0.04	0.10	0.10	0.10	0.02	0.54	0.54	0.13	0.66	0.66
Sat Flow, veh/h	1774	741	953	1774	447	1180	1774	3602	26	1774	3539	1581
Grp Volume(v), veh/h	32	0	48	18	0	153	23	414	435	25	1062	18
Grp Sat Flow(s),veh/h/ln	1774	0	1695	1774	0	1627	1774	1770	1858	1774	1770	1581
Q Serve(g_s), s	1.8	0.0	2.9	1.0	0.0	9.8	1.4	14.8	14.8	1.3	15.4	0.4
Cycle Q Clear(g_c), s	1.8	0.0	2.9	1.0	0.0	9.8	1.4	14.8	14.8	1.3	15.4	0.4
Prop In Lane	1.00		0.56	1.00		0.73	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	77	0	73	186	0	170	33	952	1000	236	2326	1039
V/C Ratio(X)	0.42	0.00	0.66	0.10	0.00	0.90	0.70	0.43	0.44	0.11	0.46	0.02
Avail Cap(c_a), veh/h	186	0	178	186	0	170	304	952	1000	236	2326	1039
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.0	0.0	49.5	42.5	0.0	46.4	51.2	14.6	14.6	40.0	8.8	6.2
Incr Delay (d2), s/veh	2.7	0.0	7.2	0.2	0.0	40.8	17.7	1.4	1.4	0.1	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	1.0	0.0	1.5	0.5	0.0	6.3	0.8	7.6	8.0	0.6	7.7	0.2
LnGrp Delay(d),s/veh	51.6	0.0	56.7	42.7	0.0	87.2	69.0	16.1	16.0	40.2	9.5	6.3
LnGrp LOS	D		E	D		F	E	B	B	D	A	A
Approach Vol, veh/h		80			171			872			1105	
Approach Delay, s/veh		54.7			82.5			17.4			10.1	
Approach LOS		D			F			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	19.0	61.5		9.0	6.5	74.0		15.5
Change Period (Y+Rc), s	5.0	5.0		4.5	4.5	5.0		4.5
Max Green Setting (Gmax), s	7.5	56.5		11.0	18.0	46.5		11.0
Max Q Clear Time (g_c+I1), s	3.3	16.8		4.9	3.4	17.4		11.8
Green Ext Time (p_c), s	0.0	4.2		0.1	0.0	6.5		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	20.1
HCM 2010 LOS	C

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	36	9	5	0	8	38	60	0	6	90	4	0	24	102	51
Peak Hour Factor	0.92	0.74	0.74	0.74	0.92	0.83	0.83	0.83	0.92	0.78	0.78	0.78	0.92	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	49	12	7	0	10	46	72	0	8	115	5	0	28	120	60
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.5	8.3	8.6	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	72%	8%	14%
Vol Thru, %	90%	18%	36%	58%
Vol Right, %	4%	10%	57%	29%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	100	50	106	177
LT Vol	6	36	8	24
Through Vol	90	9	38	102
RT Vol	4	5	60	51
Lane Flow Rate	128	68	128	208
Geometry Grp	1	1	1	1
Degree of Util (X)	0.164	0.093	0.158	0.254
Departure Headway (Hd)	4.612	4.939	4.462	4.395
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	777	724	802	816
Service Time	2.647	2.976	2.496	2.426
HCM Lane V/C Ratio	0.165	0.094	0.16	0.255
HCM Control Delay	8.6	8.5	8.3	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.3	0.6	1

Two Way Analysis cannot be performed on an All Way Stop Intersection.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	47	15	50	88	13	19	36	659	63	28	993	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	60	19	64	109	16	23	41	757	72	29	1045	34
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.78	0.78	0.78	0.81	0.81	0.81	0.87	0.87	0.87	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	362	71	240	321	133	191	74	1555	148	57	1662	54
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.04	0.48	0.48	0.03	0.48	0.48
Sat Flow, veh/h	1359	370	1248	1306	691	993	1774	3267	311	1774	3498	114
Grp Volume(v), veh/h	60	0	83	109	0	39	41	410	419	29	529	550
Grp Sat Flow(s),veh/h/ln	1359	0	1618	1306	0	1684	1774	1770	1808	1774	1770	1843
Q Serve(g_s), s	2.2	0.0	2.5	4.4	0.0	1.1	1.3	9.0	9.0	0.9	12.7	12.7
Cycle Q Clear(g_c), s	3.3	0.0	2.5	6.9	0.0	1.1	1.3	9.0	9.0	0.9	12.7	12.7
Prop In Lane	1.00		0.77	1.00		0.59	1.00		0.17	1.00		0.06
Lane Grp Cap(c), veh/h	362	0	312	321	0	324	74	842	860	57	841	876
V/C Ratio(X)	0.17	0.00	0.27	0.34	0.00	0.12	0.55	0.49	0.49	0.51	0.63	0.63
Avail Cap(c_a), veh/h	758	0	783	690	0	800	172	842	860	156	841	876
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.3	0.0	19.5	22.5	0.0	19.0	26.7	10.2	10.2	27.0	11.2	11.2
Incr Delay (d2), s/veh	0.3	0.0	0.6	0.9	0.0	0.2	2.4	2.0	2.0	2.5	3.5	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	0.9	0.0	1.2	1.7	0.0	0.5	0.7	4.8	4.9	0.5	7.0	7.3
LnGrp Delay(d),s/veh	20.6	0.0	20.2	23.3	0.0	19.2	29.1	12.2	12.1	29.6	14.7	14.6
LnGrp LOS	C		C	C		B	C	B	B	C	B	B
Approach Vol, veh/h		143			148			870			1108	
Approach Delay, s/veh		20.4			22.2			12.9			15.0	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.8	32.5		17.4	6.9	32.5		17.4
Change Period (Y+Rc), s	5.0	5.5		* 6.5	4.5	5.5		6.5
Max Green Setting (Gmax), s	5.8	27.0		* 28	5.5	27.0		27.0
Max Q Clear Time (g_c+I1), s	2.3	11.0		5.3	3.3	14.7		8.9
Green Ext Time (p_c), s	0.0	8.5		1.8	0.0	7.2		1.6

Intersection Summary	
HCM 2010 Ctrl Delay	15.0
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	75	0	2	4	6	120
Conflicting Peds, #/hr	1	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	38	38	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	97	0	5	11	7	136

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	97	77	144	0	-	0
Stage 1	76	-	-	-	-	-
Stage 2	21	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	902	984	1438	-	-	-
Stage 1	947	-	-	-	-	-
Stage 2	1002	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	898	982	1437	-	-	-
Mov Cap-2 Maneuver	898	-	-	-	-	-
Stage 1	946	-	-	-	-	-
Stage 2	998	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	2.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1437	-	898	-	-
HCM Lane V/C Ratio	0.004	-	0.108	-	-
HCM Control Delay (s)	7.5	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	71	29	7	113	16	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	77	32	8	123	17	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	109	0	231	93
Stage 1	-	-	-	-	93	-
Stage 2	-	-	-	-	138	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1481	-	757	964
Stage 1	-	-	-	-	931	-
Stage 2	-	-	-	-	889	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1481	-	752	964
Mov Cap-2 Maneuver	-	-	-	-	752	-
Stage 1	-	-	-	-	931	-
Stage 2	-	-	-	-	884	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	787	-	-	1481	-
HCM Lane V/C Ratio	0.028	-	-	0.005	-
HCM Control Delay (s)	9.7	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	3	0	0	0	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	0	0	0	0	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	3	3	7	0	-	0
Stage 1	3	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1019	1081	1614	-	-	-
Stage 1	1020	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1019	1081	1614	-	-	-
Mov Cap-2 Maneuver	1019	-	-	-	-	-
Stage 1	1020	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1614	-	1019	-	-
HCM Lane V/C Ratio	-	-	0.003	-	-
HCM Control Delay (s)	0	-	8.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	45	32	15	9	14	30	10	967	8	62	637	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	55	39	18	10	16	34	11	1040	9	76	777	68
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.82	0.82	0.82	0.88	0.88	0.88	0.93	0.93	0.93	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	88	60	28	72	22	46	18	2027	18	307	2587	1157
Arrive On Green	0.05	0.05	0.05	0.04	0.04	0.04	0.01	0.56	0.56	0.17	0.73	0.73
Sat Flow, veh/h	1774	1207	557	1774	532	1131	1774	3596	31	1774	3539	1583
Grp Volume(v), veh/h	55	0	57	10	0	50	11	512	537	76	777	68
Grp Sat Flow(s),veh/h/ln	1774	0	1764	1774	0	1663	1774	1770	1857	1774	1770	1583
Q Serve(g_s), s	3.3	0.0	3.5	0.6	0.0	3.3	0.7	19.5	19.5	4.1	8.3	1.3
Cycle Q Clear(g_c), s	3.3	0.0	3.5	0.6	0.0	3.3	0.7	19.5	19.5	4.1	8.3	1.3
Prop In Lane	1.00		0.32	1.00		0.68	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	88	0	88	72	0	68	18	997	1047	307	2587	1157
V/C Ratio(X)	0.62	0.00	0.65	0.14	0.00	0.74	0.60	0.51	0.51	0.25	0.30	0.06
Avail Cap(c_a), veh/h	177	0	176	177	0	166	306	997	1047	307	2587	1157
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.3	0.0	51.3	50.9	0.0	52.2	54.2	14.7	14.7	39.3	5.1	4.2
Incr Delay (d2), s/veh	7.1	0.0	7.9	0.9	0.0	14.2	27.2	1.9	1.8	0.4	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	1.8	0.0	1.9	0.3	0.0	1.8	0.5	10.0	10.5	2.0	4.1	0.6
LnGrp Delay(d),s/veh	58.3	0.0	59.2	51.7	0.0	66.4	81.4	16.6	16.5	39.7	5.4	4.3
LnGrp LOS	E		E	D		E	F	B	B	D	A	A
Approach Vol, veh/h		112			60			1060			921	
Approach Delay, s/veh		58.8			64.0			17.2			8.1	
Approach LOS		E			E			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	24.0	67.0		10.0	5.6	85.4		9.0
Change Period (Y+Rc), s	5.0	5.0		4.5	4.5	5.0		4.5
Max Green Setting (Gmax), s	7.0	62.0		11.0	19.0	50.5		11.0
Max Q Clear Time (g_c+I1), s	6.1	21.5		5.5	2.7	10.3		5.3
Green Ext Time (p_c), s	0.0	7.3		0.2	0.0	6.1		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	16.8
HCM 2010 LOS	B

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	53	33	5	0	1	25	29	0	3	113	9	0	70	95	27
Peak Hour Factor	0.92	0.78	0.78	0.78	0.92	0.72	0.72	0.72	0.92	0.83	0.83	0.83	0.92	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	68	42	6	0	1	35	40	0	4	136	11	0	78	106	30
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.9	8.2	8.8	9.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	58%	2%	36%
Vol Thru, %	90%	36%	45%	49%
Vol Right, %	7%	5%	53%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	125	91	55	192
LT Vol	3	53	1	70
Through Vol	113	33	25	95
RT Vol	9	5	29	27
Lane Flow Rate	151	117	76	213
Geometry Grp	1	1	1	1
Degree of Util (X)	0.193	0.16	0.098	0.271
Departure Headway (Hd)	4.611	4.952	4.617	4.566
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	776	722	773	785
Service Time	2.651	2.998	2.666	2.603
HCM Lane V/C Ratio	0.195	0.162	0.098	0.271
HCM Control Delay	8.8	8.9	8.2	9.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.6	0.3	1.1

Two Way Analysis cannot be performed on an All Way Stop Intersection.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	48	30	20	47	16	28	24	984	73	19	509	63
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	56	35	24	64	22	38	26	1081	80	22	578	72
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.74	0.74	0.74	0.91	0.91	0.91	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	269	133	91	272	79	137	53	1720	127	47	1649	205
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.03	0.51	0.51	0.03	0.52	0.52
Sat Flow, veh/h	1337	1031	707	1338	614	1061	1774	3342	247	1774	3169	394
Grp Volume(v), veh/h	56	0	59	64	0	60	26	572	589	22	322	328
Grp Sat Flow(s),veh/h/ln	1337	0	1738	1338	0	1675	1774	1770	1819	1774	1770	1793
Q Serve(g_s), s	2.0	0.0	1.6	2.3	0.0	1.7	0.7	11.9	12.0	0.6	5.5	5.5
Cycle Q Clear(g_c), s	3.7	0.0	1.6	3.9	0.0	1.7	0.7	11.9	12.0	0.6	5.5	5.5
Prop In Lane	1.00		0.41	1.00		0.63	1.00		0.14	1.00		0.22
Lane Grp Cap(c), veh/h	269	0	224	272	0	216	53	911	936	47	921	933
V/C Ratio(X)	0.21	0.00	0.26	0.24	0.00	0.28	0.49	0.63	0.63	0.47	0.35	0.35
Avail Cap(c_a), veh/h	824	0	945	827	0	911	189	911	936	172	921	933
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.9	0.0	20.2	22.0	0.0	20.3	24.6	9.0	9.0	24.7	7.2	7.2
Incr Delay (d2), s/veh	0.4	0.0	0.6	0.4	0.0	0.7	6.7	3.3	3.2	7.3	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	0.9	0.0	0.8	0.9	0.0	0.8	0.5	6.6	6.7	0.4	2.9	3.0
LnGrp Delay(d),s/veh	22.3	0.0	20.8	22.4	0.0	20.9	31.3	12.2	12.2	32.0	8.3	8.3
LnGrp LOS	C		C	C		C	C	B	B	C	A	A
Approach Vol, veh/h		115			124			1187			672	
Approach Delay, s/veh		21.6			21.7			12.6			9.1	
Approach LOS		C			C			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.3	33.0		12.1	6.1	33.3		12.1
Change Period (Y+Rc), s	5.0	* 6.5		5.5	4.5	6.5		5.5
Max Green Setting (Gmax), s	5.3	* 27		28.0	5.5	26.0		28.0
Max Q Clear Time (g_c+I1), s	12.6	14.0		5.7	2.7	7.5		5.9
Green Ext Time (p_c), s	0.0	8.1		1.0	0.0	10.5		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.5
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Existing + Project PM
3: Avenida Del Diablo & W. Valley Parkway 11/17/2014

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	113	2	0	9	7	79
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	38	38	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	145	3	0	24	9	99

