

**Riker Ranch (TM 5592)**  
**9230 Adlai Road, Lakeside, CA**  
**March 12, 2015**

## **Traffic Impact Study**

**Project Owner:**

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San Diego, CA 92127

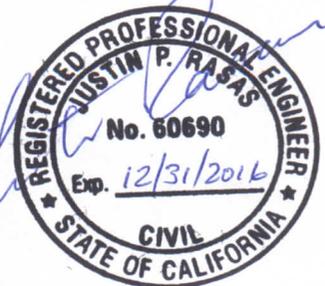
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Job #1415



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## Glossary of Terms and Acronyms

ADT .....	Average Daily Traffic
LOS .....	Level of Service
MPH.....	Miles per Hour
TIS.....	Traffic Impact Study
V/C .....	Volume to Capacity Ratio

# Executive Summary

## Riker Ranch

The project is a Tentative Map (TM) splitting a parcel of approximately 6.24 acres into 21 residential lots located at 9230 Adlai Road in the unincorporated San Diego County community of Lakeside, California.

The project trip generation was calculated using SANDAG trip rates from the *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, April 2002. The project site has a single family dwelling unit; however, a credit was not applied because the unit is not occupied. This analysis was based on 23 residential lots; however, since completion of this report, the project has been refined and now has 21 residential lots. Therefore, this analysis is conservative and based on 23 lots. Using SANDAG rates, the project as analyzed with 23 lots (2 more than the final plan) is calculated to generate 230 Average Daily Trips (ADT), 19 AM peak hour trips (6 inbound and 13 outbound), and 23 PM peak hour trips (16 inbound and 7 outbound).

The project is calculated to have no direct impacts and potential cumulative impacts. A summary of project impacts is shown in **Table E-1**.

**TABLE E-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION**

<b>Roadway Facility</b>	<b>Direct Impacts (Proposed Mitigation)</b>	<b>Cumulative Impacts</b>
Intersections	0 (no mitigation required)	Potential (TIF)
Segments	0 (no mitigation required)	Potential (TIF)
State Routes	0 (no mitigation required)	Potential (TIF)
Ramps	0 (no mitigation required)	Potential (TIF)

Note: To mitigate potential cumulative impacts, the County has established a Traffic Impact Fee (TIF) program.

# 1.0 Introduction

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

- 1.0 Introduction
- 2.0 Existing Conditions
- 3.0 Project Impact Analysis
- 4.0 General Plan Consistency and Build Out Analysis
- 5.0 Summary of Recommended Mitigation and Project Design Features
- 6.0 References
- 7.0 List of Preparers and Persons and Organizations Contacted

## 1.1 Purpose of the Report

The purpose of this traffic impact study is to determine and analyze potential traffic impacts for the proposed TM project, which is splitting a parcel into 23 lots for residential use.

## 1.2 Project Location and Description

The project is a Tentative Map splitting a parcel of approximately 6.24 acres into 23 lots located at 9230 Adlai Road in the unincorporated San Diego County community of Lakeside, California. The location of the project is shown in **Figure 1**. The map of the Focused Traffic Impact Study (TIS) area is shown in **Figure 2**. A preliminary site plan is shown in **Figure 3**.

The project will have an internal roadway that will connect with Adlai Road at two points as shown on Figure 3.

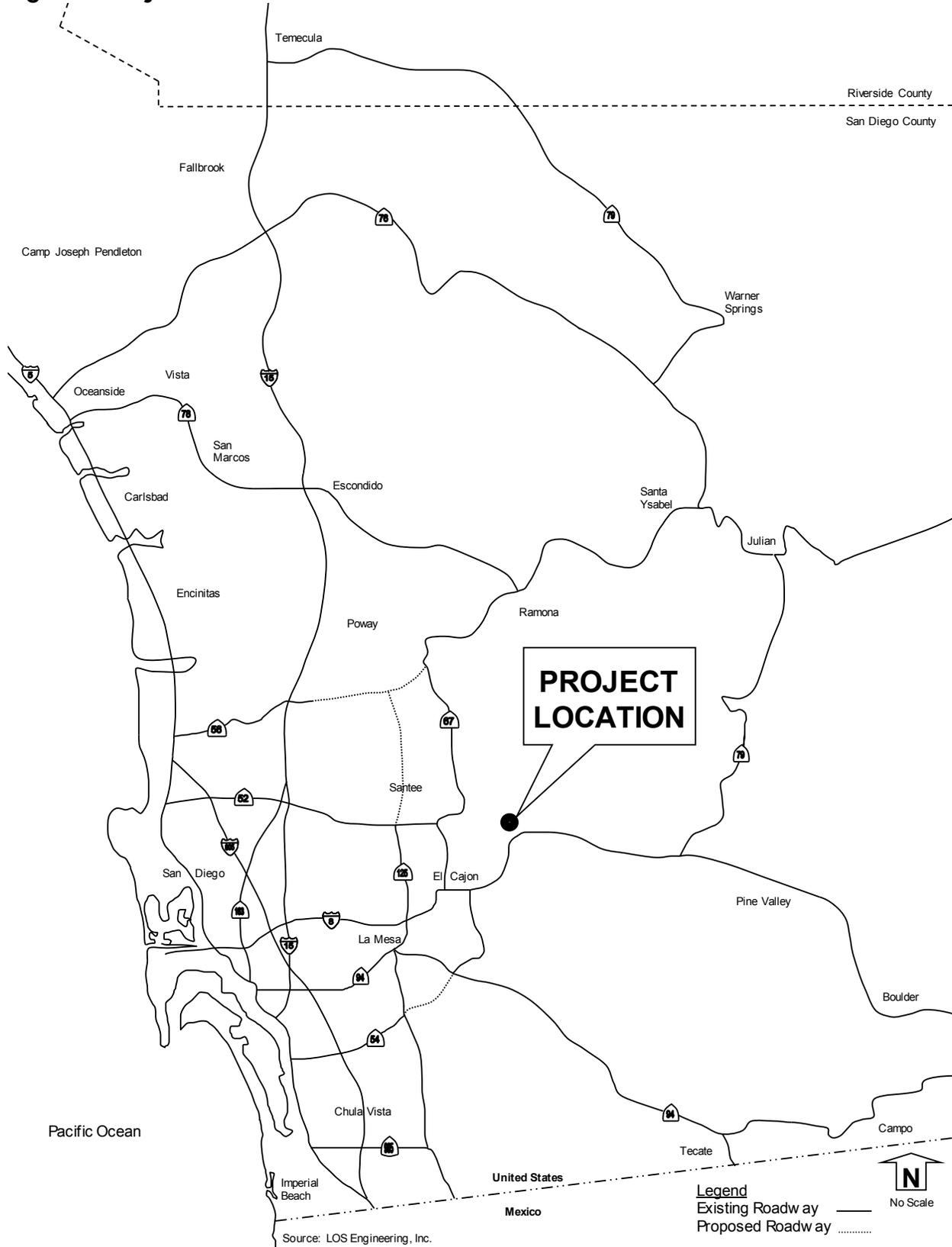
## 1.3 Planning Requirements

The proposed project is consistent with the current zoning. The project applicant does not propose a General Plan Amendment, does not propose a Specific Plan Amendment, and does not propose a rezone.

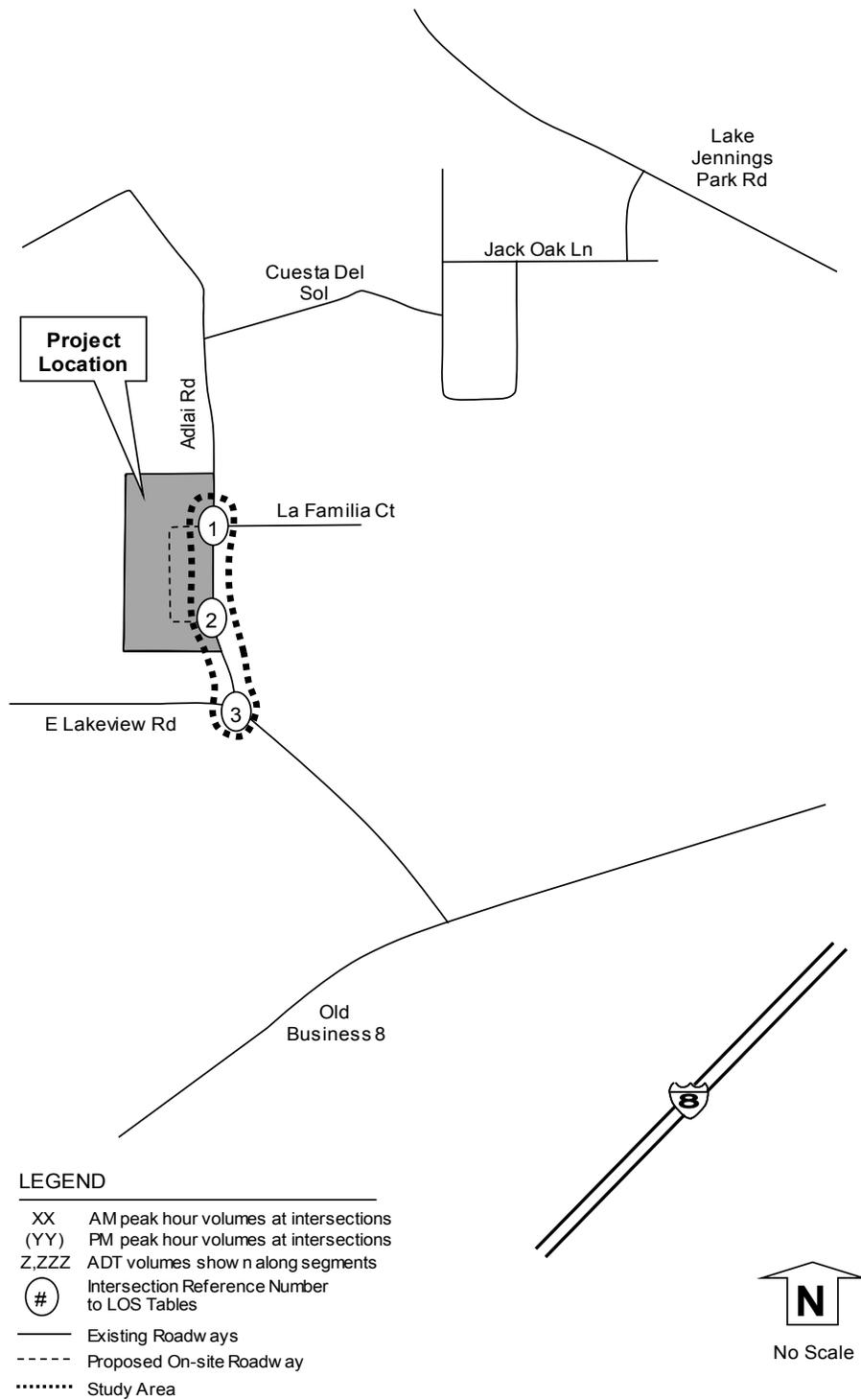
## 1.4 Significance Criteria

This section describes traffic impact significance criteria applied to this project and the SANDAG Congestion Management Program (CMP) requirements.

**Figure 1: Project Location**



**Figure 2: Focused TIS Study Area**





## 1.5 Significance Criteria

This section describes traffic impact significance criteria applied to this project and the SANDAG Congestion Management Program (CMP) requirements.

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

Based on the San Diego County *Report Format & Content Requirements Transportation and Traffic*, dated August 24, 2011, a project may have the following allowable increases on congested roadway segments and intersections as shown in **Table 1**.

**TABLE 1: COUNTY OF SAN DIEGO SIGNIFICANT TRAFFIC IMPACT THRESHOLDS**

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

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

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

A cumulative impact would occur when two conditions are met: 1) build-out of all near-term projects results in a cumulative traffic impact and 2) the amount of traffic generated by the individual proposed project contributes (even in a small part) to that cumulative impact. Both conditions must be met for an individual project to result in a cumulative traffic impact.

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

### 1.5.2 SANDAG Congestion Management Program Requirements

The Congestion Management Program (CMP), adopted in 2008 by the SANDAG Transportation Committee, is intended to determine if a large project (greater than 2,400 daily trips or 200 peak hour trips) will adversely impact the CMP transportation system. The project is calculated to add LESS than 2,400 ADT and LESS than 200 peak hour trips; therefore, a CMP analysis is not required.

## 2.0 Existing Conditions

This section describes the study area street system, peak hour intersection volumes and daily roadway volumes.

### 2.1 Existing Transportation Conditions

The study area includes the segment of Adlai Road from La Familia Court to East Lakeview Road.

Adlai Road from La Familia Court to East Lakeview Road is not classified on the County Mobility Element Network map included in **Appendix A**. Adlai Road from La Familia Court to East Lakeview Road is generally constructed with approximately 24 to 26 feet of pavement providing one 12 foot travel lane in each direction. A posted speed limit was not observed on this segment. The 85<sup>th</sup> percentile speed is 23 Miles per Hour (MPH) in the northbound direction and 20 MPH in the southbound direction.

The existing roadway conditions are shown in **Figure 4**.

#### 2.1.1 Existing Traffic Volumes and LOS Analyses

Existing AM and PM peak hour intersection volumes (with count dates) for the following intersections were collected for this study:

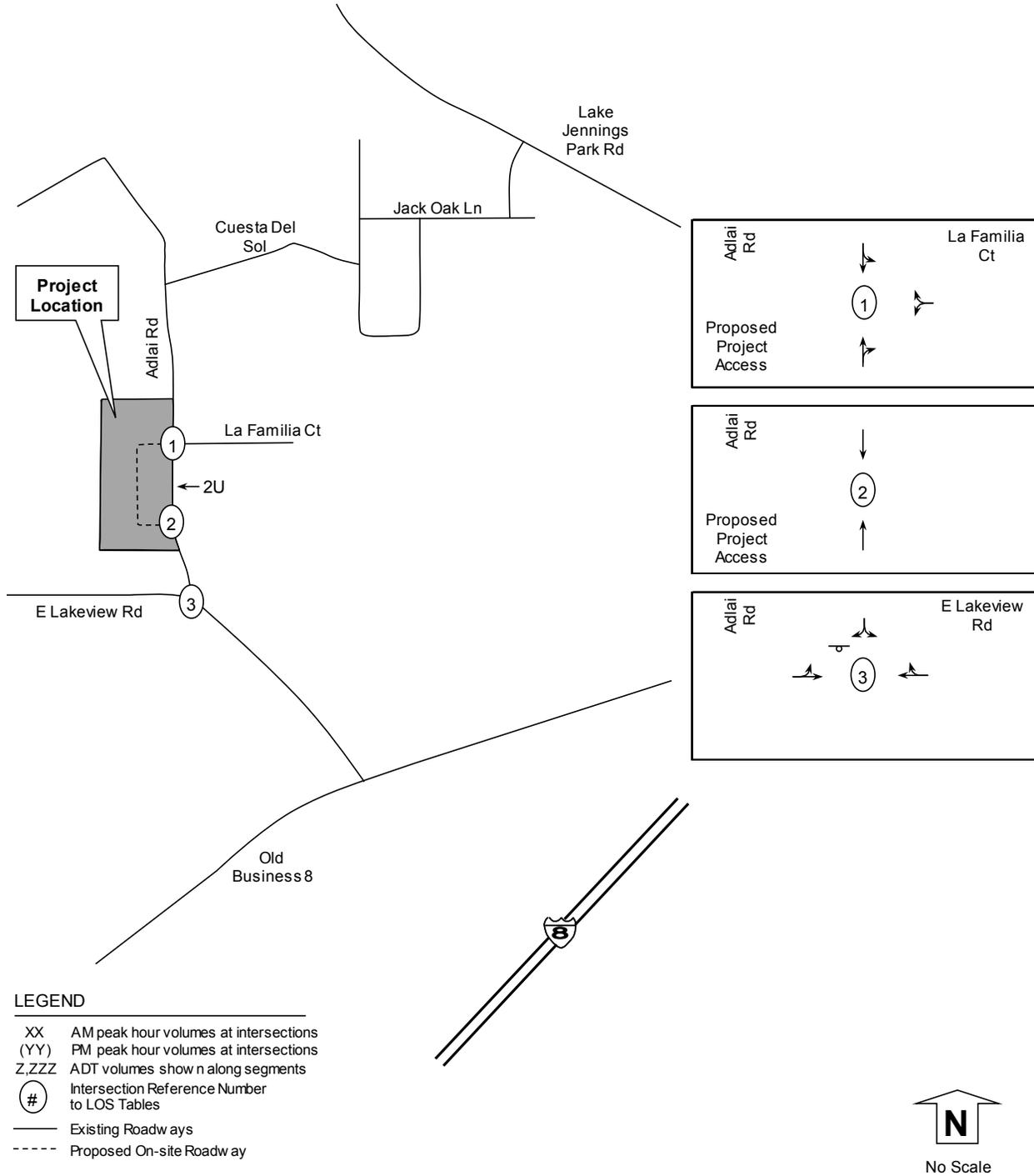
- 1) Adlai Road at La Familia Court (Wednesday, 8/6/2014)
- 2) Adlai Road at E. Lakeview Road (Wednesday, 8/6/2014)

Additionally, existing daily traffic volumes were collected on the segment of Adlai Road from La Familia Court to E. Lakeview Road on Wednesday, 8/6/2014.

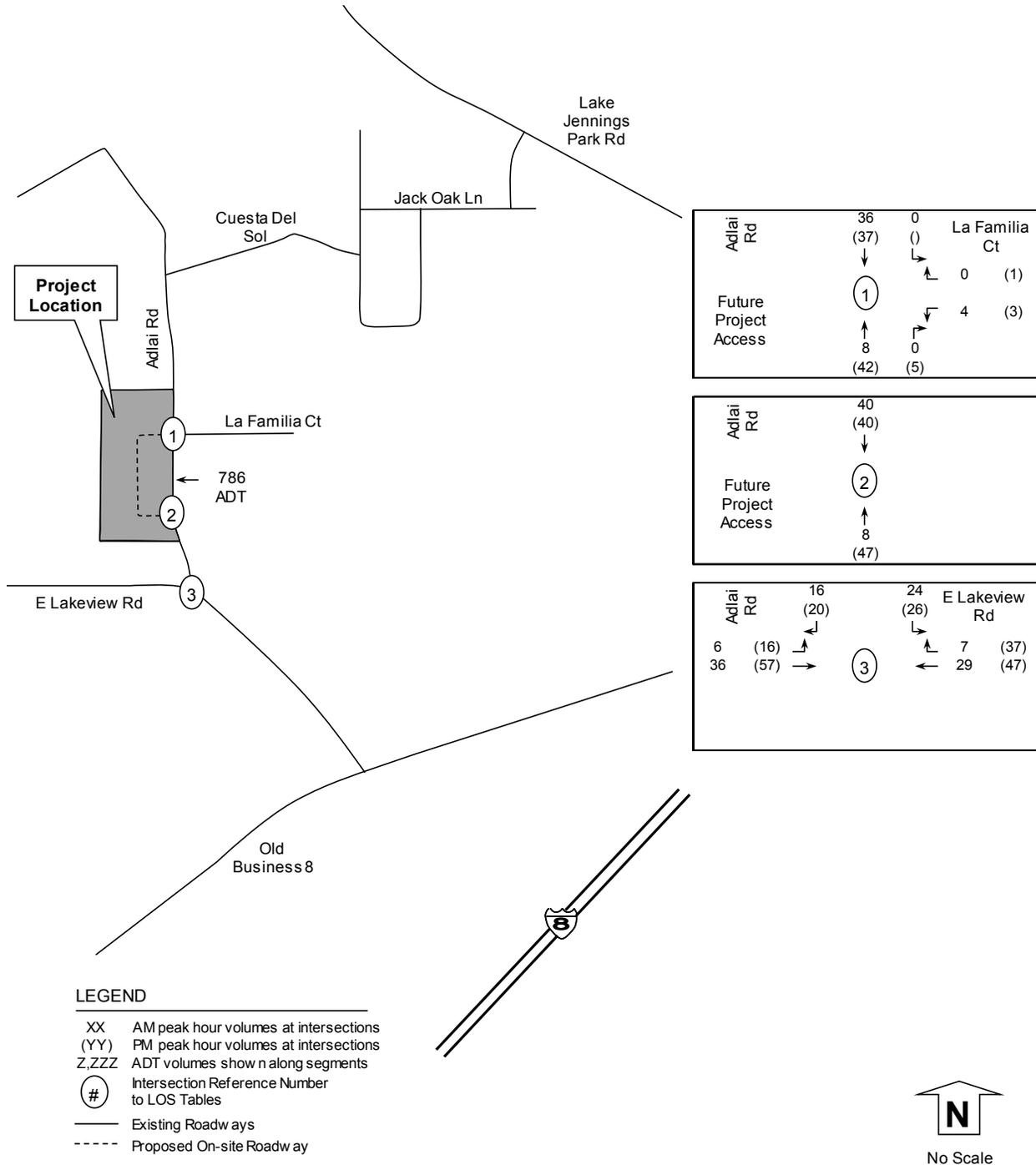
The Lakeview Elementary School is located approximately 0.5 miles west of the intersection of E. Lakeview Road at Adlai Road. With counts collected in the summer when school was on break, the AM turn moves at the intersection of Adlai Rd/E. Lakeview Rd and Adlai Rd/La Familia Ct were increased by 20%. The PM was not changed due to the school bell time occurring in the afternoon.

The existing AM, PM, and daily traffic volumes are shown on **Figure 5** (this includes a 20% increase for AM turn moves), with count data included in **Appendix B**. Intersection and segment LOS are shown in **Tables 2 and 3**, respectively.

**Figure 4: Existing Roadway Conditions**



**Figure 5: Existing Volumes**



**TABLE 2: EXISTING INTERSECTION LEVEL OF SERVICE**

Intersection and (Analysis) <sup>1</sup>	Movement	Peak Hour	Existing	
			Delay <sup>2</sup>	LOS <sup>3</sup>
1) Adlai Rd at La Familia Ct (U)	Minor Leg	AM	8.8	A
2) Adlai Rd at Proj S. Dwy (U)	Minor Leg	PM	8.9	A
3) Adlai Rd at E. Lakeview Rd (U)	Minor Leg	AM	DNE	DNE
	Minor Leg	PM	DNE	DNE
	Minor Leg	AM	8.9	A
	Minor Leg	PM	9.3	A

Notes: 1) Analysis - (S) Signalized, (U) Unsignalized. 2) Delay - HCM Average Control Delay in seconds. 3) LOS: Level of Service. DNE: Does Not Exist.

**TABLE 3: EXISTING SEGMENT ADT VOLUMES AND LEVEL OF SERVICE**

Segment	Classification (as built)	# of lanes	Existing			
			Daily Volume	LOS C Capacity	V/C	LOS
<b>Adlai Road</b>						
From La Familia Ct to E. Lakeview Rd	Non-Mobility (2U)	2	786	1,500	0.52	C

Notes: Classification (as built): 2U = 2 lane un-divided roadway. Daily volume is a 24 hour volume. LOS: Level of Service. V/C: Volume to Capacity ratio.

Under existing conditions, all study roadway elements were calculated to operate at LOS C or better (calculations in **Appendix C**)

## 2.2 Existing Parking, Transit and On-site Circulation

The existing project site is generally vacant; therefore, no existing on-site parking and no on-site circulation exists. The Metropolitan Transit System shows Bus Route 864 on Old Business 8 in the vicinity of the project site with bus stops on Old Business 8 approximately 0.5 miles from the project site. A map from MTS showing Bus Route 864 is included in **Appendix D**.

## 3.0 Project Impact Analysis

This section describes the traffic analysis methodology.

### 3.1 Analysis and Methodology

The project study area was based on direction from County staff and guidelines as outlined in the County of San Diego *Guidelines for Determining Significance and Report Format and Content Requirements Transportation and Traffic* dated August 24, 2011.

The traffic analyses prepared for this study were based on the *2000 Highway Capacity Manual* (HCM) operations analysis using Level of Service (LOS) evaluation criteria. The operating conditions of the study intersections, roadway segments, and highway segments are measured using the HCM LOS designations, which range from A through F. LOS A represents the best operating condition and LOS F denotes the worst operating condition. The individual LOS criteria for each roadway component are described below.

#### 3.1.1 Intersections

The study intersections were analyzed based on the **operational analysis** outlined in the 2000 HCM. This process defines LOS in terms of **average control delay** per vehicle, which is measured in seconds. LOS at the intersections were calculated using the computer software program Synchro 8.0. The HCM LOS for the range of delay by seconds for un-signalized intersections is described in **Table 4**.