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	82	58	108	0	-	0
Stage 1	58	-	-	-	-	-
Stage 2	24	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	920	1008	1483	-	-	-
Stage 1	965	-	-	-	-	-
Stage 2	999	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	920	1008	1483	-	-	-
Mov Cap-2 Maneuver	920	-	-	-	-	-
Stage 1	965	-	-	-	-	-
Stage 2	999	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1483	-	921	-	-
HCM Lane V/C Ratio	-	-	0.16	-	-
HCM Control Delay (s)	0	-	9.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	109	21	5	75	29	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	118	23	5	82	32	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	141	0	222	130
Stage 1	-	-	-	-	130	-
Stage 2	-	-	-	-	92	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1442	-	766	920
Stage 1	-	-	-	-	896	-
Stage 2	-	-	-	-	932	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1442	-	763	920
Mov Cap-2 Maneuver	-	-	-	-	763	-
Stage 1	-	-	-	-	896	-
Stage 2	-	-	-	-	928	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	786	-	-	1442	-
HCM Lane V/C Ratio	0.048	-	-	0.004	-
HCM Control Delay (s)	9.8	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	5.1

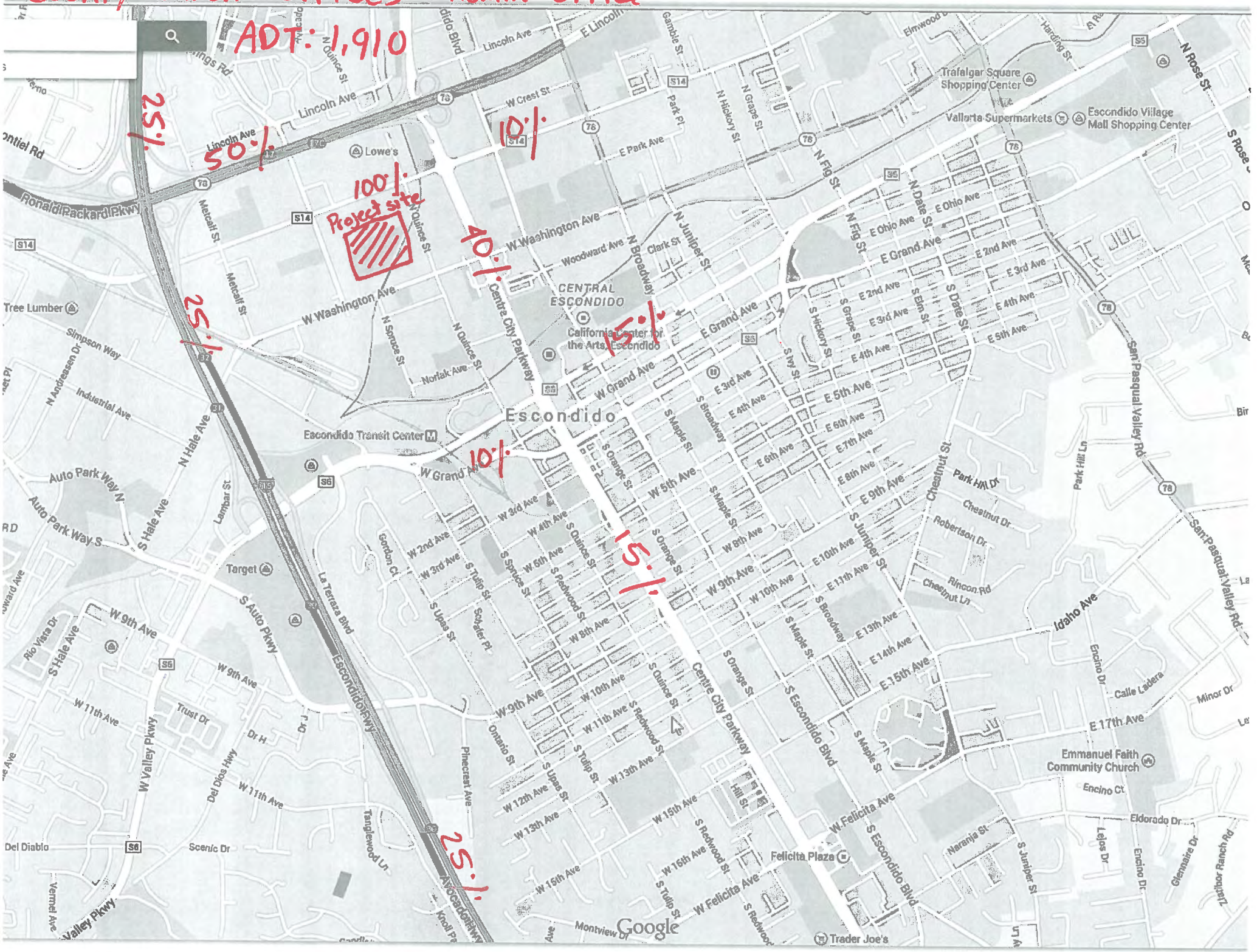
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	6	0	0	0	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	0	0	0	0	4

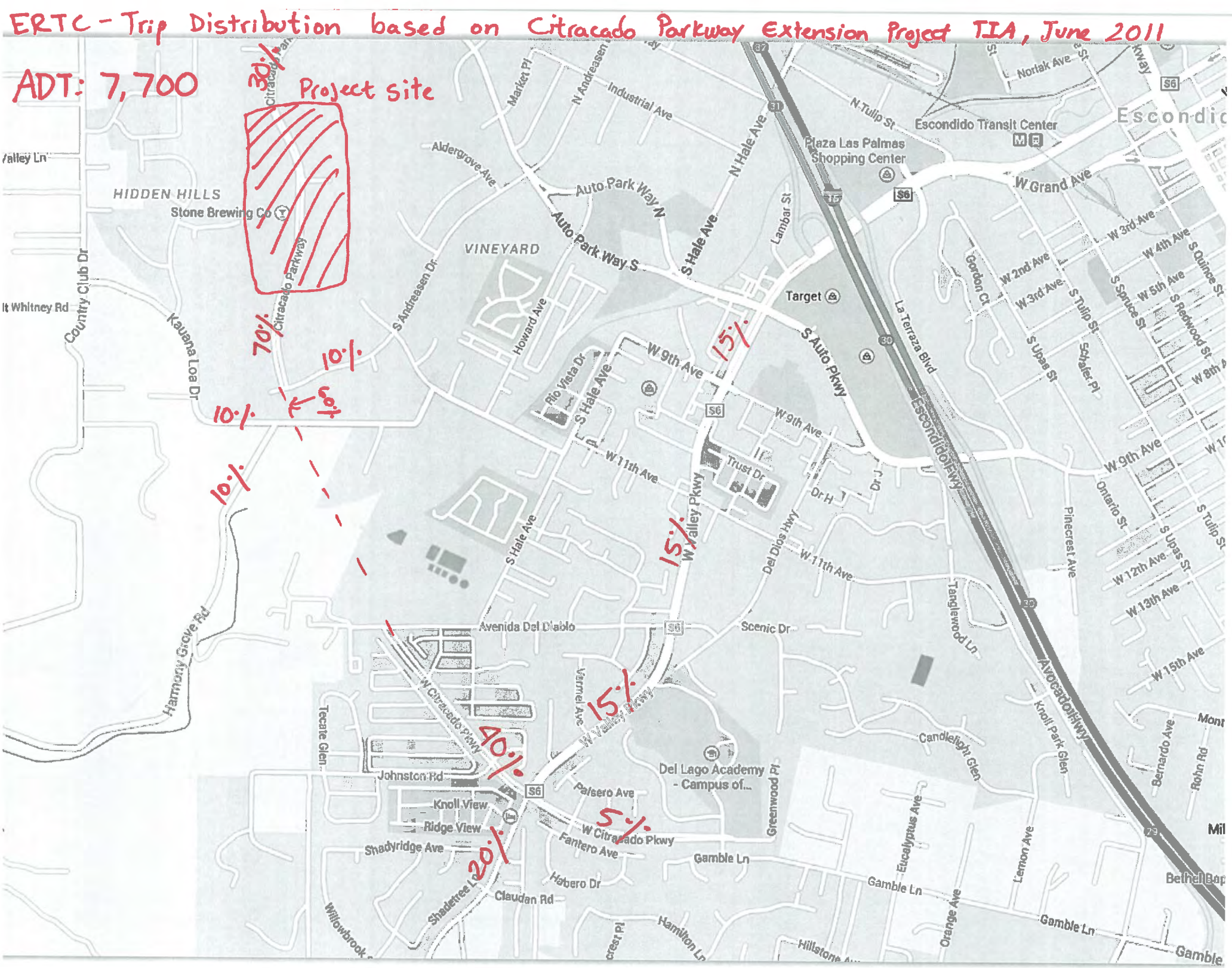
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2	2	4	0	-	0
Stage 1	2	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1021	1082	1618	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1021	1082	1618	-	-	-
Mov Cap-2 Maneuver	1021	-	-	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1618	-	1021	-	-
HCM Lane V/C Ratio	-	-	0.006	-	-
HCM Control Delay (s)	0	-	8.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

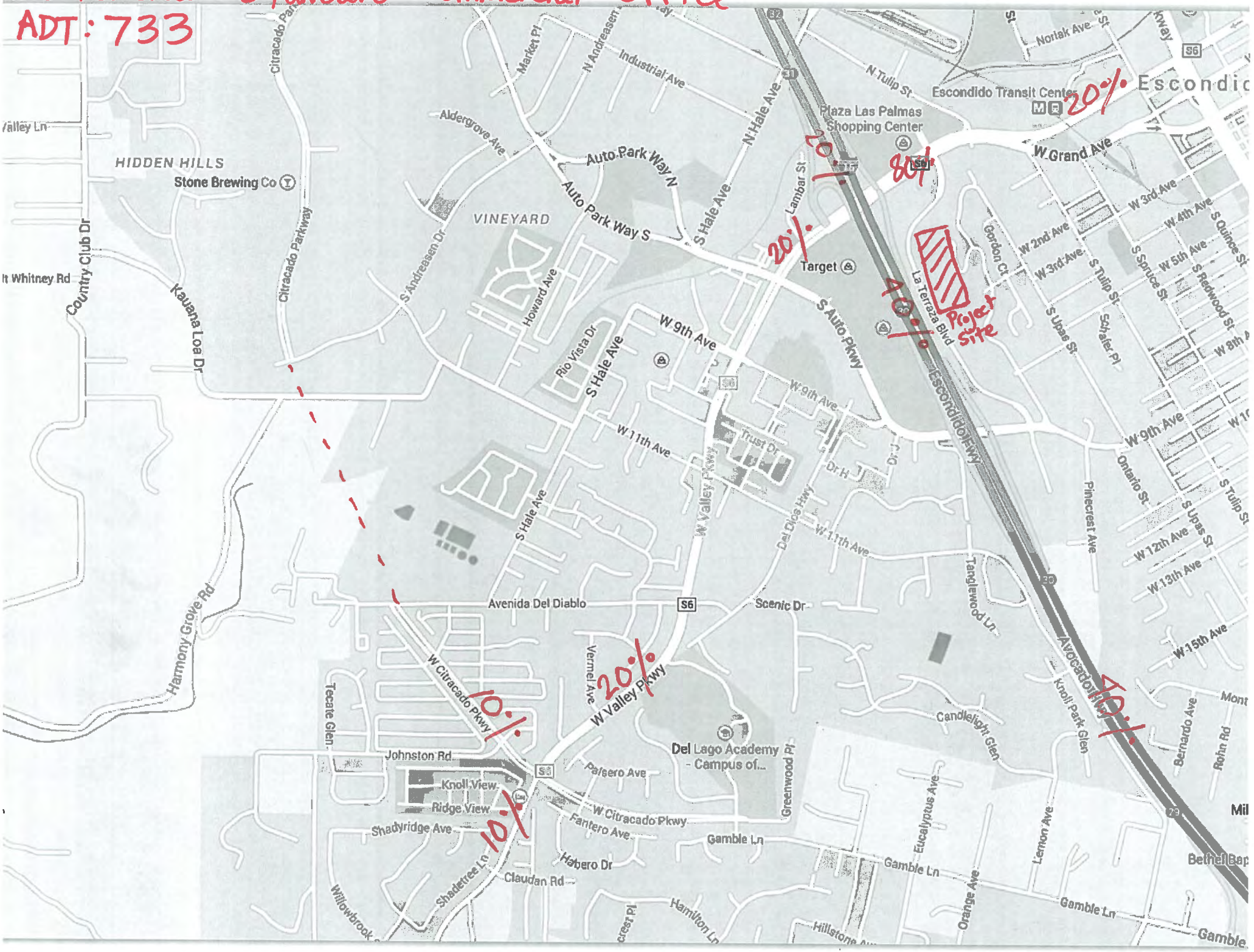
Appendix D
Cumulative Projects Trip Distribution Assumptions


County HHSA offices - Admin office
ADT: 1,910
25%
50%
100%
Project site
40%
10%
25%
15%
10%
15%
25%
Escondido
CENTRAL ESCONDICO
Escondido Transit Center
Lowe's
Target
Tree Lumber
Trafalgar Square Shopping Center
Vallarta Supermarkets
Escondido Village Mall Shopping Center
California Center for the Arts, Escondido
Felicita Plaza
Trader Joe's
Emmanuel Faith Community Church
Ronaldi Rackard Pkwy
Lincoln Ave
E Lincoln
W Washington Ave
E Grand Ave
W Grand Ave
E Park Ave
W Crest St
Centre City Parkway
N Broadway
S Broadway
N Juniper St
S Juniper St
N Quince St
S Quince St
N Hale Ave
S Hale Ave
S Auto Pkwy
Auto Park Way N
Auto Park Way S
W Valley Pkwy
Escondido Fwy
S Escondido Blvd
N Rose St
S Rose St
San Pasqual Valley Rd
Idaho Ave
W Felicita Ave
E 17th Ave
Del Diablo
Scenic Dr
Google