**TABLE 4: UN-SIGNALIZED INTERSECTION LEVEL OF SERVICE (HCM 2000)**

Level of Service	Un-Signalized Average Control Delay (seconds/vehicle)
A	0-10
B	> 10-15
C	> 15-25
D	> 25-35
E	> 35-50
F	> 50

Source: Highway Capacity Manual 2000.

#### 3.1.2 Street Segments

The street segments were analyzed based on the functional classification of the roadway using the County of San Diego *Average Daily Vehicle Trips* capacity lookup table. The roadway segment capacity and LOS standards used to analyze street segments are summarized in **Table 5**.

**TABLE 5: STREET SEGMENT DAILY CAPACITY AND LOS (COUNTY OF SAN DIEGO GENERAL PLAN UPDATE)**

Proposed GPU Road Classification		LOS A	LOS B	LOS C	LOS D	LOS E
Expressway	6.1	<36,000	<54,000	<70,000	<86,000	<108,000
Prime Arterial	6.2	<22,200	<37,000	<44,600	<50,000	<57,000
Major Road w/raised median	4.1A	<14,800	<24,700	<29,600	<33,400	<37,000
Major Rd w/intermittent turn lanes	4.1B	<13,700	<22,800	<27,400	<30,800	<34,200
Boulevard w/raised median	4.2A	<18,000	<21,000	<24,000	<27,000	<30,000
Boulevard w/Intermittent turn lanes	4.2B	<16,800	<19,600	<22,500	<25,000	<28,000
Community Collector w/raised median	2.1A	<10,000	<11,700	<13,400	<15,000	<19,000
Community Collector w/cont. turn lane	2.1B	<3,000	<6,000	<9,500	<13,500	<19,000
Community Collector w/intermit. turn lane	2.1C	<3,000	<6,000	<9,500	<13,500	<19,000
Community Collector w/improvement opt.	2.1D	<3,000	<6,000	<9,500	<13,500	<19,000
Community Collector	2.1E	<1,900	<4,100	<7,100	<10,900	<16,200
Light Collector w/raised median	2.2A	<3,000	<6,000	<9,500	<13,500	<19,000
Light Collector w/continuous left turn lane	2.2B	<3,000	<6,000	<9,500	<13,500	<19,000
Light Collector w/intermittent turn lane	2.2C	<3,000	<6,000	<9,500	<13,500	<19,000
Light Collector w/ passing lane	2.2D	<3,000	<6,000	<9,500	<13,500	<19,000
Light Collector - no median	2.2E	<1,900	<4,100	<7,100	<10,900	<16,200
Light Collector w/ reduced shoulder	2.2F	<5,800	<6,800	<7,800	<8,700	<9,700
Minor Collector w/raised median	2.3A	<3,000	<6,000	<7,000	<8,000	<9,000
Minor Collector w/intermittent turn lane	2.3B	<3,000	<6,000	<7,000	<8,000	<9,000
Minor Collector – no median	2.3C	<1,900	<4,100	<6,000	<7,000	<8,000
Non-Mobility 2 lane residential road				<1,500		

Source: County of San Diego Public Road Standards, March, 2012.

### 3.2 Project Trip Generation

The project trip generation was calculated using SANDAG trip rates from the *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, April 2002. The project site has a single family dwelling unit; however, a credit was not applied because the unit is not occupied. This analysis was based on 23 residential lots; however, since completion of this report, the project has been refined and now has 21 residential lots. Therefore, this analysis is conservative and based on 23 lots. Using SANDAG rates, the project as analyzed with 23 lots (2 more than the final plan) is calculated to generate 230 Average Daily Trips (ADT), 19 AM peak hour trips (6 inbound and 13 outbound), and 23 PM peak hour trips (16 inbound and 7 outbound), as shown in **Table 6**.

**TABLE 6: PROJECT TRIP GENERATION**

Proposed Land Use	Rate	Size & Units	ADT	%	Split	AM		%	Split	PM	
						IN	OUT			IN	OUT
Residential - Single Family	10 /DU	23 DUs	<b>230</b>	8%	0.3 0.7	<b>6</b>	<b>13</b>	10%	0.7 0.3	<b>16</b>	<b>7</b>

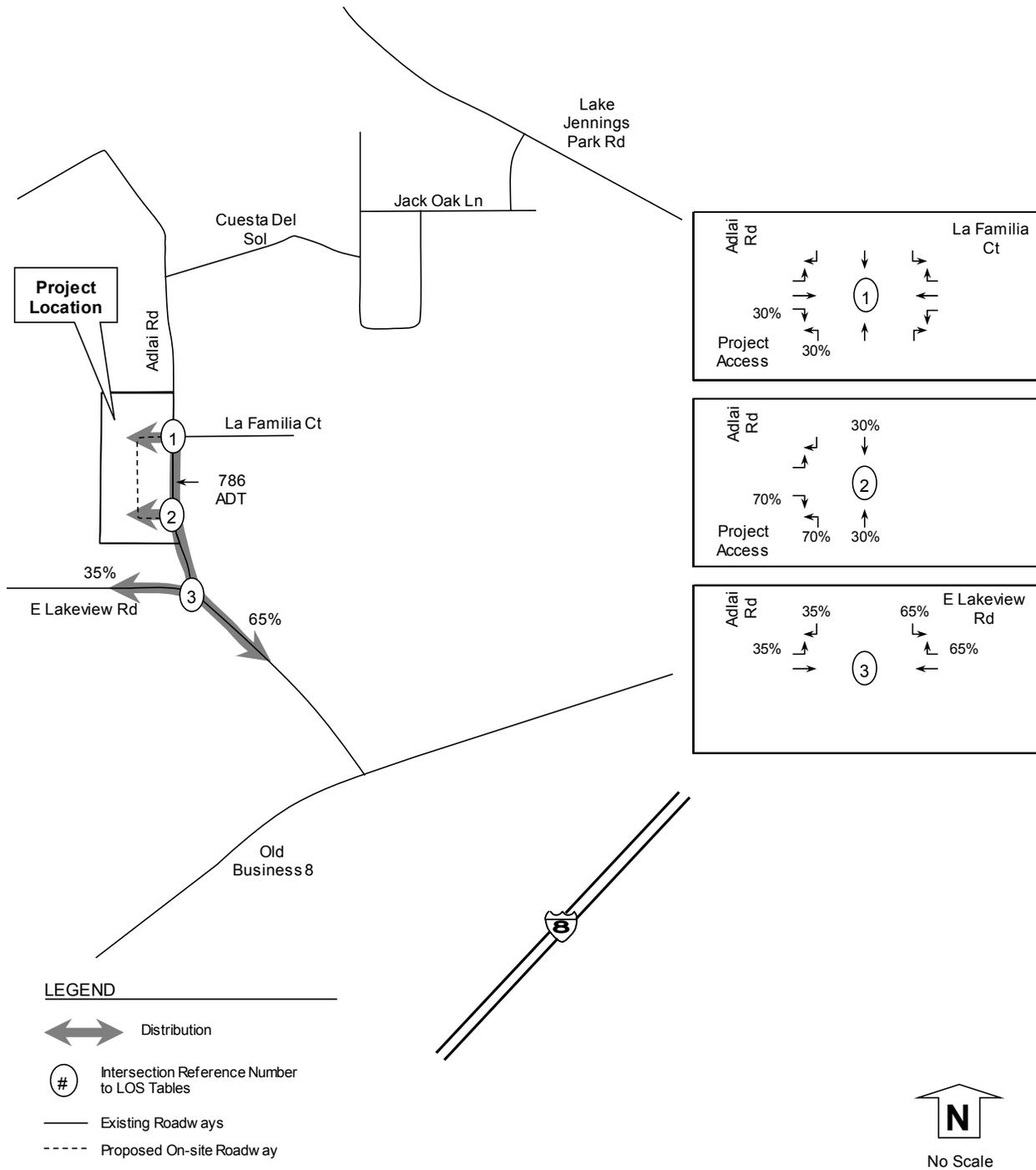
Source: SANDAG *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, April 2002.

DU - Dw elling Unit; ADT-Average Daily Traffic; Split-percent inbound and outbound.

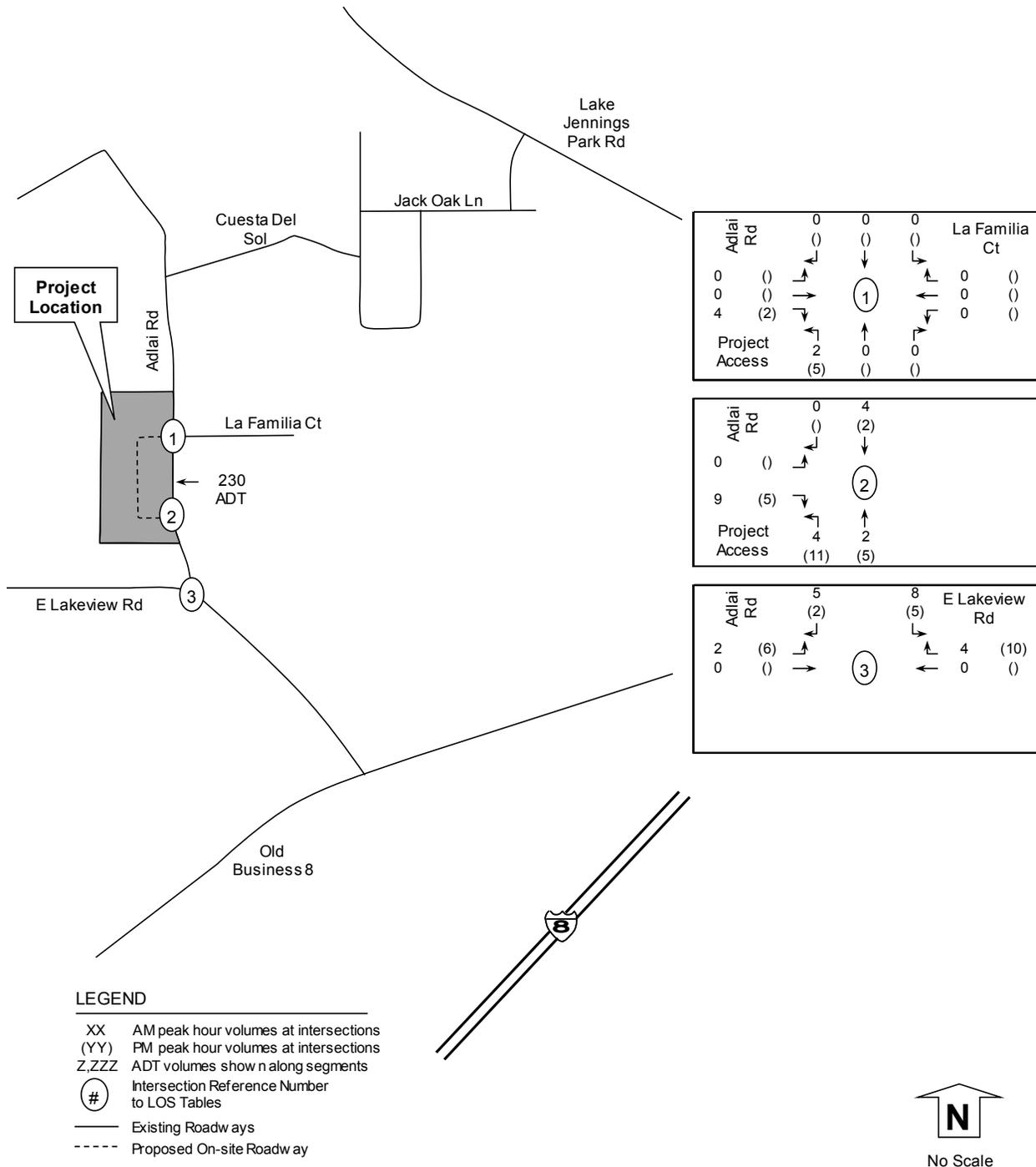
### 3.3 Project Trip Distribution and Assignment

The project distributed was based on a review of background traffic patterns, location of schools, and businesses as shown in **Figure 6**. The project trip assignment is shown in **Figure 7**.

**Figure 6: Distribution**



**Figure 7: Assignment**



### 3.4 Existing + Project Conditions

This section will summarize the analysis for the addition of project traffic onto the existing background traffic for AM, PM, and ADT conditions. The peak hour intersection volumes and daily traffic volumes for this scenario of existing + project are shown in **Figure 8**. The LOS calculated for the intersections and segment are shown in **Tables 7 and 8**, respectively.