ERTC - Trip Distribution based on Citracado Parkway Extension Project TIA, June 2011
ADT: 7,700
Project site
30%
70%
10%
10%
10%
40%
15%
15%
40%
5%
20%
HIDDEN HILLS
VINEYARD
Stone Brewing Co
Target
Escondido Transit Center
Plaza Las Palmas Shopping Center
Del Lago Academy - Campus of...
Citracado Parkway
Auto Park Way N
Auto Park Way S
S Hale Ave
N Hale Ave
W Valley Pkwy
Escondido Blvd
S Auto Pkwy
La Terraza Blvd
W Grand Ave
W 9th Ave
W 11th Ave
W 12th Ave
W 13th Ave
W 15th Ave
Avenida Del Diablo
Scenic Dr
Del Dios Hwy
Harmony Grove Rd
Country Club Dr
Kauana Loa Dr
S Andreasen Dr
Howard Ave
Industrial Ave
Aldergrove Ave
Market Pl
N Andreasen Dr
Rio Vista Dr
Trust Dr
Tanglewood Ln
Pinecrest Ave
Ontario St
Knoll Park Glen
Candlelight Glen
Greenwood Pl
Eucalyptus Ave
Lemon Ave
Orange Ave
Gamble Ln
Hillstone Ave
Hamilton Ln
Claudan Rd
Habero Dr
Fantero Ave
Palsero Ave
Johnston Rd
Knoll View
Ridge View
Shadyridge Ave
Shadetree Ln
Willowbrook
Tecate Glen
Vermel Ave
Lambar St
Gordon Ct
Schafer Pl
Bernardo Ave
Rohn Rd
Nortak Ave
N Tulip St
W 2nd Ave
W 3rd Ave
W 4th Ave
W 5th Ave
W 8th Ave
S Spruce St
S Tulip St
S Upas St
S Quince St
S Redwood St
Valley Ln
It Whitney Rd

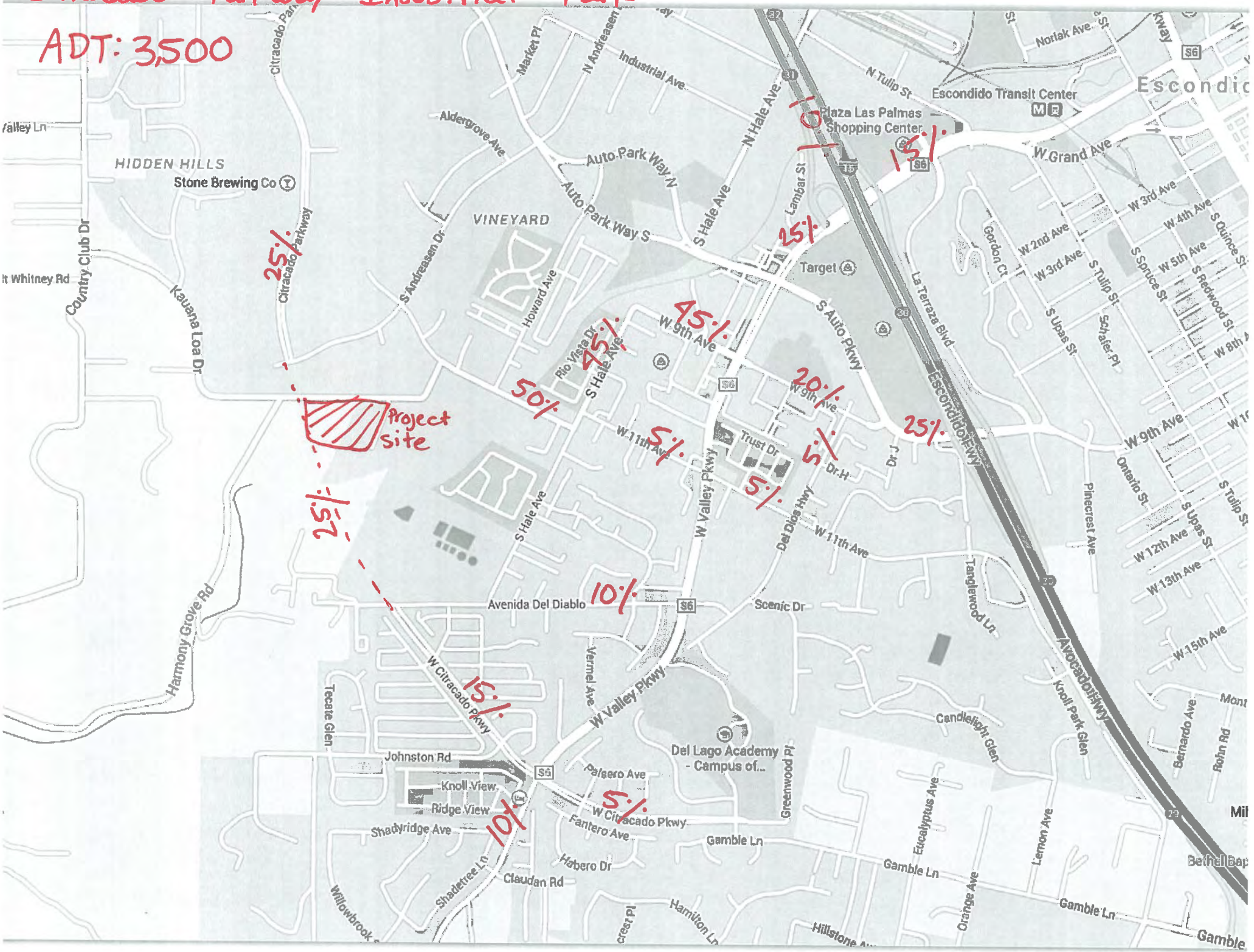
La Terraza - Standard Commercial Office

ADT: 733

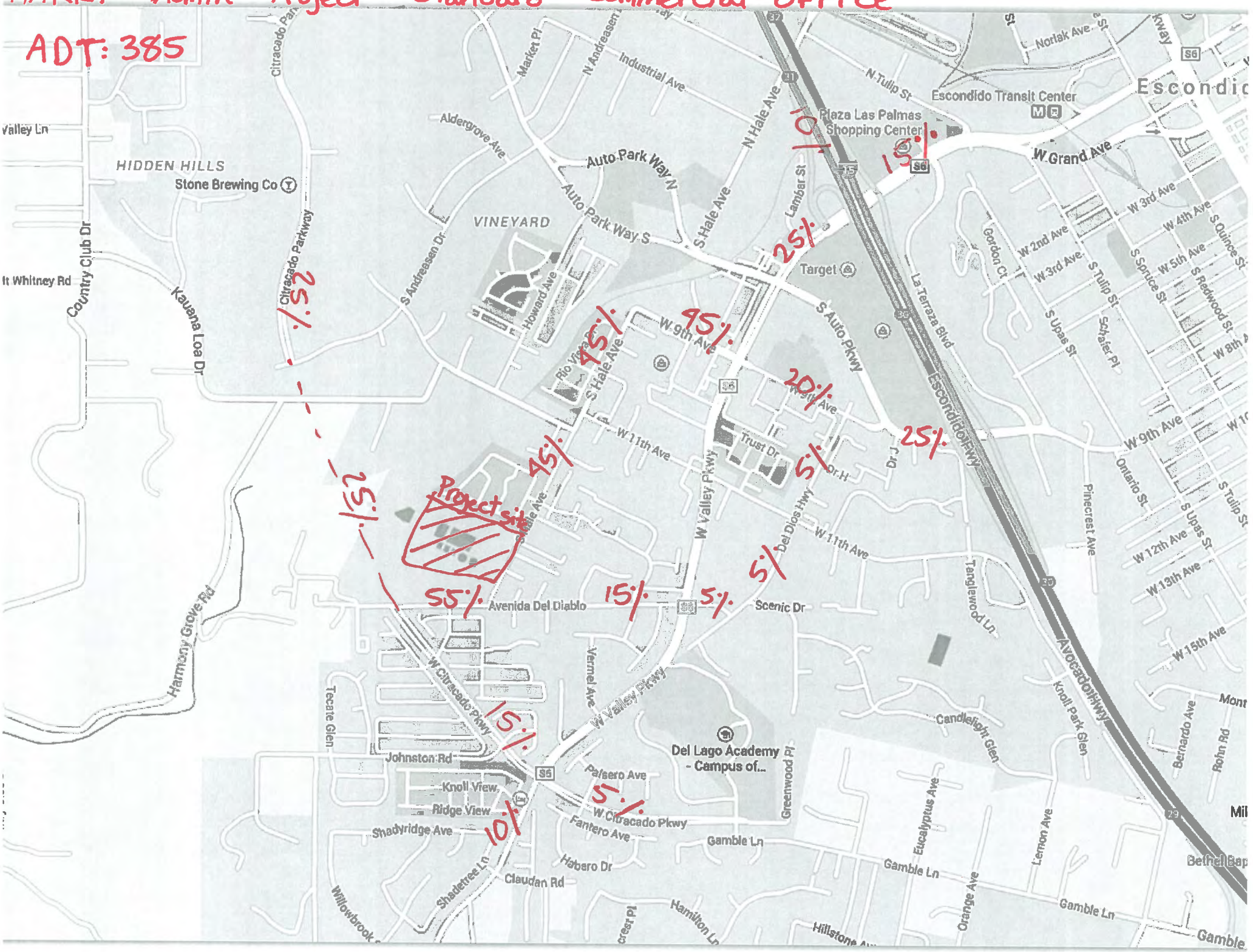


Citracado Parkway - Industrial Park

ADT: 3,500

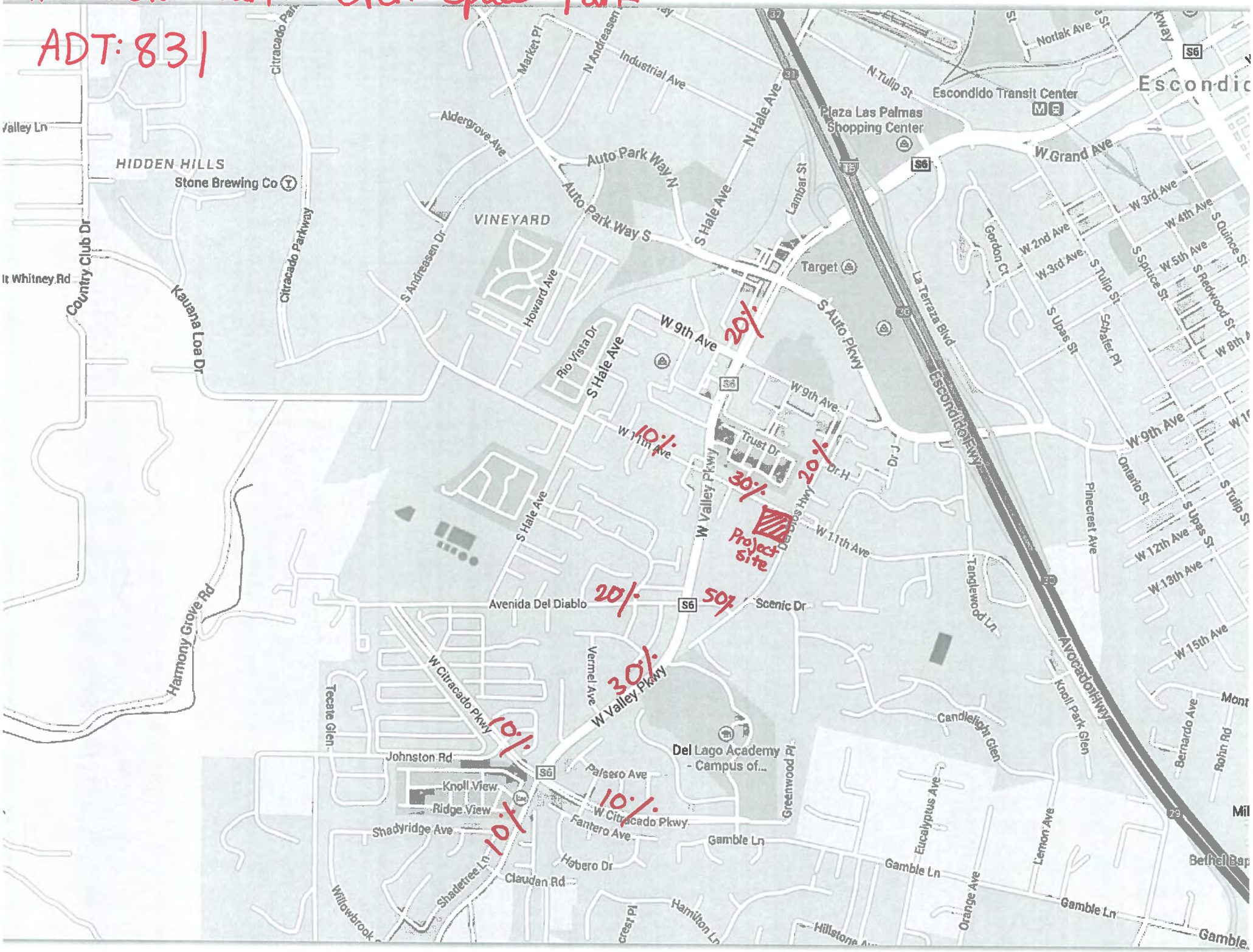


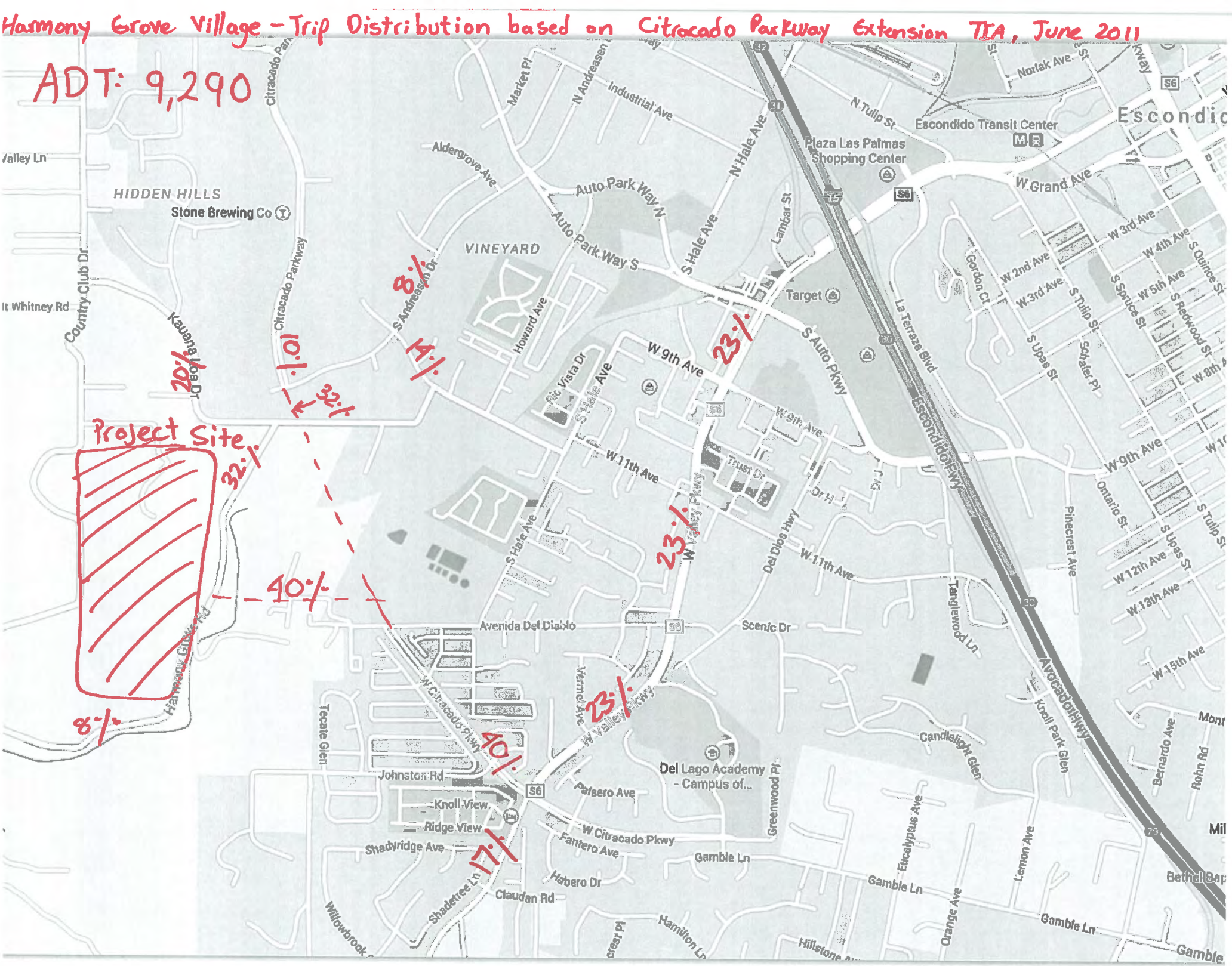
HARRF Admin Project – Standard Commercial Office