**TABLE 7: EXISTING + PROJECT INTERSECTION LEVEL OF SERVICE**

Intersection and (Analysis) <sup>1</sup>	Movement	Peak Hour	Existing		Existing + Project			
			Delay <sup>2</sup>	LOS <sup>3</sup>	Delay <sup>2</sup>	LOS <sup>3</sup>	Delta <sup>4</sup>	Sig <sup>5</sup>
1) Adlai Rd at La Familia Ct (U)	Minor Leg	AM	8.8	A	8.9	A	0.1	No
2) Adlai Rd at Proj S. Dwy (U)	Minor Leg	PM	DNE	DNE	8.6	A	NA	No
3) Adlai Rd at E. Lakeview Rd (U)	Minor Leg	AM	8.9	A	9.0	A	0.1	No
	Minor Leg	PM	9.3	A	9.5	A	0.2	No

Notes: 1) Analysis - (S) Signalized, (U) Unsignalized. 2) Delay - HCM Average Control Delay in seconds. 3) LOS: Level of Service. DNE: Does Not Exist. NA: Not Applicable. 4) Delta is the increase in delay from project. 5) Significant Impact? (yes or no).

**TABLE 8: EXISTING + PROJECT SEGMENT ADT VOLUMES AND LEVEL OF SERVICE**

Segment	Classification (as built)	Existing				Project	Existing + Project					
		Daily Volume	LOS C Capacity	V/C	LOS	Daily Volume	Daily Volume	LOS C Capacity	V/C	LOS	Change in V/C	Direct Impact?
<b>Adlai Road</b>												
From La Familia Ct to E. Lakeview Rd	Non-Mobility (2U)	786	1,500	0.524	A	230	1,016	1,500	0.677	A	0.153	No

Notes: Classification (as built): 2U = 2 lane un-divided roadway. Daily volume is a 24 hour volume. LOS: Level of Service. V/C: Volume to Capacity ratio.

Under existing + project conditions, all study intersections and roadways were calculated to operate at LOS C or better. Intersection LOS calculations are included in **Appendix E**.



### 3.5 Ramps

The project is calculated to add less than 20 peak hour trips to any on-ramps in the project vicinity; therefore, a ramp meter analysis is not provided.

### 3.6 Congestion Management Program

The Congestion Management Program (CMP), adopted in 2008 by the SANDAG Transportation Committee, is intended to determine if a large project (greater than 2,400 daily trips or 200 peak hour trips) will adversely impact the CMP transportation system. The project is calculated to add LESS than 2,400 ADT and LESS than 200 peak hour trips; therefore, a CMP analysis is not required.

### 3.7 Hazards Due To An Existing Transportation Design Feature

Any required improvements will be constructed to maintain existing conditions as it relates to existing design features. Corner sight distance analyses were prepared for:

- 1) Existing intersection of E. Lakeview Road at Adlai Road
- 2) Proposed North Project Driveway on Adlai Road
- 3) Proposed South Project Driveway on Adlai Road

#### 3.7.1 Corner Sight Distance for E. Lakeview Road at Adlai Road

A corner sight distance analysis was prepared for the eastbound and westbound approach along E. Lakeview Road at Adlai Road to determine if sufficient sight distance exists for vehicles turning left or right from Adlai Road onto E. Lakeview Road. The corner sight distance was based on the higher speed between the 85<sup>th</sup> percentile speed collected on E. Lakeview Road approaching Adlai Road and the minimum design speed of a 30 MPH for a non-mobility roadway classification for E. Lakeview Road. The 85<sup>th</sup> percentile speed was collected in the eastbound (37 MPH) and westbound (33 MPH) along E. Lakeview Road on Tuesday, August 12, 2014 (data included in **Appendix F**). An unobstructed sight distance was observed looking east and west within the right-of-way of E. Lakeview Road from Adlai Road per the San Diego County Public Road Standards dated March, 2012 (corner sight distance pictures included in **Appendix G**) as summarized in **Table 9**.

**TABLE 9: CORNER SIGHT DISTANCE SUMMARY (E. LAKEVIEW RD AT ADLAI RD)**

Intersection Location	Observed Direction When Leaving Jennings Vista Drive	Design Speed <sup>1</sup>	County Minimum Corner Sight Distance <sup>2</sup> and Observation
E. Lakeview Rd at Adlai Rd	Looking West from Minor Leg of Adlai Road	37 MPH	At least 390 feet Observed Within ROW
E. Lakeview Rd at Adlai Rd	Looking East from Minor Leg of Adlai Road	33 MPH	At least 350 feet Observed Within ROW

Source: <sup>1</sup>Higher between design and 85<sup>th</sup> percentile. <sup>2</sup>County of San Diego Department of Public Works *Public Road Standards* March, 2012. ROW: Right of Way.

### 3.7.2 Corner Sight Distance for Adlai Road at North Project Driveway

A corner sight distance analysis was prepared for the northbound and southbound approach along Adlai Road at the north project driveway to determine if sufficient sight distance exists for vehicles turning left or right from the north project driveway onto Adlai Road. The corner sight distance was based on the higher speed between the 85<sup>th</sup> percentile speed collected on Adlai Road approaching the project driveway and the minimum design speed of a 30 MPH for a non-mobility roadway classification for Adlai Road. The 85<sup>th</sup> percentile speed was collected in the northbound direction (23 MPH) and southbound direction (20 MPH) along Adlai Road on Wednesday, August 6, 2014 (data included in **Appendix H**). An unobstructed sight distance was observed looking north and south within Adlai Road from the north project driveway per the San Diego County Public Road Standards dated March, 2012 (corner sight distance pictures included in **Appendix I**) as summarized in **Table 10**.

**TABLE 10: CORNER SIGHT DISTANCE SUMMARY (ADLAI ROAD AT NORTH PROJECT DRIVEWAY)**

Intersection Location	Observed Direction When Leaving Jennings Vista Drive	Design Speed <sup>1</sup>	County Minimum Corner Sight Distance <sup>2</sup> and Observation
North Project Dwy at Adlai Rd	Looking North from Minor Leg of Project Driveway	30 MPH	300 feet Observed Within Adlai Rd
North Project Dwy at Adlai Rd	Looking South from Minor Leg of Project Driveway	30 MPH	300 feet Observed Within Adlai Rd

Source: <sup>1</sup>Higher between design and 85<sup>th</sup> percentile. <sup>2</sup>County of San Diego Department of Public Works *Public Road Standards* March, 2012. ROW: Right of Way.

### 3.7.3 Corner Sight Distance for Adlai Road at South Project Driveway

A corner sight distance analysis was prepared for the northbound and southbound approach along Adlai Road at the south project driveway to determine if sufficient sight distance exists for vehicles turning left or right from the south project driveway onto Adlai Road. The corner sight distance was based on the higher speed between the 85<sup>th</sup> percentile speed collected on Adlai Road approaching the project driveway and the minimum design speed of a 30 MPH for a non-mobility roadway classification for Adlai Road. The 85<sup>th</sup> percentile speed was collected in the northbound direction (23 MPH) and southbound direction (20 MPH) along Adlai Road on Wednesday, August 6, 2014 (data included in **Appendix H**). An unobstructed sight distance was observed looking north and south within Adlai Road from the north project driveway per the San Diego County Public Road Standards dated March, 2012 (corner sight distance pictures included in **Attachment J**) as summarized in **Table 11**.

**TABLE 11: CORNER SIGHT DISTANCE SUMMARY (ADLAI RD AT SOUTH PROJECT DRIVEWAY)**

Intersection Location	Observed Direction When Leaving Jennings Vista Drive	Design Speed <sup>1</sup>	County Minimum Corner Sight Distance <sup>2</sup> and Observation
South Project Dwy at Adlai Rd	Looking North from Minor Leg of Project Driveway	30 MPH	300 feet Observed Within Adlai Rd
South Project Dwy at Adlai Rd	Looking South from Minor Leg of Project Driveway	30 MPH	300 feet Observed Within Adlai Rd

Source: <sup>1</sup>Higher between design and 85<sup>th</sup> percentile. <sup>2</sup>County of San Diego Department of Public Works *Public Road Standards* March, 2012. ROW: Right of Way.

### 3.8 Hazards To Pedestrians or Bicyclists

Any required improvements will be constructed to maintain existing conditions as it relates to pedestrian and bicyclists.

### 3.9 Public Transportation

The Metropolitan Transit System shows Bus Route 864 on Old Business 8 in the vicinity of the project site with bus stops on Old Business 8 approximately 0.5 miles from the project site. A map from MTS showing Bus Route 864 is included in Appendix D.

### 3.10 Impact Summary Table

The project is calculated to have no direct impacts and the potential for cumulative impacts as summarized in **Table 12**.

**TABLE 12: IMPACT SUMMARY TABLE**

Roadway Facility	Direct Impacts	Cumulative Impacts
Intersections	0	Potential
Segments	0	Potential
State Routes	0	Potential
Ramps	0	Potential

Note: To mitigate potential cumulative impacts, the County has established a Traffic Impact Fee (TIF) program.

## 4.0 General Plan Consistency and Build-Out Analysis

The project use is consistent with the existing zoning. The project applicant does NOT propose a General Plan Amendment, Specific Plan Amendment, or Rezone. Therefore, a build-out analysis is not required.

## 5.0 Summary of Recommended Mitigation and Project Design Features

The project is calculated to have no direct impacts and the potential to contribute to cumulative impacts.

### 5.1 Cumulative Impacts

Because the proposed project is located within the Lakeside TIF area, the project applicant would pay into the TIF program to mitigate any potential cumulative impacts. The County of San Diego has developed an overall programmatic solution that addresses existing and projected future road deficiencies in the unincorporated portion of San Diego County. This program includes the adoption of a TIF program to fund improvements to roadways necessary to mitigate potential cumulative impacts caused by traffic from future development. Based on SANDAG regional growth and land use forecasts, the SANDAG Regional Transportation Model was utilized to analyze projected build-out development conditions on the existing mobility element roadway network throughout the unincorporated area of the County. Based on the results of the traffic modeling, funding necessary to construct transportation facilities that will mitigate cumulative impacts from new development was identified. Existing roadway deficiencies will be corrected through improvement project funded by other public funding sources, such as TransNet, gas tax, and grants. Potential cumulative impacts to the region's freeways have been addressed in SANDAG's Regional Transportation Plan (RTP). This plan, which considers freeway build-out over the next 30 years, will use funds from TransNET, state, and federal funding to improve freeways to projected level of service objectives in the RTP.

The proposed project is calculated to generate 230 ADT. These trips will be distributed on mobility element roadways in the County that were analyzed by the TIF program, some of which currently are projected to operate at inadequate levels of service. These project trips therefore contribute to a potential significant cumulative impact and mitigation is required. The potential growth represented by this project was included in the growth projections upon which the TIF project is based. The TIF cost is based on the year when building permits are pulled and type of building permit. The building sizes are unknown at this time, thus a TIF estimate cannot be calculated.

### 5.2 Summary of Impacts and Mitigation

A summary of project impacts and mitigation is shown in **Table 13**.

**TABLE 13: SUMMARY OF PROJECT IMPACTS AND MITIGATION**

<b>Roadway Facility</b>	<b>Direct Impacts (Proposed Mitigation)</b>	<b>Cumulative Impacts</b>
Intersections	0 (no mitigation required)	Potential (TIF)
Segments	0 (no mitigation required)	Potential (TIF)
State Routes	0 (no mitigation required)	Potential (TIF)
Ramps	0 (no mitigation required)	Potential (TIF)

Note: To mitigate potential cumulative impacts, the County has established a Traffic Impact Fee (TIF) program.

## 6.0 References

County of San Diego. August 24, 2011. *Guidelines for Determining Significance and Report Format and Content Requirements Traffic and Transportation*. Print.

San Diego Association of Governments (SANDAG). April 2002. *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*. Print.

Trafficware Corporation, 2014. Synchro 8.0 computer software. CD ROM.

Transportation Research Board National Research Council Washington, D.C. 2000. *Highway Capacity Manual 2000*. CD ROM.