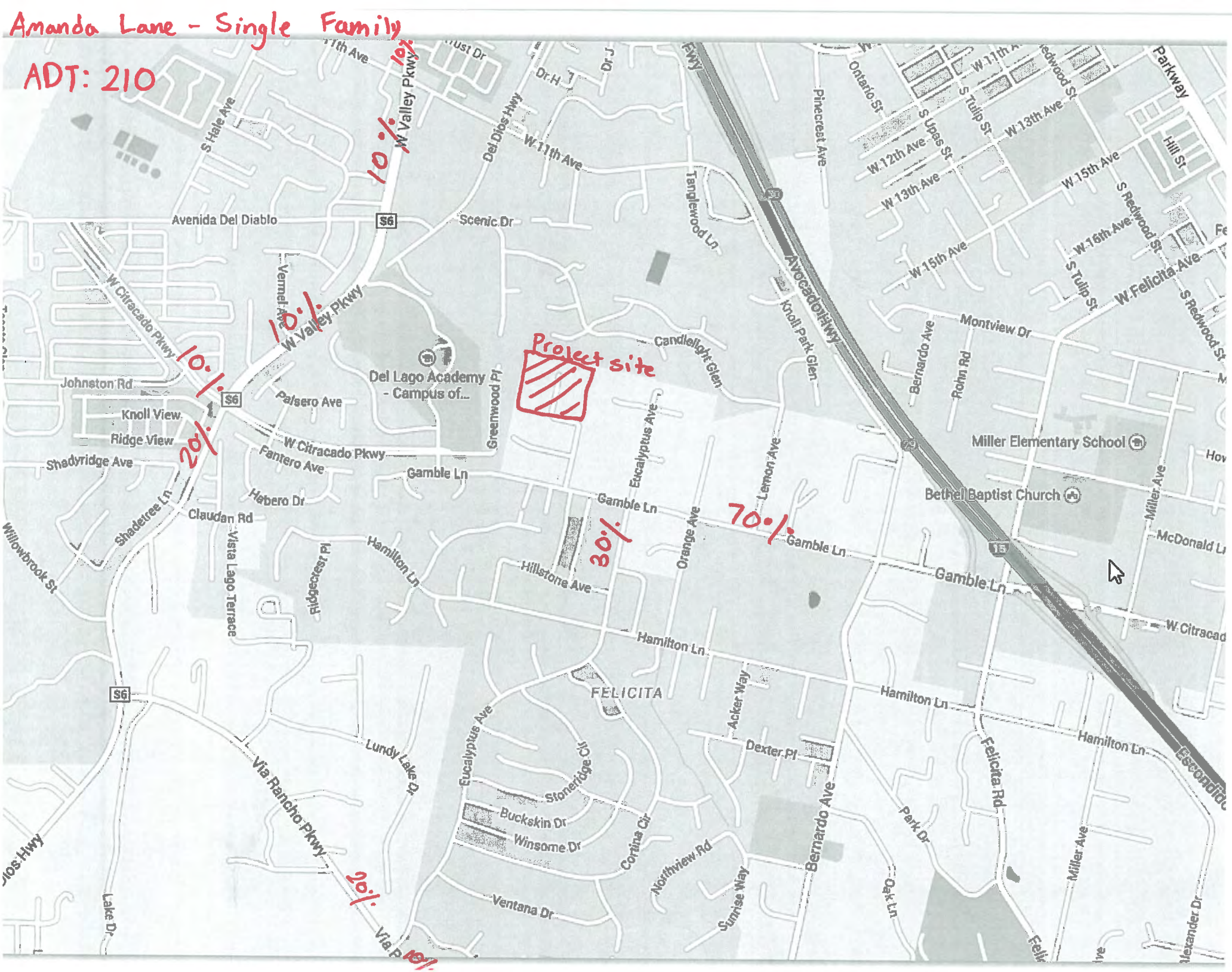


11th Avenue Park - Open Space Park

ADT: 831




Harmony Grove Village - Trip Distribution based on Citracado Parkway Extension TIA, June 2011
ADT: 9,290
Project Site
20%
10%
32%
14%
8%
32%
40%
8%
23%
23%
23%
40%
17%
HIDDEN HILLS
VINEYARD
Stone Brewing Co
Escondido Transit Center
Plaza Las Palmas Shopping Center
Target
Del Lago Academy - Campus of...
Country Club Dr
Kauana Loa Dr
Citracado Parkway
Harmony Grove Rd
Aldergrove Ave
Auto Park Way N
Auto Park Way S
N Hale Ave
S Hale Ave
Howard Ave
S Andreasen Dr
Market Pl
N Andreasen Dr
Industrial Ave
Lambar St
W 9th Ave
W 11th Ave
W Valley Pkwy
Del Dios Hwy
Avenida Del Diablo
Scenic Dr
W Citracado Pkwy
Johnston Rd
Knoll View
Ridge View
Shadyridge Ave
Shadetree Ln
Claudan Rd
Habero Dr
Pafsero Ave
Fantero Ave
Gamble Ln
Greenwood Pl
Eucalyptus Ave
Lemon Ave
Orange Ave
Hamilton Ln
Hillstone Ave
Tecate Glen
Willowbrook
Vermel Ave
Rio Vista Dr
Trust Dr
Tanglewood Ln
Candlelight Glen
Knoll Park Glen
Pinecrest Ave
Ontario St
Schafer Pl
Gordon Ct
La Terraza Blvd
Escondido Pkwy
Avocado Pkwy
N Tulip St
W Grand Ave
W 3rd Ave
W 4th Ave
W 5th Ave
W 8th Ave
W 9th Ave
W 12th Ave
W 13th Ave
W 15th Ave
S Quince St
S Spruce St
S Redwood St
S Tulip St
S Upas St
Norlak Ave
Bernardo Ave
Robin Rd
Escondido
Bethel Bap
Gamble
Valley Ln
It Whitney Rd


Amanda Lane - Single Family
ADT: 210
10%
10%
10%
20%
30%
70%
20%
Project site
W Valley Pkwy
Del Dios Hwy
W 11th Ave
Avenida Del Diablo
Scenic Dr
S6
W Citracado Pkwy
Vermel Ave
Johnston Rd
Knoll View
Ridge View
Shadyridge Ave
Palsero Ave
Del Lago Academy - Campus of...
Greenwood Pl
Candlelight Glen
Knoll Park Glen
Tanglewood Ln
Pinecrest Ave
Ontario St
S Tulip St
W 12th Ave
W 13th Ave
W 15th Ave
W 16th Ave
S Redwood St
Hill St
Parkway
W Felicita Ave
Montview Dr
Bernardo Ave
Rohn Rd
Miller Elementary School
Bethel Baptist Church
Miller Ave
McDonald Ln
Avocado Fwy
15
Fantero Ave
Gamble Ln
Hebero Dr
Claudan Rd
Shadetree Ln
Willowbrook St
Vista Lago Terrace
Ridgecrest Pl
Hamilton Ln
Eucalyptus Ave
Lemon Ave
Orange Ave
Hillstone Ave
FELICITA
Acker Way
Dexter Pl
Lundy Lake Dr
Via Rancho Pkwy
Stoneridge Ct
Buckskin Dr
Winsome Dr
Corrina Dr
Northview Rd
Sunrise Way
Ventana Dr
Bernardo Ave
Park Dr
Oak Ln
Felicita Rd
Miller Ave
Escondido
Lake Dr
Alexander Dr


Monticello - Assisted Living
ADT. 313
Project Site
20%
20%
30%
9%
10%
40%
10%
Escondido Blvd
Avocado Blvd
Felicita Rd
Felicita Park
Miller Elementary School
Bethel Baptist Church
Del Lago Academy - Campus of...
Trader Joe's
Hacienda De Vega
FELICITA
Via Rancho Pkwy
W Citracado Pkwy
W Valley Pkwy
Gamble Ln
Hamilton Ln
Montview Dr
W Felicita Ave
W 15th Ave
Google

Oak Creek - Single Family

Appendix E
Peak Hour Intersection LOS Worksheets
Near-Term Year 2015 Base Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	25	23	21	12	47	77	19	836	5	29	1245	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	32	29	27	18	71	117	23	995	6	30	1284	18
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.78	0.78	0.78	0.66	0.66	0.66	0.84	0.84	0.84	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	85	43	40	186	66	109	33	1941	12	227	2309	1033
Arrive On Green	0.05	0.05	0.05	0.10	0.10	0.10	0.02	0.54	0.54	0.13	0.65	0.65
Sat Flow, veh/h	1774	889	828	1774	634	1045	1774	3607	22	1774	3539	1583
Grp Volume(v), veh/h	32	0	56	18	0	188	23	488	513	30	1284	18
Grp Sat Flow(s),veh/h/ln	1774	0	1717	1774	0	1678	1774	1770	1859	1774	1770	1583
Q Serve(g_s), s	1.8	0.0	3.4	1.0	0.0	11.0	1.4	18.5	18.5	1.6	20.8	0.4
Cycle Q Clear(g_c), s	1.8	0.0	3.4	1.0	0.0	11.0	1.4	18.5	18.5	1.6	20.8	0.4
Prop In Lane	1.00		0.48	1.00		0.62	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	85	0	83	186	0	176	33	952	1000	227	2309	1033
V/C Ratio(X)	0.38	0.00	0.68	0.10	0.00	1.07	0.70	0.51	0.51	0.13	0.56	0.02
Avail Cap(c_a), veh/h	186	0	180	186	0	176	304	952	1000	227	2309	1033
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.4	0.0	49.2	42.5	0.0	47.0	51.2	15.5	15.5	40.6	10.0	6.4
Incr Delay (d2), s/veh	2.0	0.0	7.0	0.2	0.0	87.5	17.7	2.0	1.9	0.2	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	0.9	0.0	1.8	0.5	0.0	9.4	0.8	9.5	9.9	0.8	10.3	0.2
LnGrp Delay(d),s/veh	50.5	0.0	56.2	42.7	0.0	134.5	69.0	17.4	17.3	40.8	10.9	6.4
LnGrp LOS	D		E	D		F	E	B	B	D	B	A
Approach Vol, veh/h		88			206			1024			1332	
Approach Delay, s/veh		54.1			126.4			18.5			11.5	
Approach LOS		D			F			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	18.5	61.5		9.5	6.5	73.5		15.5
Change Period (Y+Rc), s	5.0	5.0		4.5	4.5	5.0		4.5
Max Green Setting (Gmax), s	7.5	56.5		11.0	18.0	46.5		11.0
Max Q Clear Time (g_c+I1), s	3.6	20.5		5.4	3.4	22.8		13.0
Green Ext Time (p_c), s	0.1	5.2		0.1	0.0	8.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	24.6
HCM 2010 LOS	C

Near-Term AM
1: 11th Avenue & W. Valley Parkway 11/17/2014

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	44	9	5	0	8	38	60	0	6	83	4	0	24	91	72
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	48	10	5	0	9	41	65	0	7	90	4	0	26	99	78
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.3	8.1	8.3	8.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	76%	8%	13%
Vol Thru, %	89%	16%	36%	49%
Vol Right, %	4%	9%	57%	39%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	93	58	106	187
LT Vol	6	44	8	24
Through Vol	83	9	38	91
RT Vol	4	5	60	72
Lane Flow Rate	101	63	115	203
Geometry Grp	1	1	1	1
Degree of Util (X)	0.128	0.085	0.14	0.24
Departure Headway (Hd)	4.552	4.847	4.366	4.257
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	787	739	822	844
Service Time	2.58	2.878	2.394	2.281
HCM Lane V/C Ratio	0.128	0.085	0.14	0.241
HCM Control Delay	8.3	8.3	8.1	8.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.3	0.5	0.9