## 7.0 List of Preparers and Persons and Organizations Contacted

### 7.1 List of Preparers

Justin Rasas, P.E. (RCE 60690), LOS Engineering, Inc. Author

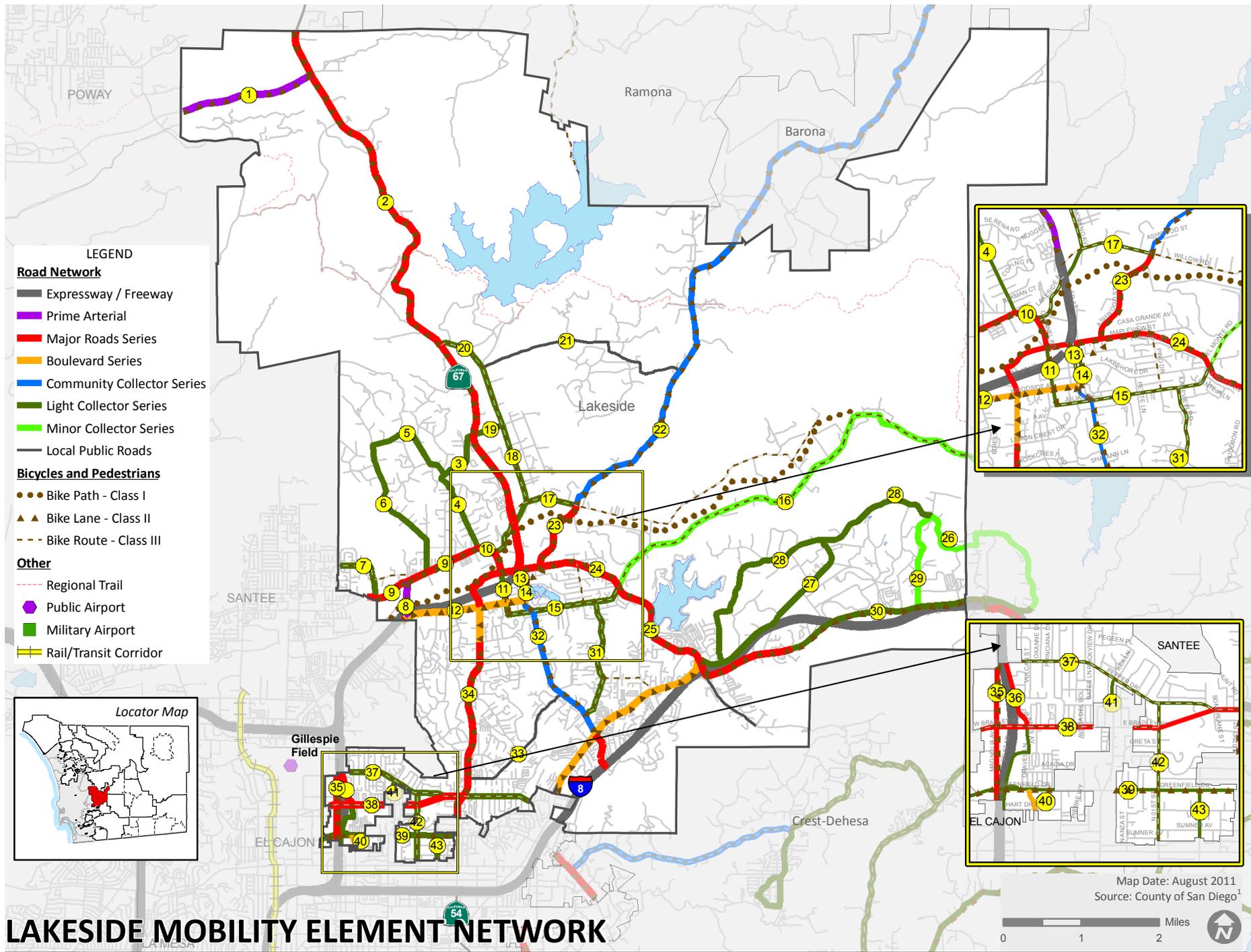
### 7.2 Organizations Contacted

Chris Dahrling, Adali 1, LLC - Client

Will Brown, Pacific Technical Data – Data Collection Firm

**Appendix A**

**County of San Diego Mobility Element Excerpts**



# LAKESIDE MOBILITY ELEMENT NETWORK

Mobility Element Network—Lakeside Community Planning Area Matrix			
ID <sup>a</sup>	Road Segment	Designation/Improvement #.#X = [# of lanes],[roadway classification][improvement]	Special Circumstances
1	Scripps Poway Parkway (SA 780) <u>Segment:</u> Poway city limits to SR-67	6.2 Prime Arterial	None
2	State Route 67 <u>Segment:</u> Poway city limits to Santee city limits	4.1B Major Road Intermittent Turn Lanes—Poway city limits to Scripps Poway Parkway 4.1A Major Road Raised Median—Scripps Poway Parkway to Mapleview Street 6.1 Expressway Mapleview Street to Santee city limits	Accepted at LOS E/F <u>Segments:</u> Poway city limits to Sycamore Park Drive and Johnson Lake Road to Posthill Road <b>Additional Improvements</b> <ul style="list-style-type: none"> <li>■ Full interchange at Winter Gardens Boulevard</li> <li>■ Overpass at Mapleview Street</li> <li>■ Realign Willow Road with Lakeside Avenue and provide a SR-67 overpass</li> </ul>
3	Posthill Road (SC 1790) <u>Segment:</u> SR-67 to Valle Vista Road	2.2E Light Collector	None
4	Valle Vista Road (SC 1791) <u>Segment:</u> Posthill Road to Riverside Drive	2.2E Light Collector	None
5	Manzanita Road/ Pinehurst Drive (SC 1780) <u>Segment:</u> Post Hill Road to Oak Creek Drive	2.2E Light Collector	None
6	Oak Creek Drive/Palm Row Drive (SA 1800) <u>Segment:</u> Manzanita Road to Riverside Drive	2.2E Light Collector	None
7	El Nopal (SC 1775) <u>Segment:</u> Santee city limits to Riverside Drive	2.2E Light Collector	None
8	Riverford Road (SC 1800) <u>Segment:</u> Riverside Drive to Woodside Avenue	6.2 Prime Arterial Riverside Drive to westbound SR-67 ramp 4.1B Major Road Intermittent Turn Lanes—Westbound SR-67 ramp to Woodside Avenue	None
9	Riverside Drive (SA 880.2) <u>Segment:</u> Santee city limits to Channel Road	4.1B Major Road Intermittent Turn Lanes	None



Mobility Element Network—Lakeside Community Planning Area Matrix			
ID <sup>a</sup>	Road Segment	Designation/Improvement #. #X = [# of lanes].[roadway classification][improvement]	Special Circumstances
10	Lakeside Avenue (SA 880) <u>Segment:</u> Valle Vista Road to SR-67	4.1B Major Road Intermittent Turn Lanes—Valle Vista Road to Channel Road 2.2E Light Collector Channel Road to SR-67	None
11	Channel Road (SC 1910) <u>Segment:</u> Lakeside Avenue to Julian Avenue	4.1B Major Road Intermittent Turn Lanes—Lakeside Avenue to Mapleview Street 2.2B Light Collector Continuous Turn Lane—Mapleview Street to Woodside Avenue 2.2C Light Collector Intermittent Turn Lanes—Woodside Avenue to Julian Avenue	None
12	Woodside Avenue (SF 731) <u>Segment:</u> Santee city limits to Vine Street	4.2A Boulevard Raised Median	Accepted at LOS F <u>Segment:</u> State Route 67 northbound ramp to Riverford Road
13	Maine Avenue (SF 1400) <u>Segment:</u> Mapleview Street to Los Coches Road	2.2E Light Collector Mapleview Street to Woodside Avenue 2.1D Community Collector Improvement Options—Woodside Avenue to Los Coches Road	Accepted at LOS E/F <u>Segment:</u> Mapleview Street to Woodside Avenue Shoulder as Parking Lane Separate Bike Lane required—Mapleview Street to Los Coches Road
14	Vine Street (SA 841) <u>Segment:</u> Mapleview Street to Woodside Avenue	2.2E Light Collector	Shoulder as Parking Lane Separate Bike Lane required—Mapleview Street to Woodside Avenue
15	Julian Avenue (SC 1910) <u>Segment:</u> Channel Road to Lake Jennings Park Road	2.2C Light Collector Intermittent Turn Lanes	Right-of-Way Limitations Potential due to existing development

Mobility Element Network—Lakeside Community Planning Area Matrix			
ID <sup>a</sup>	Road Segment	Designation/Improvement #.#X = [# of lanes],[roadway classification][improvement]	Special Circumstances
16	El Monte Road (SC 1920) <u>Segment:</u> Lake Jennings Park Road to Mountain Empire Subregion boundary	2.3C Minor Collector	None
17	Willow Road (SA 820) <u>Segment:</u> SR-67 to Wildcat Canyon Road	2.2E Light Collector	<b>Recommended Improvement</b> Align Willow Road with Lakeside Avenue and provide underpass at SR- 67
18	Moreno Avenue (SC 1772) <u>Segment:</u> Vigilante Road to Willow Road	2.2E Light Collector	None
19	San Vicente Avenue (SC 1790) <u>Segment:</u> SR-67 to Moreno Avenue	2.2E Light Collector	None
20	Vigilante Road (SC 1772) <u>Segment:</u> SR-67 to Moreno Avenue	2.2B Light Collector Continuous Turn Lane	<b>Recommended Improvement</b> Align Slaughterhouse Canyon Road with Vigilante Road to form a four-way signalized intersection at SR-67
21	(Unnamed) Muth Valley Connection <u>Segment:</u> Moreno Avenue to Wildcat Canyon Road	Local Public Road	<b>Public Road on Mobility Element</b> Provide emergency access and connectivity for future development
22	Wildcat Canyon Road (SA 340.2) <u>Segment:</u> Willow Road to Ramona CPA boundary	2.1D Community Collector Improvement Options [Passing Lanes]	<b>Accepted at LOS F</b> <u>Segment:</u> Willow Road to Ramona CPA boundary
23	Ashwood Street (SA 340) <u>Segment:</u> Willow Road to Mapleview Street	4.1A Major Road Raised Median	None
24	Mapleview Street (SC 1805) <u>Segment:</u> Winter Gardens Boulevard to Lake Jennings Park Road	4.1A Major Road Raised Median	<b>Accepted at LOS F</b> Maine Avenue to Ashwood Street <b>Recommended Improvement</b> Underpass at SR-67
25	Lake Jennings Park Road (SA 810) <u>Segment:</u> Mapleview Street to Old Highway 80	4.1B Major Road Intermittent Turn Lanes	<b>Accepted at LOS F</b> <u>Segment:</u> I-8 Business Route to I-8 westbound ramp



Mobility Element Network—Lakeside Community Planning Area Matrix			
ID <sup>a</sup>	Road Segment	Designation/Improvement #. #X = [# of lanes].[roadway classification][improvement]	Special Circumstances
26	Broad Oaks Road (SC 1930) <u>Segment:</u> Hawley Road to Alpine CPA boundary	2.3C Minor Collector	None
27	Blossom Valley Road (SA 830.1) <u>Segment:</u> Lake Jennings Park Road to Quail Canyon Road	2.2D Light Collector Improvement Options—Lake Jennings Park Road to Quail Canyon Road 2.2E Light Collector Intermittent Turn Lanes—Quail Canyon Road to Quail Canyon Road	None
28	Quail Canyon Road <u>Segment:</u> Blossom Valley Road to Hawley Road	2.2E Light Collector	None
29	Hawley Road (SC 1940) <u>Segment:</u> Old Highway 80 to Broad Oaks Road	2.3C Minor Collector	None
30	Old Highway 80 (SA 895) <u>Segment:</u> Pepper Drive to Alpine CPA boundary	4.2B Boulevard with Intermittent Turn Lanes Intermittent Turn Lanes—Pepper Drive to Lake Jennings Park Road 4.1B Major Road Intermittent Turn Lanes—Lake Jennings Park Road to Marina Springs Lane 2.2B Light Collector Continuous Turn Lane—Marina Springs Lane to Alpine CPA boundary	None
31	Lakeview Road (SC 1890) <u>Segment:</u> Los Coches Road to Julian Avenue	2.2E Light Collector	None
32	Los Coches Road (SF 1400) <u>Segment:</u> Julian Avenue to Interstate 8	2.1D Community Collector Improvement Options—Julian Avenue to Old Highway 80 4.1B Major Road Continuous Turn Lane—Old Highway 80 to Interstate 8	Accepted at LOS E/F <u>Segment:</u> Woodside Avenue to I-8 Business Route <b>Shoulder as Parking Lane</b> Separate Bike Lane required—Mapleview Street to Woodside Avenue