Two Way Analysis cannot be performed on an All Way Stop Intersection.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	47	20	50	91	19	5	36	801	66	3	1233	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	60	26	64	112	23	6	41	921	76	3	1298	34
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.78	0.78	0.78	0.81	0.81	0.81	0.87	0.87	0.87	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	369	90	223	313	270	70	74	1676	138	7	1682	44
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.04	0.51	0.51	0.00	0.48	0.48
Sat Flow, veh/h	1375	478	1177	1301	1425	372	1774	3311	273	1774	3524	92
Grp Volume(v), veh/h	60	0	90	112	0	29	41	492	505	3	651	681
Grp Sat Flow(s),veh/h/ln	1375	0	1655	1301	0	1797	1774	1770	1815	1774	1770	1846
Q Serve(g_s), s	2.1	0.0	2.6	4.6	0.0	0.8	1.3	10.8	10.8	0.1	17.2	17.3
Cycle Q Clear(g_c), s	2.9	0.0	2.6	7.2	0.0	0.8	1.3	10.8	10.8	0.1	17.2	17.3
Prop In Lane	1.00		0.71	1.00		0.21	1.00		0.15	1.00		0.05
Lane Grp Cap(c), veh/h	369	0	313	313	0	340	74	896	919	7	845	881
V/C Ratio(X)	0.16	0.00	0.29	0.36	0.00	0.09	0.55	0.55	0.55	0.42	0.77	0.77
Avail Cap(c_a), veh/h	777	0	804	688	0	858	172	896	919	157	845	881
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.1	0.0	19.7	22.8	0.0	18.9	26.6	9.6	9.6	28.1	12.2	12.2
Incr Delay (d2), s/veh	0.3	0.0	0.7	1.0	0.0	0.2	2.3	2.4	2.4	13.5	6.7	6.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	0.9	0.0	1.3	1.7	0.0	0.4	0.7	5.8	5.9	0.1	9.9	10.3
LnGrp Delay(d),s/veh	20.4	0.0	20.4	23.7	0.0	19.1	28.9	12.0	11.9	41.6	19.0	18.8
LnGrp LOS	C		C	C		B	C	B	B	D	B	B
Approach Vol, veh/h		150			141			1038			1335	
Approach Delay, s/veh		20.4			22.8			12.6			18.9	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.2	34.1		17.2	6.9	32.5		17.2
Change Period (Y+Rc), s	5.0	5.5		* 6.5	4.5	5.5		6.5
Max Green Setting (Gmax), s	5.6	27.0		* 28	5.5	27.0		27.0
Max Q Clear Time (g_c+I1), s	12.1	12.8		4.9	3.3	19.3		9.2
Green Ext Time (p_c), s	0.0	9.7		1.7	0.0	6.0		1.6

Intersection Summary	
HCM 2010 Ctrl Delay	16.7
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	83	0	2	1	0	124
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	38	38	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	108	0	5	3	0	141

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	83	70	141	0	-	0
Stage 1	70	-	-	-	-	-
Stage 2	13	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	919	993	1442	-	-	-
Stage 1	953	-	-	-	-	-
Stage 2	1010	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	916	993	1442	-	-	-
Mov Cap-2 Maneuver	916	-	-	-	-	-
Stage 1	953	-	-	-	-	-
Stage 2	1007	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1442	-	916	-	-
HCM Lane V/C Ratio	0.004	-	0.118	-	-
HCM Control Delay (s)	7.5	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	83	0	0	124	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	90	0	0	135	0	0

Major/Minor	Minor2		Major2		Major1	
Conflicting Flow All	135	135	0	0	135	0
Stage 1	135	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.52	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.52	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	4.018	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	756	914	-	-	1449	-
Stage 1	785	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-		-
Mov Cap-1 Maneuver	0	914	-	-	1449	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s		0	0
HCM LOS	-		

Minor Lane/Major Mvmt	NBL	NBR	EBLn1	WBL	WBT
Capacity (veh/h)	1449	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	0	2	2	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	2	2	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	5	3	3	0	-	0
Stage 1	3	-	-	-	-	-
Stage 2	2	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1017	1081	1619	-	-	-
Stage 1	1020	-	-	-	-	-
Stage 2	1021	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1017	1081	1619	-	-	-
Mov Cap-2 Maneuver	1017	-	-	-	-	-
Stage 1	1020	-	-	-	-	-
Stage 2	1021	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1619	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	45	53	15	9	21	36	10	1177	8	71	808	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	55	65	18	10	24	41	11	1266	9	87	985	68
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.82	0.82	0.82	0.88	0.88	0.88	0.93	0.93	0.93	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	114	90	25	91	32	54	18	2030	14	262	2498	1117
Arrive On Green	0.06	0.06	0.06	0.05	0.05	0.05	0.01	0.56	0.56	0.15	0.71	0.71
Sat Flow, veh/h	1774	1405	389	1774	619	1057	1774	3602	26	1774	3539	1583
Grp Volume(v), veh/h	55	0	83	10	0	65	11	622	653	87	985	68
Grp Sat Flow(s),veh/h/ln	1774	0	1794	1774	0	1676	1774	1770	1858	1774	1770	1583
Q Serve(g_s), s	3.3	0.0	5.0	0.6	0.0	4.2	0.7	26.0	26.0	4.8	12.5	1.5
Cycle Q Clear(g_c), s	3.3	0.0	5.0	0.6	0.0	4.2	0.7	26.0	26.0	4.8	12.5	1.5
Prop In Lane	1.00		0.22	1.00		0.63	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	114	0	115	91	0	86	18	997	1047	262	2498	1117
V/C Ratio(X)	0.48	0.00	0.72	0.11	0.00	0.75	0.60	0.62	0.62	0.33	0.39	0.06
Avail Cap(c_a), veh/h	177	0	179	177	0	168	306	997	1047	262	2498	1117
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.7	0.0	50.5	49.8	0.0	51.5	54.2	16.1	16.1	42.0	6.6	5.0
Incr Delay (d2), s/veh	3.2	0.0	8.2	0.5	0.0	12.3	27.2	2.9	2.8	0.7	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	1.7	0.0	2.7	0.3	0.0	2.2	0.5	13.4	14.1	2.4	6.2	0.7
LnGrp Delay(d),s/veh	52.9	0.0	58.7	50.3	0.0	63.8	81.4	19.1	19.0	42.7	7.1	5.1
LnGrp LOS	D		E	D		E	F	B	B	D	A	A
Approach Vol, veh/h		138			75			1286			1140	
Approach Delay, s/veh		56.4			62.0			19.5			9.7	
Approach LOS		E			E			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	21.3	67.0		11.6	5.6	82.6		10.2
Change Period (Y+Rc), s	5.0	5.0		4.5	4.5	5.0		4.5
Max Green Setting (Gmax), s	7.0	62.0		11.0	19.0	50.5		11.0
Max Q Clear Time (g_c+I1), s	6.8	28.0		7.0	2.7	14.5		6.2
Green Ext Time (p_c), s	0.0	9.6		0.2	0.0	8.2		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	18.4
HCM 2010 LOS	B

Near-Term PM
1: 11th Avenue & W. Valley Parkway 11/17/2014

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	76	33	5	0	1	25	29	0	3	103	9	0	70	87	40
Peak Hour Factor	0.92	0.78	0.78	0.78	0.92	0.72	0.72	0.72	0.92	0.83	0.83	0.83	0.92	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	97	42	6	0	1	35	40	0	4	124	11	0	78	97	44
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.3	8.2	8.8	9.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	67%	2%	36%
Vol Thru, %	90%	29%	45%	44%
Vol Right, %	8%	4%	53%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	115	114	55	197
LT Vol	3	76	1	70
Through Vol	103	33	25	87
RT Vol	9	5	29	40
Lane Flow Rate	139	146	76	219
Geometry Grp	1	1	1	1
Degree of Util (X)	0.181	0.202	0.099	0.279
Departure Headway (Hd)	4.694	4.965	4.647	4.592
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	761	721	766	779
Service Time	2.743	3.016	2.704	2.637
HCM Lane V/C Ratio	0.183	0.202	0.099	0.281
HCM Control Delay	8.8	9.3	8.2	9.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.8	0.3	1.1

Two Way Analysis cannot be performed on an All Way Stop Intersection.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	48	41	20	53	23	3	24	1219	84	1	698	63
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	52	45	22	58	25	3	26	1325	91	1	759	68
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	295	146	72	262	202	24	54	1803	124	4	1701	152
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.03	0.54	0.54	0.00	0.52	0.52
Sat Flow, veh/h	1377	1183	578	1329	1632	196	1774	3361	230	1774	3286	294
Grp Volume(v), veh/h	52	0	67	58	0	28	26	696	720	1	409	418
Grp Sat Flow(s),veh/h/ln	1377	0	1761	1329	0	1828	1774	1770	1822	1774	1770	1811
Q Serve(g_s), s	1.8	0.0	1.7	2.1	0.0	0.7	0.7	15.1	15.2	0.0	7.3	7.3
Cycle Q Clear(g_c), s	2.4	0.0	1.7	3.8	0.0	0.7	0.7	15.1	15.2	0.0	7.3	7.3
Prop In Lane	1.00		0.33	1.00		0.11	1.00		0.13	1.00		0.16
Lane Grp Cap(c), veh/h	295	0	218	262	0	226	54	949	977	4	916	937
V/C Ratio(X)	0.18	0.00	0.31	0.22	0.00	0.12	0.48	0.73	0.74	0.28	0.45	0.45
Avail Cap(c_a), veh/h	892	0	981	838	0	1019	194	949	977	177	916	937
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.7	0.0	20.0	21.8	0.0	19.6	24.0	8.9	8.9	25.0	7.6	7.6
Incr Delay (d2), s/veh	0.3	0.0	0.8	0.4	0.0	0.2	6.6	5.0	4.9	38.8	1.6	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	0.7	0.0	0.9	0.8	0.0	0.4	0.5	8.5	8.7	0.1	3.9	4.0
LnGrp Delay(d),s/veh	21.0	0.0	20.8	22.2	0.0	19.8	30.6	13.9	13.9	63.9	9.2	9.1
LnGrp LOS	C		C	C		B	C	B	B	E	A	A
Approach Vol, veh/h		119			86			1442			828	
Approach Delay, s/veh		20.9			21.4			14.2			9.2	
Approach LOS		C			C			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.1	33.5		11.7	6.0	32.5		11.7
Change Period (Y+Rc), s	5.0	* 6.5		5.5	4.5	6.5		5.5
Max Green Setting (Gmax), s	5.6	* 27		28.0	5.5	26.0		28.0
Max Q Clear Time (g_c+I1), s	12.0	17.2		4.4	2.7	9.3		5.8
Green Ext Time (p_c), s	0.0	7.5		0.8	0.0	12.1		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	13.1
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	132	2	0	3	3	91
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	143	2	0	3	3	99

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	56	53	102	0	-	0
Stage 1	53	-	-	-	-	-
Stage 2	3	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	952	1014	1490	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	1020	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	952	1014	1490	-	-	-
Mov Cap-2 Maneuver	952	-	-	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	1020	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1490	-	953	-	-
HCM Lane V/C Ratio	-	-	0.153	-	-
HCM Control Delay (s)	0	-	9.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	134	0	0	92	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	146	0	0	100	0	0

Major/Minor	Minor2		Major2		Major1	
Conflicting Flow All	100	100	0	0	100	0
Stage 1	100	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.52	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.52	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	4.018	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	790	956	-	-	1493	-
Stage 1	812	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-		-
Mov Cap-1 Maneuver	0	956	-	-	1493	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s		0	0
HCM LOS	-		

Minor Lane/Major Mvmt	NBL	NBR	EBLn1	WBL	WBT
Capacity (veh/h)	1493	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	0	3	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	3	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	3	0	0	0	-	0
Stage 1	0	-	-	-	-	-
Stage 2	3	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1019	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1020	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1019	-	-	-	-	-
Mov Cap-2 Maneuver	1019	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1020	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-

Appendix F
Peak Hour Intersection LOS Worksheets
Near-Term Year 2015 Base Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	25	23	21	12	47	77	19	850	5	29	1270	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	32	29	27	18	71	117	23	1012	6	30	1309	18
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.78	0.78	0.78	0.66	0.66	0.66	0.84	0.84	0.84	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	85	43	40	186	66	109	33	1941	12	227	2309	1033
Arrive On Green	0.05	0.05	0.05	0.10	0.10	0.10	0.02	0.54	0.54	0.13	0.65	0.65
Sat Flow, veh/h	1774	889	828	1774	634	1045	1774	3607	21	1774	3539	1583
Grp Volume(v), veh/h	32	0	56	18	0	188	23	496	522	30	1309	18
Grp Sat Flow(s),veh/h/ln	1774	0	1717	1774	0	1678	1774	1770	1859	1774	1770	1583
Q Serve(g_s), s	1.8	0.0	3.4	1.0	0.0	11.0	1.4	18.9	18.9	1.6	21.4	0.4
Cycle Q Clear(g_c), s	1.8	0.0	3.4	1.0	0.0	11.0	1.4	18.9	18.9	1.6	21.4	0.4
Prop In Lane	1.00		0.48	1.00		0.62	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	85	0	83	186	0	176	33	952	1000	227	2309	1033
V/C Ratio(X)	0.38	0.00	0.68	0.10	0.00	1.07	0.70	0.52	0.52	0.13	0.57	0.02
Avail Cap(c_a), veh/h	186	0	180	186	0	176	304	952	1000	227	2309	1033
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.4	0.0	49.2	42.5	0.0	47.0	51.2	15.6	15.6	40.6	10.1	6.4
Incr Delay (d2), s/veh	2.0	0.0	7.0	0.2	0.0	87.5	17.7	2.0	1.9	0.2	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	0.9	0.0	1.8	0.5	0.0	9.4	0.8	9.8	10.2	0.8	10.7	0.2
LnGrp Delay(d),s/veh	50.5	0.0	56.2	42.7	0.0	134.5	69.0	17.6	17.5	40.8	11.1	6.4
LnGrp LOS	D		E	D		F	E	B	B	D	B	A
Approach Vol, veh/h		88			206			1041			1357	
Approach Delay, s/veh		54.1			126.4			18.7			11.7	
Approach LOS		D			F			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	18.5	61.5		9.5	6.5	73.5		15.5
Change Period (Y+Rc), s	5.0	5.0		4.5	4.5	5.0		4.5
Max Green Setting (Gmax), s	7.5	56.5		11.0	18.0	46.5		11.0
Max Q Clear Time (g_c+I1), s	3.6	20.9		5.4	3.4	23.4		13.0
Green Ext Time (p_c), s	0.1	5.3		0.1	0.0	8.1		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	24.6
HCM 2010 LOS	C

Near-Term + Project AM
1: 11th Avenue & W. Valley Parkway 11/17/2014

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	44	9	5	0	8	38	60	0	6	90	4	0	24	104	72
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	48	10	5	0	9	41	65	0	7	98	4	0	26	113	78
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.4	8.2	8.3	8.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	76%	8%	12%
Vol Thru, %	90%	16%	36%	52%
Vol Right, %	4%	9%	57%	36%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	100	58	106	200
LT Vol	6	44	8	24
Through Vol	90	9	38	104
RT Vol	4	5	60	72
Lane Flow Rate	109	63	115	217
Geometry Grp	1	1	1	1
Degree of Util (X)	0.138	0.086	0.141	0.259
Departure Headway (Hd)	4.574	4.902	4.42	4.284
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	784	731	811	839
Service Time	2.603	2.935	2.45	2.308
HCM Lane V/C Ratio	0.139	0.086	0.142	0.259
HCM Control Delay	8.3	8.4	8.2	8.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.3	0.5	1

Two Way Analysis cannot be performed on an All Way Stop Intersection.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	47	20	50	93	19	19	36	801	70	28	1233	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	60	26	64	115	23	23	41	921	80	29	1298	34
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.78	0.78	0.78	0.81	0.81	0.81	0.87	0.87	0.87	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	359	93	228	318	166	166	74	1566	136	57	1672	44
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.04	0.48	0.48	0.03	0.47	0.47
Sat Flow, veh/h	1354	478	1177	1301	856	856	1774	3296	286	1774	3524	92
Grp Volume(v), veh/h	60	0	90	115	0	46	41	495	506	29	651	681
Grp Sat Flow(s),veh/h/ln	1354	0	1655	1301	0	1712	1774	1770	1812	1774	1770	1846
Q Serve(g_s), s	2.2	0.0	2.6	4.7	0.0	1.3	1.3	11.6	11.6	0.9	17.4	17.5
Cycle Q Clear(g_c), s	3.5	0.0	2.6	7.3	0.0	1.3	1.3	11.6	11.6	0.9	17.4	17.5
Prop In Lane	1.00		0.71	1.00		0.50	1.00		0.16	1.00		0.05
Lane Grp Cap(c), veh/h	359	0	321	318	0	332	74	841	861	57	840	876
V/C Ratio(X)	0.17	0.00	0.28	0.36	0.00	0.14	0.55	0.59	0.59	0.51	0.78	0.78
Avail Cap(c_a), veh/h	751	0	800	684	0	812	171	841	861	156	840	876
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.4	0.0	19.6	22.7	0.0	19.0	26.7	10.9	10.9	27.1	12.4	12.4
Incr Delay (d2), s/veh	0.3	0.0	0.7	1.0	0.0	0.3	2.4	3.0	2.9	2.6	6.9	6.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	0.9	0.0	1.3	1.8	0.0	0.6	0.7	6.3	6.5	0.5	9.9	10.3
LnGrp Delay(d),s/veh	20.7	0.0	20.2	23.7	0.0	19.3	29.1	13.9	13.8	29.6	19.4	19.2
LnGrp LOS	C		C	C		B	C	B	B	C	B	B
Approach Vol, veh/h		150			161			1042			1361	
Approach Delay, s/veh		20.4			22.4			14.4			19.5	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.8	32.5		17.5	6.9	32.5		17.5
Change Period (Y+Rc), s	5.0	5.5		* 6.5	4.5	5.5		6.5
Max Green Setting (Gmax), s	5.6	27.0		* 28	5.5	27.0		27.0
Max Q Clear Time (g_c+I1), s	12.3	13.6		5.5	3.3	19.5		9.3
Green Ext Time (p_c), s	0.0	9.3		1.9	0.0	5.8		1.8

Intersection Summary	
HCM 2010 Ctrl Delay	17.8
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Near-Term + Project AM
3: Avenida Del Diablo & W. Valley Parkway 11/17/2014

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	87	0	2	4	6	131
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	38	38	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	113	0	5	11	7	149

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	102	81	156	0	-	0
Stage 1	81	-	-	-	-	-
Stage 2	21	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	896	979	1424	-	-	-
Stage 1	942	-	-	-	-	-
Stage 2	1002	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	892	979	1424	-	-	-
Mov Cap-2 Maneuver	892	-	-	-	-	-
Stage 1	942	-	-	-	-	-
Stage 2	998	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	2.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1424	-	892	-	-
HCM Lane V/C Ratio	0.004	-	0.127	-	-
HCM Control Delay (s)	7.5	0	9.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	83	29	7	124	16	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	90	32	8	135	17	4

Major/Minor	Minor2		Major2		Major1	
Conflicting Flow All	189	135	4	0	135	0
Stage 1	150	-	-	-	-	-
Stage 2	39	-	-	-	-	-
Critical Hdwy	6.52	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.52	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	4.018	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	706	914	-	-	1449	-
Stage 1	773	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-		-
Mov Cap-1 Maneuver	0	914	-	-	1449	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	9.5		6
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBR	EBLn1	WBL	WBT
Capacity (veh/h)	1449	-	914	-	-
HCM Lane V/C Ratio	0.012	-	0.133	-	-
HCM Control Delay (s)	7.5	-	9.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	3	0	0	0	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	0	0	0	0	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	3	3	7	0	-	0
Stage 1	3	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1019	1081	1614	-	-	-
Stage 1	1020	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1019	1081	1614	-	-	-
Mov Cap-2 Maneuver	1019	-	-	-	-	-
Stage 1	1020	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1614	-	1019	-	-
HCM Lane V/C Ratio	-	-	0.003	-	-
HCM Control Delay (s)	0	-	8.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	45	53	15	9	21	36	10	1202	8	71	826	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	55	65	18	10	24	41	11	1292	9	87	1007	68
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.82	0.82	0.82	0.88	0.88	0.88	0.93	0.93	0.93	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	114	90	25	91	32	54	18	2031	14	262	2498	1117
Arrive On Green	0.06	0.06	0.06	0.05	0.05	0.05	0.01	0.56	0.56	0.15	0.71	0.71
Sat Flow, veh/h	1774	1405	389	1774	619	1057	1774	3603	25	1774	3539	1583
Grp Volume(v), veh/h	55	0	83	10	0	65	11	635	666	87	1007	68
Grp Sat Flow(s),veh/h/ln	1774	0	1794	1774	0	1676	1774	1770	1858	1774	1770	1583
Q Serve(g_s), s	3.3	0.0	5.0	0.6	0.0	4.2	0.7	26.8	26.8	4.8	12.9	1.5
Cycle Q Clear(g_c), s	3.3	0.0	5.0	0.6	0.0	4.2	0.7	26.8	26.8	4.8	12.9	1.5
Prop In Lane	1.00		0.22	1.00		0.63	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	114	0	115	91	0	86	18	997	1047	262	2498	1117
V/C Ratio(X)	0.48	0.00	0.72	0.11	0.00	0.75	0.60	0.64	0.64	0.33	0.40	0.06
Avail Cap(c_a), veh/h	177	0	179	177	0	168	306	997	1047	262	2498	1117
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.7	0.0	50.5	49.8	0.0	51.5	54.2	16.3	16.3	42.0	6.7	5.0
Incr Delay (d2), s/veh	3.2	0.0	8.2	0.5	0.0	12.3	27.2	3.1	3.0	0.7	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	1.7	0.0	2.7	0.3	0.0	2.2	0.5	13.9	14.6	2.4	6.3	0.7
LnGrp Delay(d),s/veh	52.9	0.0	58.7	50.3	0.0	63.8	81.4	19.4	19.3	42.7	7.1	5.1
LnGrp LOS	D		E	D		E	F	B	B	D	A	A
Approach Vol, veh/h		138			75			1312			1162	
Approach Delay, s/veh		56.4			62.0			19.9			9.7	
Approach LOS		E			E			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	21.3	67.0		11.6	5.6	82.6		10.2
Change Period (Y+Rc), s	5.0	5.0		4.5	4.5	5.0		4.5
Max Green Setting (Gmax), s	7.0	62.0		11.0	19.0	50.5		11.0
Max Q Clear Time (g_c+I1), s	6.8	28.8		7.0	2.7	14.9		6.2
Green Ext Time (p_c), s	0.0	9.9		0.2	0.0	8.4		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	18.5
HCM 2010 LOS	B

Near-Term + Project PM
1: 11th Avenue & W. Valley Parkway 11/17/2014

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	76	33	5	0	1	25	29	0	3	115	9	0	70	96	40
Peak Hour Factor	0.92	0.78	0.78	0.78	0.92	0.72	0.72	0.72	0.92	0.83	0.83	0.83	0.92	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	97	42	6	0	1	35	40	0	4	139	11	0	78	107	44
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.4	8.3	9	9.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	67%	2%	34%
Vol Thru, %	91%	29%	45%	47%
Vol Right, %	7%	4%	53%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	127	114	55	206
LT Vol	3	76	1	70
Through Vol	115	33	25	96
RT Vol	9	5	29	40
Lane Flow Rate	153	146	76	229
Geometry Grp	1	1	1	1
Degree of Util (X)	0.2	0.204	0.1	0.294
Departure Headway (Hd)	4.716	5.026	4.711	4.619
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	757	710	755	776
Service Time	2.767	3.08	2.771	2.664
HCM Lane V/C Ratio	0.202	0.206	0.101	0.295
HCM Control Delay	9	9.4	8.3	9.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.8	0.3	1.2

Two Way Analysis cannot be performed on an All Way Stop Intersection.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	48	41	20	57	23	28	24	1219	87	19	698	63
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	52	45	22	62	25	30	26	1325	95	21	759	68
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	277	155	76	268	101	122	53	1722	123	45	1704	153
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.03	0.51	0.51	0.03	0.52	0.52
Sat Flow, veh/h	1343	1183	578	1329	772	927	1774	3350	240	1774	3286	294
Grp Volume(v), veh/h	52	0	67	62	0	55	26	698	722	21	409	418
Grp Sat Flow(s),veh/h/ln	1343	0	1761	1329	0	1699	1774	1770	1820	1774	1770	1811
Q Serve(g_s), s	1.9	0.0	1.8	2.3	0.0	1.5	0.7	16.3	16.5	0.6	7.5	7.5
Cycle Q Clear(g_c), s	3.4	0.0	1.8	4.1	0.0	1.5	0.7	16.3	16.5	0.6	7.5	7.5
Prop In Lane	1.00		0.33	1.00		0.55	1.00		0.13	1.00		0.16
Lane Grp Cap(c), veh/h	277	0	231	268	0	223	53	909	936	45	918	939
V/C Ratio(X)	0.19	0.00	0.29	0.23	0.00	0.25	0.49	0.77	0.77	0.47	0.45	0.45
Avail Cap(c_a), veh/h	830	0	956	816	0	923	189	909	936	172	918	939
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.6	0.0	20.2	22.1	0.0	20.1	24.6	10.1	10.1	24.8	7.8	7.8
Incr Delay (d2), s/veh	0.3	0.0	0.7	0.4	0.0	0.6	6.7	6.2	6.1	7.5	1.6	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	0.7	0.0	0.9	0.9	0.0	0.7	0.5	9.3	9.6	0.4	4.0	4.1
LnGrp Delay(d),s/veh	21.9	0.0	20.9	22.5	0.0	20.7	31.3	16.2	16.2	32.3	9.3	9.3
LnGrp LOS	C		C	C		C	C	B	B	C	A	A
Approach Vol, veh/h		119			117			1446			848	
Approach Delay, s/veh		21.4			21.6			16.5			9.9	
Approach LOS		C			C			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.3	33.0		12.3	6.1	33.2		12.3
Change Period (Y+Rc), s	5.0	* 6.5		5.5	4.5	6.5		5.5
Max Green Setting (Gmax), s	5.6	* 27		28.0	5.5	26.0		28.0
Max Q Clear Time (g_c+I1), s	12.6	18.5		5.4	2.7	9.5		6.1
Green Ext Time (p_c), s	0.0	6.6		1.0	0.0	12.0		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	14.8
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Near-Term + Project PM
3: Avenida Del Diablo & W. Valley Parkway 11/17/2014

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	138	2	0	9	7	96
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	150	2	0	10	8	104

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	70	60	112	0	-	0
Stage 1	60	-	-	-	-	-
Stage 2	10	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	934	1005	1478	-	-	-
Stage 1	963	-	-	-	-	-
Stage 2	1013	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	934	1005	1478	-	-	-
Mov Cap-2 Maneuver	934	-	-	-	-	-
Stage 1	963	-	-	-	-	-
Stage 2	1013	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1478	-	935	-	-
HCM Lane V/C Ratio	-	-	0.163	-	-
HCM Control Delay (s)	0	-	9.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

Intersection	
Int Delay, s/veh	5.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	134	21	5	92	29	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	146	23	5	100	32	7

Major/Minor	Minor2		Major2		Major1	
Conflicting Flow All	181	100	7	0	100	0
Stage 1	111	-	-	-	-	-
Stage 2	70	-	-	-	-	-
Critical Hdwy	6.52	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.52	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	4.018	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	713	956	-	-	1493	-
Stage 1	804	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-		-
Mov Cap-1 Maneuver	0	956	-	-	1493	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	9.6		6.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBR	EBLn1	WBL	WBT
Capacity (veh/h)	1493	-	956	-	-
HCM Lane V/C Ratio	0.021	-	0.176	-	-
HCM Control Delay (s)	7.5	-	9.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	6	0	0	0	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	0	0	0	0	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2	2	4	0	-	0
Stage 1	2	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1021	1082	1618	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1021	1082	1618	-	-	-
Mov Cap-2 Maneuver	1021	-	-	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1618	-	1021	-	-
HCM Lane V/C Ratio	-	-	0.006	-	-
HCM Control Delay (s)	0	-	8.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Appendix G
Peak Hour Intersection LOS Worksheets
Horizon Year 2035 Base Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	30	30	25	20	55	85	25	925	10	35	1380	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	33	33	27	22	60	92	27	1005	11	38	1500	22
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	89	47	39	110	41	63	37	2058	23	237	2446	1094
Arrive On Green	0.05	0.05	0.05	0.06	0.06	0.06	0.02	0.57	0.57	0.13	0.69	0.69
Sat Flow, veh/h	1774	949	777	1774	664	1019	1774	3586	39	1774	3539	1583
Grp Volume(v), veh/h	33	0	60	22	0	152	27	496	520	38	1500	22
Grp Sat Flow(s),veh/h/ln	1774	0	1726	1774	0	1683	1774	1770	1856	1774	1770	1583
Q Serve(g_s), s	1.9	0.0	3.6	1.2	0.0	6.5	1.6	17.4	17.4	2.0	23.8	0.5
Cycle Q Clear(g_c), s	1.9	0.0	3.6	1.2	0.0	6.5	1.6	17.4	17.4	2.0	23.8	0.5
Prop In Lane	1.00		0.45	1.00		0.61	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	89	0	86	110	0	104	37	1016	1065	237	2446	1094
V/C Ratio(X)	0.37	0.00	0.70	0.20	0.00	1.46	0.73	0.49	0.49	0.16	0.61	0.02
Avail Cap(c_a), veh/h	110	0	107	110	0	104	245	1016	1065	237	2446	1094
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.3	0.0	49.1	46.8	0.0	49.3	51.1	13.2	13.2	40.3	8.7	5.1
Incr Delay (d2), s/veh	1.9	0.0	11.7	0.7	0.0	251.6	18.6	1.7	1.6	1.5	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	1.0	0.0	2.0	0.6	0.0	10.3	1.0	8.9	9.3	1.1	11.9	0.2
LnGrp Delay(d),s/veh	50.2	0.0	60.8	47.4	0.0	300.9	69.7	14.9	14.8	41.7	9.8	5.1
LnGrp LOS	D		E	D		F	E	B	B	D	A	A
Approach Vol, veh/h		93			174			1043			1560	
Approach Delay, s/veh		57.0			268.8			16.3			10.6	
Approach LOS		E			F			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	19.0	65.3		9.7	6.7	77.6		11.0
Change Period (Y+Rc), s	5.0	5.0		4.5	4.5	5.0		4.5
Max Green Setting (Gmax), s	14.0	59.0		6.5	14.5	59.0		6.5
Max Q Clear Time (g_c+I1), s	4.0	19.4		5.6	3.6	25.8		8.5
Green Ext Time (p_c), s	0.0	21.3		0.0	0.0	19.4		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	29.8
HCM 2010 LOS	C