Mobility Element Network—Lakeside Community Planning Area Matrix			
ID <sup>a</sup>	Road Segment	Designation/Improvement #.#X = [# of lanes].[roadway classification][improvement]	Special Circumstances
33	Melrose Extension <u>Segment:</u> Winter Gardens Boulevard to Los Coches Road	Local Public Road	None
34	Winter Gardens Boulevard (SF 1399) <u>Segment:</u> SR-67 to El Cajon city limits	4.1A Major Road Raised Median—SR-67 to Woodside Avenue 4.2A Boulevard Raised Median—Woodside Avenue to Lemoncrest Drive 4.1A Major Road Continuous Turn Lane—Woodside Avenue to El Cajon city limits	Recommended Improvement Full interchange for SR-67
35	Magnolia Avenue (SC 850) <u>Segment:</u> Santee city limits to El Cajon city limits	4.1B Major Road Intermittent Turn Lanes	None
36	Graves Avenue (SC 1880) <u>Segment:</u> Pepper Drive to Bradley Avenue	4.1B Major Road Intermittent Turn Lanes—Pepper Drive to Bradley Avenue 2.2C Light Collector Intermittent Turn Lanes—Bradley Avenue to El Cajon city limits	None
37	Pepper Drive (SC 1870) <u>Segment:</u> Graves Avenue to El Cajon city limits	2.2C Light Collector Intermittent Turn Lanes—Graves Avenue to Bradley Avenue 4.1B Major Road Intermittent Turn Lanes—Bradley Avenue to Winter Gardens Boulevard 2.2C Light Collector Intermittent Turn Lanes—Winter Gardens Boulevard to El Cajon city limits	None



Mobility Element Network—Lakeside Community Planning Area Matrix			
ID <sup>a</sup>	Road Segment	Designation/Improvement #.#X = [# of lanes],[roadway classification][improvement]	Special Circumstances
38	<b>Bradley Avenue (SA 890)</b> <u>Segments:</u> El Cajon city limits to El Cajon city limits (near Mollison Avenue) and El Cajon city limits to Pepper Drive	<b>4.1B Major Road</b> Intermittent Turn Lanes	None
39	<b>Greenfield Drive (SC 1860)</b> <u>Segment:</u> El Cajon city limits to El Cajon city limits (near Mollison Avenue) and El Cajon city limits to Pepper Drive	<b>2.2B Light Collector</b> Continuous Turn Lane	None
40	<b>Ballantyne Street (SC 1880)</b> <u>Segment:</u> Greenfield Drive to El Cajon city limits	<b>4.2B Boulevard</b> Intermittent Turn Lanes	None
41	<b>North Mollison Avenue (SC 1871)</b> <u>Segment:</u> Pepper Drive to El Cajon city limits	<b>2.2E Light Collector</b>	None
42	<b>North First Street (SC 1869)</b> <u>Segment:</u> Pepper Drive to El Cajon city limits	<b>2.2E Light Collector</b>	None
43	<b>Oro Street</b> <u>Segment:</u> El Cajon city limits to El Cajon city limits	<b>2.2E Light Collector</b>	None

a. ID = Roadway segment on Figure M-A-10

## **Appendix B**

### **Count Data**

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TECHNICAL DATA

**DATE:**  
8/6/14  
WEDNESDAY

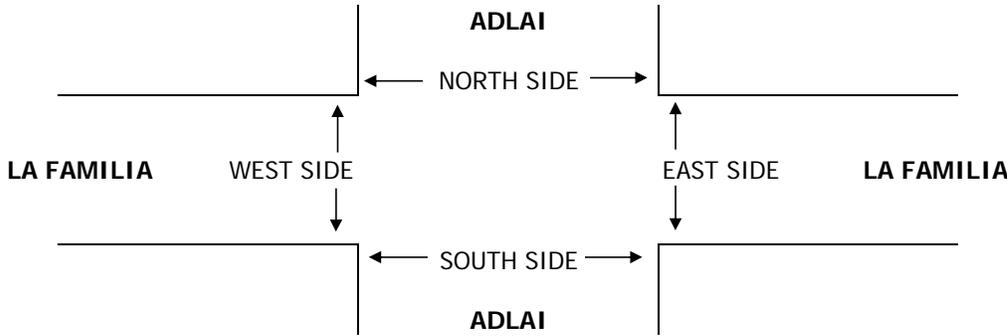
**LOCATION:**  
NORTH & SOUTH: LAKESIDE  
EAST & WEST: ADLAI LA FAMILIA

**PROJECT #:** PTD14-0808-01  
**LOCATION #:** 1  
**CONTROL:** 1-WAY STOP (WB)

NOTES:	AM		▲	
	PM		N	
	MD	◀ W	S	E ▶
	OTHER		▼	
	OTHER			

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	ADLAI			ADLAI			LA FAMILIA			LA FAMILIA			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
LANES:	X	1	0	0	1	X	X	X	X	0.5	X	0.5	

	TIME	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
AM	7:00 AM		0	0	0	7					1		0	8
	7:15 AM		1	0	0	6					0		0	7
	7:30 AM		3	0	0	5					0		2	10
	7:45 AM		3	0	0	8					1		0	12
	8:00 AM		0	0	0	7					0		0	7
	8:15 AM		0	0	0	8					2		0	10
	8:30 AM		4	0	0	7					0		0	11
	8:45 AM		5	0	0	3					0		0	8
	VOLUMES	0	16	0	0	51	0	0	0	0	4	0	2	73
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	67%	0%	33%	
APP/DEPART	16	/	18	51	/	55	0	/	0	6	/	0	0	
BEGIN PEAK HR	7:45 AM													
VOLUMES	0	7	0	0	30	0	0	0	0	3	0	0	40	
APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%		
PEAK HR FACTOR	0.438			0.938			0.000			0.375			0.833	
APP/DEPART	7	/	7	30	/	33	0	/	0	3	/	0	0	
PM	4:00 PM		11	2	0	8					0		0	21
	4:15 PM		5	0	0	11					2		0	18
	4:30 PM		14	1	0	4					0		0	19
	4:45 PM		9	0	0	2					0		0	11
	5:00 PM		7	1	0	6					0		0	14
	5:15 PM		9	2	0	9					3		0	23
	5:30 PM		17	1	0	11					0		1	30
	5:45 PM		9	1	0	11					0		0	21
	VOLUMES	0	81	8	0	62	0	0	0	0	5	0	1	157
	APPROACH %	0%	91%	9%	0%	100%	0%	0%	0%	0%	83%	0%	17%	
APP/DEPART	89	/	82	62	/	67	0	/	8	6	/	0	0	
BEGIN PEAK HR	5:00 PM													
VOLUMES	0	42	5	0	37	0	0	0	0	3	0	1	88	
APPROACH %	0%	89%	11%	0%	100%	0%	0%	0%	0%	75%	0%	25%		
PEAK HR FACTOR	0.653			0.841			0.000			0.333			0.733	
APP/DEPART	47	/	43	37	/	40	0	/	5	4	/	0	0	







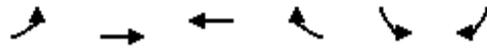
## **Appendix C**

### **Existing LOS Calculations**

AM Existing  
1: Adlai Rd & La Familia Ct

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	4	0	8	0	0	36
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	0	9	0	0	39
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			770			
pX, platoon unblocked						
vC, conflicting volume	48	9			9	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	48	9			9	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	962	1073			1611	
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	4	9	39			
Volume Left	4	0	0			
Volume Right	0	0	0			
cSH	962	1700	1611			
Volume to Capacity	0.00	0.01	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	8.8	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	8.8	0.0	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			0.7			
Intersection Capacity Utilization			13.3%		ICU Level of Service	A
Analysis Period (min)			15			

AM Existing  
3: E. Lakeview Rd & Adlai Rd



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↶		↶	
Volume (veh/h)	6	36	29	7	24	16
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	39	32	8	26	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	39				88	35
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	39				88	35
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				97	98
cM capacity (veh/h)	1571				910	1037

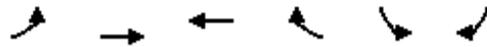
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	46	39	43
Volume Left	7	0	26
Volume Right	0	8	17
cSH	1571	1700	957
Volume to Capacity	0.00	0.02	0.05
Queue Length 95th (ft)	0	0	4
Control Delay (s)	1.1	0.0	8.9
Lane LOS	A		A
Approach Delay (s)	1.1	0.0	8.9
Approach LOS			A

Intersection Summary			
Average Delay		3.4	
Intersection Capacity Utilization		17.0%	ICU Level of Service A
Analysis Period (min)		15	

PM Existing  
1: Adlai Rd & La Familia Ct

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	3	1	42	5	0	37
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	1	46	5	0	40
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			770			
pX, platoon unblocked						
vC, conflicting volume	89	48			51	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	89	48			51	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	912	1020			1555	
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	4	51	40			
Volume Left	3	0	0			
Volume Right	1	5	0			
cSH	937	1700	1555			
Volume to Capacity	0.00	0.03	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	8.9	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	8.9	0.0	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			0.4			
Intersection Capacity Utilization			13.3%		ICU Level of Service	A
Analysis Period (min)			15			

PM Existing  
3: E. Lakeview Rd & Adlai Rd



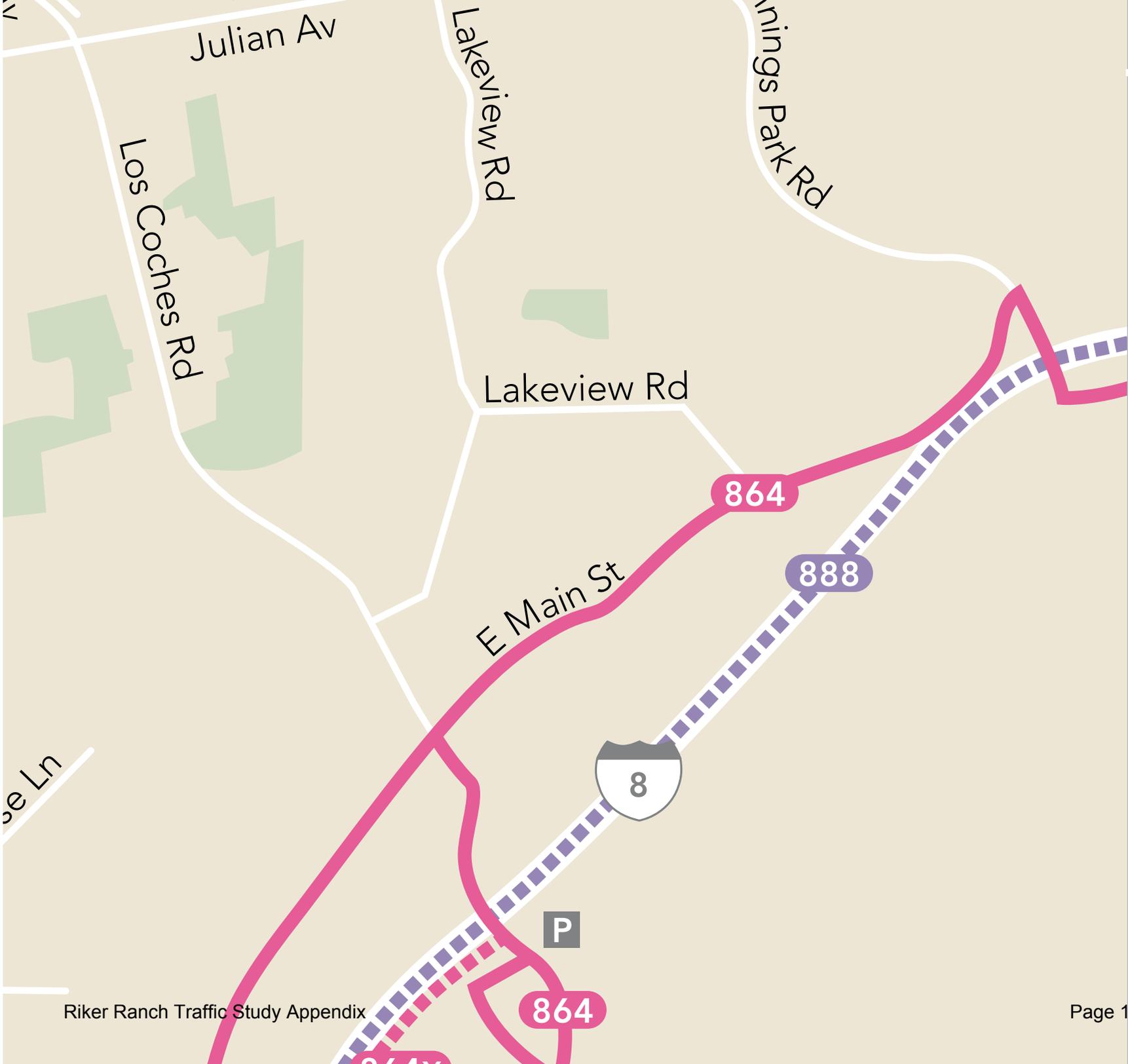
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↩	↩		↩	
Volume (veh/h)	16	57	47	37	26	20
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	62	51	40	28	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	91				168	71
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	91				168	71
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				97	98
cM capacity (veh/h)	1504				813	991

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	79	91	50
Volume Left	17	0	28
Volume Right	0	40	22
cSH	1504	1700	882
Volume to Capacity	0.01	0.05	0.06
Queue Length 95th (ft)	1	0	5
Control Delay (s)	1.7	0.0	9.3
Lane LOS	A		A
Approach Delay (s)	1.7	0.0	9.3
Approach LOS			A

Intersection Summary			
Average Delay		2.7	
Intersection Capacity Utilization		20.6%	ICU Level of Service
Analysis Period (min)		15	A

## **Appendix D**

### **Transit Service Near Project**



C

## **Appendix E**

### **Existing + Project LOS Calculations**

AM Existing + Project

1: Adlai Rd & Project N. Access/La Familia Ct

HCM Unsignalized Intersection Capacity Analysis

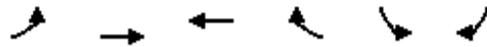
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	4	4	0	0	2	8	0	0	36	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	4	4	0	0	2	9	0	0	39	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								200				
pX, platoon unblocked												
vC, conflicting volume	52	52	39	57	52	9	39			9		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	52	52	39	57	52	9	39			9		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	946	838	1032	936	838	1073	1571			1611		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total	4	4	11	39								
Volume Left	0	4	2	0								
Volume Right	4	0	0	0								
cSH	1032	936	1571	1611								
Volume to Capacity	0.00	0.00	0.00	0.00								
Queue Length 95th (ft)	0	0	0	0								
Control Delay (s)	8.5	8.9	1.5	0.0								
Lane LOS	A	A	A									
Approach Delay (s)	8.5	8.9	1.5	0.0								
Approach LOS	A	A										
<b>Intersection Summary</b>												
Average Delay			1.6									
Intersection Capacity Utilization			13.3%		ICU Level of Service					A		
Analysis Period (min)			15									

AM Existing + Project  
2: Adlai Rd & Project S. Access



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	9	4	10	44	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	10	4	11	48	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	67	48	48			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	67	48	48			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	100			
cM capacity (veh/h)	935	1021	1559			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	10	15	48			
Volume Left	0	4	0			
Volume Right	10	0	0			
cSH	1021	1559	1700			
Volume to Capacity	0.01	0.00	0.03			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	8.6	2.1	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.6	2.1	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			1.6			
Intersection Capacity Utilization			14.0%	ICU Level of Service		A
Analysis Period (min)			15			

AM Existing + Project  
 3: E. Lakeview Rd & Adlai Rd



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↶		↶	
Volume (veh/h)	8	36	29	11	32	21
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	39	32	12	35	23
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	43				94	38
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	43				94	38
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				96	98
cM capacity (veh/h)	1565				901	1035

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	48	43	58
Volume Left	9	0	35
Volume Right	0	12	23
cSH	1565	1700	949
Volume to Capacity	0.01	0.03	0.06
Queue Length 95th (ft)	0	0	5
Control Delay (s)	1.4	0.0	9.0
Lane LOS	A		A
Approach Delay (s)	1.4	0.0	9.0
Approach LOS			A

Intersection Summary			
Average Delay		3.9	
Intersection Capacity Utilization		18.8%	ICU Level of Service A
Analysis Period (min)		15	

PM Existing + Project

1: Adlai Rd & Project N. Access/La Familia Ct

HCM Unsignalized Intersection Capacity Analysis

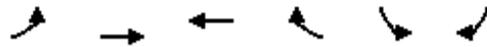
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	2	3	0	1	5	42	5	0	37	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	2	3	0	1	5	46	5	0	40	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								200				
pX, platoon unblocked												
vC, conflicting volume	101	102	40	102	99	48	40			51		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	101	102	40	102	99	48	40			51		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	877	785	1031	875	788	1020	1569			1555		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total	2	4	57	40								
Volume Left	0	3	5	0								
Volume Right	2	1	5	0								
cSH	1031	907	1569	1555								
Volume to Capacity	0.00	0.00	0.00	0.00								
Queue Length 95th (ft)	0	0	0	0								
Control Delay (s)	8.5	9.0	0.7	0.0								
Lane LOS	A	A	A									
Approach Delay (s)	8.5	9.0	0.7	0.0								
Approach LOS	A	A										
<b>Intersection Summary</b>												
Average Delay			1.0									
Intersection Capacity Utilization			16.7%		ICU Level of Service					A		
Analysis Period (min)			15									

PM Existing + Project  
2: Adlai Rd & Project S. Access



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	5	11	52	42	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	5	12	57	46	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	126	46	46			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	126	46	46			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	99			
cM capacity (veh/h)	862	1024	1562			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	5	68	46			
Volume Left	0	12	0			
Volume Right	5	0	0			
cSH	1024	1562	1700			
Volume to Capacity	0.01	0.01	0.03			
Queue Length 95th (ft)	0	1	0			
Control Delay (s)	8.5	1.3	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.5	1.3	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			1.1			
Intersection Capacity Utilization		20.0%		ICU Level of Service		A
Analysis Period (min)			15			

PM Existing + Project  
 3: E. Lakeview Rd & Adlai Rd



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↘	
Volume (veh/h)	22	57	47	47	31	22
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	24	62	51	51	34	24
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	102				186	77
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	102				186	77
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				96	98
cM capacity (veh/h)	1490				790	984

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	86	102	58
Volume Left	24	0	34
Volume Right	0	51	24
cSH	1490	1700	860
Volume to Capacity	0.02	0.06	0.07
Queue Length 95th (ft)	1	0	5
Control Delay (s)	2.2	0.0	9.5
Lane LOS	A		A
Approach Delay (s)	2.2	0.0	9.5
Approach LOS			A

Intersection Summary			
Average Delay		3.0	
Intersection Capacity Utilization		20.9%	ICU Level of Service
Analysis Period (min)		15	A

## **Appendix F**

### **E. Lakeview Rd 85<sup>th</sup> Percentile Speeds**

LOCATION: LAKEVIEW W-O ADLAI

DATE: 8/12/14

POSTED SPEED LIMIT: 25  
85TH PERCENTILE SPEED: 37  
50TH PERCENTILE SPEED: 33  
AVERAGE SPEED: 33  
10 MPH PACE SPEED: 30-39

DIRECTION: EB  
WEATHER: DRY

START: 3:45 PM  
END: 5:00 PM

NAME OF RECORDER: WILLIAM BROWN  
TOTAL NUMBER OF VEHICLES: 57

SPEED MPH	NUMBER OF VEHICLES																													PERCENT OF TOTAL	CUMULATIVE PERCENT	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29			TOTAL
80																														0	0.0%	100.0%
79																														0	0.0%	100.0%
78																														0	0.0%	100.0%
77																														0	0.0%	100.0%
76																														0	0.0%	100.0%
75																														0	0.0%	100.0%
74																														0	0.0%	100.0%
73																														0	0.0%	100.0%
72																														0	0.0%	100.0%
71																														0	0.0%	100.0%
70																														0	0.0%	100.0%
69																														0	0.0%	100.0%
68																														0	0.0%	100.0%
67																														0	0.0%	100.0%
66																														0	0.0%	100.0%
65																														0	0.0%	100.0%
64																														0	0.0%	100.0%
63																														0	0.0%	100.0%
62																														0	0.0%	100.0%
61																														0	0.0%	100.0%
60																														0	0.0%	100.0%
59																														0	0.0%	100.0%
58																														0	0.0%	100.0%
57																														0	0.0%	100.0%
56																														0	0.0%	100.0%
55																														0	0.0%	100.0%
54																														0	0.0%	100.0%
53																														0	0.0%	100.0%
52																														0	0.0%	100.0%
51																														0	0.0%	100.0%
50																														0	0.0%	100.0%
49																														0	0.0%	100.0%
48																														0	0.0%	100.0%
47																														0	0.0%	100.0%
46																														0	0.0%	100.0%
45																														0	0.0%	100.0%
44																														0	0.0%	100.0%
43																														0	0.0%	100.0%
42																														0	0.0%	100.0%
41																														0	0.0%	100.0%
40	X																													1	1.8%	100.0%
39	X	X																												2	3.5%	98.2%
38	X	X	X	X																										4	7.0%	94.7%
37	X	X	X	X	X	X																								6	10.5%	87.7%
36	X	X	X	X																										4	7.0%	77.2%
35	X	X	X	X	X																									5	8.8%	70.2%
34	X	X	X	X																										4	7.0%	61.4%
33	X	X	X	X	X	X	X	X																						8	14.0%	54.4%
32	X	X	X	X	X	X																								6	10.5%	40.4%
31	X	X	X	X	X																									5	8.8%	29.8%
30	X	X	X	X	X																									5	8.8%	21.1%
29	X	X																												2	3.5%	12.3%
28	X	X																												2	3.5%	8.8%
27	X																													1	1.8%	5.3%
26	X																													1	1.8%	3.5%
25																														0	0.0%	1.8%
24	X																													1	1.8%	1.8%
23																														0	0.0%	0.0%
22																														0	0.0%	0.0%
21																														0	0.0%	0.0%
20																														0	0.0%	0.0%
19																														0	0.0%	0.0%
18																														0	0.0%	0.0%
17																														0	0.0%	0.0%
16																														0	0.0%	0.0%
15																														0	0.0%	0.0%
14																														0	0.0%	0.0%
13																														0	0.0%	0.0%
12																														0	0.0%	0.0%
11																														0	0.0%	0.0%
10																														0	0.0%	0.0%

LOCATION: LAKEVIEW E-O ADLAI

DATE: 8/12/14

POSTED SPEED LIMIT: 25  
 85TH PERCENTILE SPEED: 33  
 50TH PERCENTILE SPEED: 30  
 AVERAGE SPEED: 30  
 10 MPH PACE SPEED: 26-35

DIRECTION: WB  
 WEATHER: DRY

START: 5:00 PM  
 END: 6:20 PM

NAME OF RECORDER: WILLIAM BROWN  
 TOTAL NUMBER OF VEHICLES: 52

SPEED MPH	NUMBER OF VEHICLES																													TOTAL	PERCENT OF TOTAL	CUMULATIVE PERCENT
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29			
80																														0	0.0%	100.0%
79																														0	0.0%	100.0%
78																														0	0.0%	100.0%
77																														0	0.0%	100.0%
76																														0	0.0%	100.0%
75																														0	0.0%	100.0%
74																														0	0.0%	100.0%
73																														0	0.0%	100.0%
72																														0	0.0%	100.0%
71																														0	0.0%	100.0%
70																														0	0.0%	100.0%
69																														0	0.0%	100.0%
68																														0	0.0%	100.0%
67																														0	0.0%	100.0%
66																														0	0.0%	100.0%
65																														0	0.0%	100.0%
64																														0	0.0%	100.0%
63																														0	0.0%	100.0%
62																														0	0.0%	100.0%
61																														0	0.0%	100.0%
60																														0	0.0%	100.0%
59																														0	0.0%	100.0%
58																														0	0.0%	100.0%
57																														0	0.0%	100.0%
56																														0	0.0%	100.0%
55																														0	0.0%	100.0%
54																														0	0.0%	100.0%
53																														0	0.0%	100.0%
52																														0	0.0%	100.0%
51																														0	0.0%	100.0%
50																														0	0.0%	100.0%
49																														0	0.0%	100.0%
48																														0	0.0%	100.0%
47																														0	0.0%	100.0%
46																														0	0.0%	100.0%
45																														0	0.0%	100.0%
44																														0	0.0%	100.0%
43																														0	0.0%	100.0%
42																														0	0.0%	100.0%
41																														0	0.0%	100.0%
40																														0	0.0%	100.0%
39																														0	0.0%	100.0%
38	X																												1	1.9%	100.0%	
37																														0	0.0%	98.1%
36	X																													1	1.9%	98.1%
35	X	X																												2	3.8%	96.2%
34	X	X	X																											3	5.8%	92.3%
33	X	X	X																											3	5.8%	86.5%
32	X	X	X	X																										4	7.7%	80.8%
31	X	X	X	X																										4	7.7%	73.1%
30	X	X	X	X	X	X	X	X																						8	15.4%	65.4%
29	X	X	X	X	X	X	X																							6	11.5%	50.0%
28	X	X	X	X	X	X	X																							7	13.5%	38.5%
27	X	X	X	X	X																									5	9.6%	25.0%
26	X	X	X	X																										4	7.7%	15.4%
25	X	X																												2	3.8%	7.7%
24	X																													1	1.9%	3.8%
23	X																													1	1.9%	1.9%
22																														0	0.0%	0.0%
21																														0	0.0%	0.0%
20																														0	0.0%	0.0%
19																														0	0.0%	0.0%
18																														0	0.0%	0.0%
17																														0	0.0%	0.0%
16																														0	0.0%	0.0%
15																														0	0.0%	0.0%
14																														0	0.0%	0.0%
13																														0	0.0%	0.0%
12																														0	0.0%	0.0%
11																														0	0.0%	0.0%
10																														0	0.0%	0.0%