Future AM
1: 11th Avenue & W. Valley Parkway 11/18/2014

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	50	15	10	0	15	45	70	0	10	95	5	0	30	105	80
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	54	16	11	0	16	49	76	0	11	103	5	0	33	114	87
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.6	8.6	8.6	9.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	67%	12%	14%
Vol Thru, %	86%	20%	35%	49%
Vol Right, %	5%	13%	54%	37%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	110	75	130	215
LT Vol	10	50	15	30
Through Vol	95	15	45	105
RT Vol	5	10	70	80
Lane Flow Rate	120	82	141	234
Geometry Grp	1	1	1	1
Degree of Util (X)	0.157	0.112	0.178	0.286
Departure Headway (Hd)	4.719	4.968	4.546	4.411
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	758	719	787	813
Service Time	2.76	3.016	2.589	2.446
HCM Lane V/C Ratio	0.158	0.114	0.179	0.288
HCM Control Delay	8.6	8.6	8.6	9.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.4	0.6	1.2

Two Way Analysis cannot be performed on an All Way Stop Intersection.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	55	25	60	105	25	10	40	890	75	10	1365	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	60	27	65	114	27	11	43	967	82	11	1484	43
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	366	94	226	315	243	99	77	1633	138	25	1665	48
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.04	0.49	0.49	0.01	0.47	0.47
Sat Flow, veh/h	1364	486	1170	1299	1259	513	1774	3303	280	1774	3513	102
Grp Volume(v), veh/h	60	0	92	114	0	38	43	518	531	11	746	781
Grp Sat Flow(s),veh/h/ln	1364	0	1656	1299	0	1772	1774	1770	1813	1774	1770	1845
Q Serve(g_s), s	2.2	0.0	2.7	4.7	0.0	1.0	1.4	11.9	11.9	0.4	21.9	22.0
Cycle Q Clear(g_c), s	3.2	0.0	2.7	7.4	0.0	1.0	1.4	11.9	11.9	0.4	21.9	22.0
Prop In Lane	1.00		0.71	1.00		0.29	1.00		0.15	1.00		0.06
Lane Grp Cap(c), veh/h	366	0	320	315	0	342	77	875	897	25	839	874
V/C Ratio(X)	0.16	0.00	0.29	0.36	0.00	0.11	0.56	0.59	0.59	0.44	0.89	0.89
Avail Cap(c_a), veh/h	761	0	800	680	0	840	171	875	897	156	839	874
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.3	0.0	19.6	22.8	0.0	19.0	26.7	10.3	10.3	27.9	13.6	13.7
Incr Delay (d2), s/veh	0.3	0.0	0.7	1.0	0.0	0.2	2.4	2.9	2.9	4.5	13.6	13.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	0.9	0.0	1.3	1.8	0.0	0.5	0.7	6.5	6.6	0.2	13.7	14.3
LnGrp Delay(d),s/veh	20.6	0.0	20.3	23.8	0.0	19.2	29.1	13.2	13.2	32.4	27.2	27.1
LnGrp LOS	C		C	C		B	C	B	B	C	C	C
Approach Vol, veh/h		152			152			1092			1538	
Approach Delay, s/veh		20.4			22.6			13.8			27.2	
Approach LOS		C			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.8	33.7		17.5	7.0	32.5		17.5
Change Period (Y+Rc), s	5.0	5.5		* 6.5	4.5	5.5		6.5
Max Green Setting (Gmax), s	5.8	27.0		* 28	5.5	27.0		27.0
Max Q Clear Time (g_c+I1), s	2.4	13.9		5.2	3.4	24.0		9.4
Green Ext Time (p_c), s	0.0	9.9		1.9	0.0	2.7		1.7

Intersection Summary	
HCM 2010 Ctrl Delay	21.6
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	95	5	5	5	5	140
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	103	5	5	5	5	152

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	98	82	158	0	-	0
Stage 1	82	-	-	-	-	-
Stage 2	16	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	901	978	1422	-	-	-
Stage 1	941	-	-	-	-	-
Stage 2	1007	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	897	978	1422	-	-	-
Mov Cap-2 Maneuver	897	-	-	-	-	-
Stage 1	941	-	-	-	-	-
Stage 2	1003	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	3.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1422	-	901	-	-
HCM Lane V/C Ratio	0.004	-	0.121	-	-
HCM Control Delay (s)	7.5	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	90	0	0	135	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	0	0	147	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	98	0	245	98
Stage 1	-	-	-	-	98	-
Stage 2	-	-	-	-	147	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1495	-	743	958
Stage 1	-	-	-	-	926	-
Stage 2	-	-	-	-	880	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1495	-	743	958
Mov Cap-2 Maneuver	-	-	-	-	743	-
Stage 1	-	-	-	-	926	-
Stage 2	-	-	-	-	880	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1495	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	-

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	0	0	0	0	-	0
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	50	60	20	15	25	40	15	1300	15	80	895	65
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	54	65	22	16	27	43	16	1413	16	87	973	71
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	121	91	31	101	37	59	25	1623	18	443	2452	1097
Arrive On Green	0.07	0.07	0.07	0.06	0.06	0.06	0.01	0.45	0.45	0.25	0.69	0.69
Sat Flow, veh/h	1774	1332	451	1774	648	1032	1774	3585	41	1774	3539	1583
Grp Volume(v), veh/h	54	0	87	16	0	70	16	697	732	87	973	71
Grp Sat Flow(s),veh/h/ln	1774	0	1783	1774	0	1681	1774	1770	1856	1774	1770	1583
Q Serve(g_s), s	3.2	0.0	5.3	0.9	0.0	4.5	1.0	39.1	39.2	4.3	12.8	1.6
Cycle Q Clear(g_c), s	3.2	0.0	5.3	0.9	0.0	4.5	1.0	39.1	39.2	4.3	12.8	1.6
Prop In Lane	1.00		0.25	1.00		0.61	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	121	0	121	101	0	95	25	801	840	443	2452	1097
V/C Ratio(X)	0.45	0.00	0.72	0.16	0.00	0.73	0.64	0.87	0.87	0.20	0.40	0.06
Avail Cap(c_a), veh/h	260	0	261	276	0	261	66	801	840	443	2452	1097
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.3	0.0	50.2	49.4	0.0	51.1	54.0	27.2	27.2	32.6	7.2	5.4
Incr Delay (d2), s/veh	2.6	0.0	7.7	0.7	0.0	10.4	24.2	12.4	12.0	0.2	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	1.7	0.0	2.8	0.5	0.0	2.4	0.7	21.7	22.7	2.1	6.4	0.7
LnGrp Delay(d),s/veh	51.8	0.0	57.9	50.1	0.0	61.4	78.2	39.6	39.2	32.8	7.6	5.5
LnGrp LOS	D		E	D		E	E	D	D	C	A	A
Approach Vol, veh/h		141			86			1445			1131	
Approach Delay, s/veh		55.6			59.3			39.8			9.4	
Approach LOS		E			E			D			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	32.5	54.8		12.0	6.0	81.2		10.7
Change Period (Y+Rc), s	5.0	5.0		4.5	4.5	5.0		4.5
Max Green Setting (Gmax), s	8.0	49.8		16.1	4.1	54.2		17.1
Max Q Clear Time (g_c+I1), s	6.3	41.2		7.3	3.0	14.8		6.5
Green Ext Time (p_c), s	0.1	5.4		0.3	0.0	8.2		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	29.0
HCM 2010 LOS	C

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	85	40	10	0	15	30	35	0	5	115	15	0	80	100	45
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	92	43	11	0	16	33	38	0	5	125	16	0	87	109	49
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.4	8.5	9	9.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	63%	19%	36%
Vol Thru, %	85%	30%	38%	44%
Vol Right, %	11%	7%	44%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	135	135	80	225
LT Vol	5	85	15	80
Through Vol	115	40	30	100
RT Vol	15	10	35	45
Lane Flow Rate	147	147	87	245
Geometry Grp	1	1	1	1
Degree of Util (X)	0.194	0.205	0.117	0.315
Departure Headway (Hd)	4.748	5.041	4.825	4.644
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	751	707	737	770
Service Time	2.803	3.102	2.891	2.693
HCM Lane V/C Ratio	0.196	0.208	0.118	0.318
HCM Control Delay	9	9.4	8.5	9.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.8	0.4	1.4

Two Way Analysis cannot be performed on an All Way Stop Intersection.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	55	50	25	60	30	5	30	1350	95	5	775	70
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	60	54	27	65	33	5	33	1467	103	5	842	76
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	307	165	83	270	223	34	65	1756	123	12	1652	149
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.04	0.52	0.52	0.01	0.50	0.50
Sat Flow, veh/h	1364	1173	586	1312	1581	240	1774	3356	235	1774	3284	296
Grp Volume(v), veh/h	60	0	81	65	0	38	33	770	800	5	454	464
Grp Sat Flow(s),veh/h/ln	1364	0	1759	1312	0	1820	1774	1770	1821	1774	1770	1810
Q Serve(g_s), s	2.1	0.0	2.1	2.4	0.0	0.9	0.9	19.0	19.3	0.1	8.9	8.9
Cycle Q Clear(g_c), s	3.0	0.0	2.1	4.6	0.0	0.9	0.9	19.0	19.3	0.1	8.9	8.9
Prop In Lane	1.00		0.33	1.00		0.13	1.00		0.13	1.00		0.16
Lane Grp Cap(c), veh/h	307	0	248	270	0	257	65	926	953	12	890	911
V/C Ratio(X)	0.20	0.00	0.33	0.24	0.00	0.15	0.51	0.83	0.84	0.42	0.51	0.51
Avail Cap(c_a), veh/h	853	0	953	796	0	986	189	926	953	172	890	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.8	0.0	20.0	22.0	0.0	19.5	24.4	10.4	10.5	25.6	8.6	8.6
Incr Delay (d2), s/veh	0.3	0.0	0.8	0.5	0.0	0.3	6.1	8.6	8.8	21.9	2.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	0.9	0.0	1.1	0.9	0.0	0.5	0.6	11.2	11.9	0.1	4.8	4.9
LnGrp Delay(d),s/veh	21.1	0.0	20.7	22.5	0.0	19.7	30.5	19.0	19.2	47.5	10.7	10.6
LnGrp LOS	C		C	C		B	C	B	B	D	B	B
Approach Vol, veh/h		141			103			1603			923	
Approach Delay, s/veh		20.9			21.5			19.4			10.8	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.3	33.5		12.8	6.4	32.5		12.8
Change Period (Y+Rc), s	5.0	* 6.5		5.5	4.5	6.5		5.5
Max Green Setting (Gmax), s	5.6	* 27		28.0	5.5	26.0		28.0
Max Q Clear Time (g_c+I1), s	12.1	21.3		5.0	2.9	10.9		6.6
Green Ext Time (p_c), s	0.0	4.6		1.0	0.0	12.0		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	16.7
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	150	5	5	5	10	105
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	163	5	5	5	11	114

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	84	68	125	0	-	0
Stage 1	68	-	-	-	-	-
Stage 2	16	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	918	995	1462	-	-	-
Stage 1	955	-	-	-	-	-
Stage 2	1007	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	915	995	1462	-	-	-
Mov Cap-2 Maneuver	915	-	-	-	-	-
Stage 1	955	-	-	-	-	-
Stage 2	1004	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	3.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1462	-	917	-	-
HCM Lane V/C Ratio	0.004	-	0.184	-	-
HCM Control Delay (s)	7.5	0	9.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.7	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	145	0	0	100	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	158	0	0	109	0	0

Major/Minor	Minor2		Major2		Major1	
Conflicting Flow All	109	109	0	0	109	0
Stage 1	109	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.52	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.52	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	4.018	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	781	945	-	-	1481	-
Stage 1	805	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-		-
Mov Cap-1 Maneuver	0	945	-	-	1481	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s		0	0
HCM LOS	-		

Minor Lane/Major Mvmt	NBL	NBR	EBLn1	WBL	WBT
Capacity (veh/h)	1481	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	-

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	0	0	0	0	-	0
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-

Appendix H
Peak Hour Intersection LOS Worksheets
Horizon Year 2035 Base Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	30	30	25	20	55	85	25	945	10	35	1410	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	33	33	27	22	60	92	27	1027	11	38	1533	22
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	88	47	39	93	35	53	37	2474	27	48	2481	1110
Arrive On Green	0.05	0.05	0.05	0.05	0.05	0.05	0.02	0.69	0.69	0.03	0.70	0.70
Sat Flow, veh/h	1774	949	777	1774	664	1019	1774	3587	38	1774	3539	1583
Grp Volume(v), veh/h	33	0	60	22	0	152	27	507	531	38	1533	22
Grp Sat Flow(s),veh/h/ln	1774	0	1726	1774	0	1683	1774	1770	1856	1774	1770	1583
Q Serve(g_s), s	1.9	0.0	3.6	1.2	0.0	5.5	1.6	13.1	13.1	2.2	24.0	0.4
Cycle Q Clear(g_c), s	1.9	0.0	3.6	1.2	0.0	5.5	1.6	13.1	13.1	2.2	24.0	0.4
Prop In Lane	1.00		0.45	1.00		0.61	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	88	0	86	93	0	88	37	1221	1280	48	2481	1110
V/C Ratio(X)	0.37	0.00	0.70	0.24	0.00	1.72	0.73	0.42	0.42	0.79	0.62	0.02
Avail Cap(c_a), veh/h	93	0	90	93	0	88	245	1221	1280	237	2481	1110
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.3	0.0	49.1	47.7	0.0	49.8	51.1	7.1	7.1	50.8	8.3	4.8
Incr Delay (d2), s/veh	1.9	0.0	18.6	1.0	0.0	368.8	18.6	1.0	1.0	18.7	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	1.0	0.0	2.2	0.6	0.0	11.6	1.0	6.7	7.0	1.3	11.9	0.2
LnGrp Delay(d),s/veh	50.2	0.0	67.7	48.7	0.0	418.6	69.7	8.1	8.1	69.4	9.4	4.8
LnGrp LOS	D		E	D		F	E	A	A	E	A	A
Approach Vol, veh/h		93			174			1065			1593	
Approach Delay, s/veh		61.5			371.8			9.7			10.8	
Approach LOS		E			F			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.9	77.4		9.7	6.7	78.6		10.0
Change Period (Y+Rc), s	5.0	5.0		4.5	4.5	5.0		4.5
Max Green Setting (Gmax), s	14.0	61.0		5.5	14.5	61.0		5.5
Max Q Clear Time (g_c+I1), s	4.2	15.1		5.6	3.6	26.0		7.5
Green Ext Time (p_c), s	0.0	23.7		0.0	0.0	20.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	33.5
HCM 2010 LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Future + Project AM
1: 11th Avenue & W. Valley Parkway 11/18/2014

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	50	15	10	0	15	45	70	0	10	105	5	0	30	125	80
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	54	16	11	0	16	49	76	0	11	114	5	0	33	136	87
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.8	8.7	8.8	9.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	67%	12%	13%
Vol Thru, %	88%	20%	35%	53%
Vol Right, %	4%	13%	54%	34%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	120	75	130	235
LT Vol	10	50	15	30
Through Vol	105	15	45	125
RT Vol	5	10	70	80
Lane Flow Rate	130	82	141	255
Geometry Grp	1	1	1	1
Degree of Util (X)	0.172	0.114	0.182	0.316
Departure Headway (Hd)	4.753	5.051	4.626	4.448
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	751	706	772	805
Service Time	2.802	3.107	2.676	2.489
HCM Lane V/C Ratio	0.173	0.116	0.183	0.317
HCM Control Delay	8.8	8.8	8.7	9.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.4	0.7	1.4

Two Way Analysis cannot be performed on an All Way Stop Intersection.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	55	25	60	115	25	30	40	890	85	40	1365	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	60	27	65	125	27	33	43	967	92	43	1484	43
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	356	99	238	326	155	190	69	1511	144	76	1640	47
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.04	0.46	0.46	0.04	0.47	0.47
Sat Flow, veh/h	1337	486	1170	1299	764	934	1774	3267	311	1774	3513	102
Grp Volume(v), veh/h	60	0	92	125	0	60	43	524	535	43	746	781
Grp Sat Flow(s),veh/h/ln	1337	0	1656	1299	0	1698	1774	1770	1808	1774	1770	1845
Q Serve(g_s), s	2.3	0.0	2.7	5.2	0.0	1.7	1.4	13.2	13.2	1.4	22.7	22.8
Cycle Q Clear(g_c), s	4.0	0.0	2.7	8.0	0.0	1.7	1.4	13.2	13.2	1.4	22.7	22.8
Prop In Lane	1.00		0.71	1.00		0.55	1.00		0.17	1.00		0.06
Lane Grp Cap(c), veh/h	356	0	336	326	0	345	69	819	836	76	826	861
V/C Ratio(X)	0.17	0.00	0.27	0.38	0.00	0.17	0.63	0.64	0.64	0.56	0.90	0.91
Avail Cap(c_a), veh/h	714	0	780	663	0	786	152	819	836	152	826	861
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.9	0.0	19.6	23.0	0.0	19.2	27.6	12.0	12.0	27.4	14.3	14.4
Incr Delay (d2), s/veh	0.3	0.0	0.6	1.1	0.0	0.3	3.5	3.8	3.7	2.4	15.1	14.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	0.9	0.0	1.3	2.0	0.0	0.8	0.7	7.3	7.4	0.7	14.5	15.1
LnGrp Delay(d),s/veh	21.2	0.0	20.2	24.0	0.0	19.5	31.1	15.8	15.7	29.8	29.5	29.3
LnGrp LOS	C		C	C		B	C	B	B	C	C	C
Approach Vol, veh/h		152			185			1102			1570	
Approach Delay, s/veh		20.6			22.6			16.3			29.4	
Approach LOS		C			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.5	32.5		18.4	7.3	32.8		18.4
Change Period (Y+Rc), s	5.0	5.5		* 6.5	5.0	5.5		6.5
Max Green Setting (Gmax), s	5.6	27.0		* 28	5.0	27.0		27.0
Max Q Clear Time (g_c+I1), s	3.4	15.2		6.0	3.4	24.8		10.0
Green Ext Time (p_c), s	0.0	9.2		2.1	0.0	2.0		1.9

Intersection Summary	
HCM 2010 Ctrl Delay	23.7
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future + Project AM
3: Avenida Del Diablo & W. Valley Parkway 11/18/2014

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	105	5	5	15	15	150
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	5	5	16	16	163

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	125	98	179	0	-	0
Stage 1	98	-	-	-	-	-
Stage 2	27	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	870	958	1397	-	-	-
Stage 1	926	-	-	-	-	-
Stage 2	996	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	867	958	1397	-	-	-
Mov Cap-2 Maneuver	867	-	-	-	-	-
Stage 1	926	-	-	-	-	-
Stage 2	992	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	1.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1397	-	871	-	-
HCM Lane V/C Ratio	0.004	-	0.137	-	-
HCM Control Delay (s)	7.6	0	9.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	90	30	10	135	20	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	33	11	147	22	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	130	0	282	114
Stage 1	-	-	-	-	114	-
Stage 2	-	-	-	-	168	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1455	-	708	939
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	862	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1455	-	702	939
Mov Cap-2 Maneuver	-	-	-	-	702	-
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	855	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	766	-	-	1455	-
HCM Lane V/C Ratio	0.043	-	-	0.007	-
HCM Control Delay (s)	9.9	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	10	0	0	0	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	0	0	0	0	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	5	5	11	0	-	0
Stage 1	5	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1017	1078	1608	-	-	-
Stage 1	1018	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1017	1078	1608	-	-	-
Mov Cap-2 Maneuver	1017	-	-	-	-	-
Stage 1	1018	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1608	-	1017	-	-
HCM Lane V/C Ratio	-	-	0.011	-	-
HCM Control Delay (s)	0	-	8.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	50	60	20	15	25	40	15	1330	15	80	915	65
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	54	65	22	16	27	43	16	1446	16	87	995	71
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	121	91	31	101	37	59	25	1597	18	456	2452	1097
Arrive On Green	0.07	0.07	0.07	0.06	0.06	0.06	0.01	0.45	0.45	0.26	0.69	0.69
Sat Flow, veh/h	1774	1332	451	1774	648	1032	1774	3586	40	1774	3539	1583
Grp Volume(v), veh/h	54	0	87	16	0	70	16	713	749	87	995	71
Grp Sat Flow(s),veh/h/ln	1774	0	1783	1774	0	1681	1774	1770	1856	1774	1770	1583
Q Serve(g_s), s	3.2	0.0	5.3	0.9	0.0	4.5	1.0	41.2	41.3	4.2	13.2	1.6
Cycle Q Clear(g_c), s	3.2	0.0	5.3	0.9	0.0	4.5	1.0	41.2	41.3	4.2	13.2	1.6
Prop In Lane	1.00		0.25	1.00		0.61	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	121	0	121	101	0	95	25	788	827	456	2452	1097
V/C Ratio(X)	0.45	0.00	0.72	0.16	0.00	0.73	0.64	0.90	0.91	0.19	0.41	0.06
Avail Cap(c_a), veh/h	260	0	261	276	0	261	66	788	827	456	2452	1097
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.3	0.0	50.2	49.4	0.0	51.1	54.0	28.3	28.4	31.9	7.2	5.4
Incr Delay (d2), s/veh	2.6	0.0	7.7	0.7	0.0	10.4	24.2	15.8	15.4	0.2	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	1.7	0.0	2.8	0.5	0.0	2.4	0.7	23.5	24.5	2.1	6.5	0.7
LnGrp Delay(d),s/veh	51.8	0.0	57.9	50.1	0.0	61.4	78.2	44.2	43.7	32.1	7.7	5.5
LnGrp LOS	D		E	D		E	E	D	D	C	A	A
Approach Vol, veh/h		141			86			1478			1153	
Approach Delay, s/veh		55.6			59.3			44.3			9.4	
Approach LOS		E			E			D			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	33.3	54.0		12.0	6.0	81.2		10.7
Change Period (Y+Rc), s	5.0	5.0		4.5	4.5	5.0		4.5
Max Green Setting (Gmax), s	8.8	49.0		16.1	4.1	54.2		17.1
Max Q Clear Time (g_c+I1), s	6.2	43.3		7.3	3.0	15.2		6.5
Green Ext Time (p_c), s	0.7	3.9		0.3	0.0	8.4		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	31.2
HCM 2010 LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Future + Project PM
1: 11th Avenue & W. Valley Parkway 11/18/2014

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	85	40	10	0	15	30	35	0	5	135	15	0	80	110	45
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	92	43	11	0	16	33	38	0	5	147	16	0	87	120	49
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.6	8.7	9.2	10.1
HCM LOS	A	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	63%	19%	34%
Vol Thru, %	87%	30%	38%	47%
Vol Right, %	10%	7%	44%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	155	135	80	235
LT Vol	5	85	15	80
Through Vol	135	40	30	110
RT Vol	15	10	35	45
Lane Flow Rate	168	147	87	255
Geometry Grp	1	1	1	1
Degree of Util (X)	0.224	0.209	0.119	0.332
Departure Headway (Hd)	4.777	5.122	4.909	4.679
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	746	696	723	764
Service Time	2.84	3.192	2.985	2.737
HCM Lane V/C Ratio	0.225	0.211	0.12	0.334
HCM Control Delay	9.2	9.6	8.7	10.1
HCM Lane LOS	A	A	A	B
HCM 95th-tile Q	0.9	0.8	0.4	1.5

Two Way Analysis cannot be performed on an All Way Stop Intersection.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	55	50	25	70	30	35	30	1350	105	25	775	70
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	60	54	27	76	33	38	33	1467	114	27	842	76
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	289	180	90	282	121	140	64	1655	128	55	1645	149
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.04	0.50	0.50	0.03	0.50	0.50
Sat Flow, veh/h	1324	1173	586	1312	791	911	1774	3330	257	1774	3284	296
Grp Volume(v), veh/h	60	0	81	76	0	71	33	776	805	27	454	464
Grp Sat Flow(s),veh/h/ln	1324	0	1759	1312	0	1702	1774	1770	1817	1774	1770	1810
Q Serve(g_s), s	2.2	0.0	2.2	2.9	0.0	2.0	1.0	21.0	21.3	0.8	9.2	9.2
Cycle Q Clear(g_c), s	4.2	0.0	2.2	5.1	0.0	2.0	1.0	21.0	21.3	0.8	9.2	9.2
Prop In Lane	1.00		0.33	1.00		0.54	1.00		0.14	1.00		0.16
Lane Grp Cap(c), veh/h	289	0	270	282	0	261	64	880	903	55	887	907
V/C Ratio(X)	0.21	0.00	0.30	0.27	0.00	0.27	0.51	0.88	0.89	0.49	0.51	0.51
Avail Cap(c_a), veh/h	782	0	924	770	0	894	183	880	903	166	887	907
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.8	0.0	20.0	22.3	0.0	19.9	25.2	12.0	12.1	25.4	8.9	8.9
Incr Delay (d2), s/veh	0.4	0.0	0.6	0.5	0.0	0.6	6.2	12.4	12.9	6.7	2.1	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	0.9	0.0	1.1	1.1	0.0	1.0	0.6	13.2	13.7	0.5	4.9	5.0
LnGrp Delay(d),s/veh	22.2	0.0	20.7	22.8	0.0	20.5	31.4	24.5	25.0	32.1	11.0	11.0
LnGrp LOS	C		C	C		C	C	C	C	C	B	B
Approach Vol, veh/h		141			147			1614			945	
Approach Delay, s/veh		21.3			21.7			24.9			11.6	
Approach LOS		C			C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.6	33.0		13.7	6.4	33.2		13.7
Change Period (Y+Rc), s	5.0	* 6.5		5.5	4.5	6.5		5.5
Max Green Setting (Gmax), s	5.6	* 27		28.0	5.5	26.0		28.0
Max Q Clear Time (g_c+I1), s	12.8	23.3		6.2	3.0	11.2		7.1
Green Ext Time (p_c), s	0.0	2.9		1.2	0.0	12.0		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	20.1
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Future + Project PM
3: Avenida Del Diablo & W. Valley Parkway 11/18/2014

Two Way Analysis cannot be performed on Signalized Intersection.

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	160	5	5	15	20	115
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	174	5	5	16	22	125

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	111	84	147	0	-	0
Stage 1	84	-	-	-	-	-
Stage 2	27	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	886	975	1435	-	-	-
Stage 1	939	-	-	-	-	-
Stage 2	996	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	882	975	1435	-	-	-
Mov Cap-2 Maneuver	882	-	-	-	-	-
Stage 1	939	-	-	-	-	-
Stage 2	992	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	1.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1435	-	885	-	-
HCM Lane V/C Ratio	0.004	-	0.203	-	-
HCM Control Delay (s)	7.5	0	10.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.8	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	145	30	10	100	30	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	158	33	11	109	33	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	190	0	304	174
Stage 1	-	-	-	-	174	-
Stage 2	-	-	-	-	130	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1384	-	688	869
Stage 1	-	-	-	-	856	-
Stage 2	-	-	-	-	896	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1384	-	682	869
Mov Cap-2 Maneuver	-	-	-	-	682	-
Stage 1	-	-	-	-	856	-
Stage 2	-	-	-	-	889	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	721	-	-	1384	-
HCM Lane V/C Ratio	0.06	-	-	0.008	-
HCM Control Delay (s)	10.3	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	10	0	0	0	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	0	0	0	0	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	5	5	11	0	-	0
Stage 1	5	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1017	1078	1608	-	-	-
Stage 1	1018	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1017	1078	1608	-	-	-
Mov Cap-2 Maneuver	1017	-	-	-	-	-
Stage 1	1018	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1608	-	1017	-	-
HCM Lane V/C Ratio	-	-	0.011	-	-
HCM Control Delay (s)	0	-	8.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-