## **Appendix G**

### **E. Lakeview Rd at Adlai Rd Corner Sight Distance Field Observations**

## Corner Sight Distance – E Lakeview Road at Adlai Road

Looking west along E Lakeview Road from Adlai Road



Looking east along E Lakeview Road from Adlai Road



## **Appendix H**

### **Adlai Rd 85<sup>th</sup> Percentile Speeds**

**ADLAI BTN LAKEVIEW & LA FAMILIA  
NORTHBOUND**

PTD14-0808-01

Wednesday, August 06, 2014

PREPARED BY: PACIFIC TECHNICAL DATA, LLC

Time	1 - 10	11 - 15	16 - 20	21 - 25	26 - 30	31 - 35	36 - 40	41 - 45	46 - 50	51 - 55	56 - 60	61 - 65	66 +	TOTAL	%VEHICLES
12:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
12:15:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0.25%
12:30:00 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	2	0.50%
12:45:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
1:00:00 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0.50%
1:15:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.25%
1:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
1:45:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.25%
2:00:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0.25%
2:15:00 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	2	0.50%
2:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2:45:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
3:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
3:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
3:30:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.25%
3:45:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
4:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
4:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
4:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
4:45:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
5:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
5:15:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.25%
5:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
5:45:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.25%
6:00:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.25%
6:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
6:30:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0.25%
6:45:00 AM	0	0	1	0	2	0	0	0	0	0	0	0	0	3	0.75%
7:00:00 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.25%
7:15:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.25%
7:30:00 AM	0	0	1	1	1	0	0	0	0	0	0	0	0	3	0.75%
7:45:00 AM	0	0	2	1	0	0	0	0	0	0	0	0	0	3	0.75%
8:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
8:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
8:30:00 AM	0	0	3	1	0	0	0	0	0	0	0	0	0	4	1.00%
8:45:00 AM	0	2	3	0	0	0	0	0	0	0	0	0	0	5	1.25%
9:00:00 AM	0	3	2	2	0	0	0	0	0	0	0	0	0	7	1.75%
9:15:00 AM	0	1	2	2	0	0	0	0	0	0	0	0	0	5	1.25%
9:30:00 AM	0	0	3	1	0	0	0	0	0	0	0	0	0	4	1.00%
9:45:00 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0.50%
10:00:00 AM	0	0	2	1	0	0	0	0	0	0	0	0	0	3	0.75%
10:15:00 AM	0	0	4	2	0	0	0	0	0	0	0	0	0	6	1.50%
10:30:00 AM	0	2	2	0	0	0	0	0	0	0	0	0	0	4	1.00%
10:45:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	2	0.50%
11:00:00 AM	0	0	3	1	0	0	0	0	0	0	0	0	0	4	1.00%
11:15:00 AM	0	0	4	2	0	0	0	0	0	0	0	0	0	6	1.50%
11:30:00 AM	0	0	2	4	0	0	0	0	0	0	0	0	0	6	1.50%
11:45:00 AM	0	0	2	3	0	0	0	0	0	0	0	0	0	5	1.25%
AM TOTAL	1	10	45	30	3	0	0	0	0	0	0	0	0	89	22.19%
PERCENTAGE	1.1%	11.2%	50.6%	33.7%	3.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
CUMULATIVE	1	11	56	86	89	89	89	89	89	89	89	89	89		
PERCENTAGE	1.1%	12.4%	62.9%	96.6%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		

15th Percentile	17	Mean Speed Average	19
50th Percentile	20	10 MPH Pace Speed	16-25
85th Percentile	23	Number in Pace	76
95th Percentile	24	Percent in Pace	85%

**ADLAI BTN LAKEVIEW & LA FAMILIA  
NORTHBOUND**

PTD14-0808-01

Wednesday, August 06, 2014

PREPARED BY: PACIFIC TECHNICAL DATA, LLC

Time	1 - 10	11 - 15	16 - 20	21 - 25	26 - 30	31 - 35	36 - 40	41 - 45	46 - 50	51 - 55	56 - 60	61 - 65	66 +	TOTAL	%VEHICLES
12:00:00 PM	1	1	1	0	0	0	0	0	0	0	0	0	0	3	0.75%
12:15:00 PM	0	0	2	2	0	0	0	0	0	0	0	0	0	4	1.00%
12:30:00 PM	0	0	3	1	0	0	0	0	0	0	0	0	0	4	1.00%
12:45:00 PM	0	1	8	3	1	0	0	0	0	0	0	0	0	13	3.24%
1:00:00 PM	0	1	0	2	0	0	0	0	0	0	0	0	0	3	0.75%
1:15:00 PM	0	0	1	6	1	0	0	0	0	0	0	0	0	8	2.00%
1:30:00 PM	0	0	2	3	0	0	0	0	0	0	0	0	0	5	1.25%
1:45:00 PM	0	1	2	1	1	0	0	0	0	0	0	0	0	5	1.25%
2:00:00 PM	2	1	2	0	0	0	0	0	0	0	0	0	0	5	1.25%
2:15:00 PM	0	1	2	2	0	0	0	0	0	0	0	0	0	5	1.25%
2:30:00 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	2	0.50%
2:45:00 PM	0	0	1	5	0	0	0	0	0	0	0	0	0	6	1.50%
3:00:00 PM	1	0	3	1	0	0	0	0	0	0	0	0	0	5	1.25%
3:15:00 PM	0	0	2	3	1	0	0	0	0	0	0	0	0	6	1.50%
3:30:00 PM	0	0	9	5	0	0	0	0	0	0	0	0	0	14	3.49%
3:45:00 PM	0	0	1	4	3	0	0	0	0	0	0	0	0	8	2.00%
4:00:00 PM	0	0	5	5	0	0	0	0	0	0	0	0	0	10	2.49%
4:15:00 PM	0	0	5	1	0	0	0	0	0	0	0	0	0	6	1.50%
4:30:00 PM	0	2	7	4	0	0	1	0	0	0	0	0	0	14	3.49%
4:45:00 PM	0	0	5	3	0	0	0	0	0	0	0	0	0	8	2.00%
5:00:00 PM	0	0	4	5	0	0	0	0	0	0	0	0	0	9	2.24%
5:15:00 PM	1	5	3	1	1	0	0	0	0	0	0	0	0	11	2.74%
5:30:00 PM	1	2	9	6	1	0	0	0	0	0	0	0	0	19	4.74%
5:45:00 PM	0	0	4	5	0	1	0	0	0	0	0	0	0	10	2.49%
6:00:00 PM	1	0	3	3	0	0	0	0	0	0	0	0	0	7	1.75%
6:15:00 PM	0	0	5	3	0	0	0	0	0	0	0	0	0	8	2.00%
6:30:00 PM	0	1	4	2	0	0	0	0	0	0	0	0	0	7	1.75%
6:45:00 PM	0	1	3	6	1	0	0	0	0	0	0	0	0	11	2.74%
7:00:00 PM	0	5	4	4	0	0	0	0	0	0	0	0	0	13	3.24%
7:15:00 PM	0	1	3	2	0	0	0	0	0	0	0	0	0	6	1.50%
7:30:00 PM	0	1	5	3	0	0	0	0	0	0	0	0	0	9	2.24%
7:45:00 PM	0	1	5	1	0	0	0	0	0	0	0	0	0	7	1.75%
8:00:00 PM	1	0	3	2	0	0	0	0	0	0	0	0	0	6	1.50%
8:15:00 PM	0	1	1	4	2	0	0	0	0	0	0	0	0	8	2.00%
8:30:00 PM	0	0	1	2	0	0	0	0	0	0	0	0	0	3	0.75%
8:45:00 PM	0	0	3	2	0	0	0	0	0	0	0	0	0	5	1.25%
9:00:00 PM	0	0	2	2	1	0	0	0	0	0	0	0	0	5	1.25%
9:15:00 PM	0	0	4	1	0	0	0	0	0	0	0	0	0	5	1.25%
9:30:00 PM	1	0	1	0	1	0	0	0	0	0	0	0	0	3	0.75%
9:45:00 PM	0	0	2	5	0	0	0	0	0	0	0	0	0	7	1.75%
10:00:00 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0.50%
10:15:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	2	0.50%
10:30:00 PM	0	0	1	2	0	0	0	0	0	0	0	0	0	3	0.75%
10:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
11:00:00 PM	0	0	4	1	0	0	0	0	0	0	0	0	0	5	1.25%
11:15:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.25%
11:30:00 PM	0	1	0	2	0	0	0	0	0	0	0	0	0	3	0.75%
11:45:00 PM	0	1	0	2	0	0	0	0	0	0	0	0	0	3	0.75%
<b>PM TOTAL</b>	9	28	138	120	15	1	1	0	0	0	0	0	0	312	77.81%
<b>PERCENTAGE</b>	2.9%	9.0%	44.2%	38.5%	4.8%	0.3%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
<b>CUMULATIVE</b>	9	37	175	295	310	311	312	312	312	312	312	312	312		
<b>PERCENTAGE</b>	2.9%	11.9%	56.1%	94.6%	99.4%	99.7%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		

15th Percentile	17	Mean Speed Average	20
50th Percentile	20	10 MPH Pace Speed	15-24
85th Percentile	23	Number in Pace	271
95th Percentile	25	Percent in Pace	87%

DAY TOTAL	10	38	183	150	18	1	1	0	0	0	0	0	0	401	100.00%
PERCENTAGE	2.5%	9.5%	45.6%	37.4%	4.5%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	401	100.00%

**ADLAI BTN LAKEVIEW & LA FAMILIA  
SOUTHBOUND**

PTD14-0808-01

Wednesday, August 06, 2014

PREPARED BY: PACIFIC TECHNICAL DATA, LLC

Time	1 - 10	11 - 15	16 - 20	21 - 25	26 - 30	31 - 35	36 - 40	41 - 45	46 - 50	51 - 55	56 - 60	61 - 65	66 +	TOTAL	%VEHICLES
12:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
12:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
12:30:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.26%
12:45:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
1:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
1:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
1:30:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0.26%
1:45:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2:15:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0.26%
2:30:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0.26%
2:45:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
3:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
3:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
3:30:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0.26%
3:45:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
4:00:00 AM	0	1	1	0	0	0	0	0	0	0	0	0	0	2	0.52%
4:15:00 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0.52%
4:30:00 AM	0	1	1	0	0	0	0	0	0	0	0	0	0	2	0.52%
4:45:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0.26%
5:00:00 AM	0	1	2	0	0	0	0	0	0	0	0	0	0	3	0.78%
5:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
5:30:00 AM	0	2	1	0	0	0	0	0	0	0	0	0	0	3	0.78%
5:45:00 AM	1	2	4	2	0	0	0	0	0	0	0	0	0	9	2.34%
6:00:00 AM	0	2	2	0	0	0	0	0	0	0	0	0	0	4	1.04%
6:15:00 AM	0	8	4	0	0	0	0	0	0	0	0	0	0	12	3.12%
6:30:00 AM	0	1	2	0	0	0	0	0	0	0	0	0	0	3	0.78%
6:45:00 AM	2	3	1	0	0	0	0	0	0	0	0	0	0	6	1.56%
7:00:00 AM	1	6	1	1	0	0	0	0	0	0	0	0	0	9	2.34%
7:15:00 AM	0	2	4	0	0	0	0	0	0	0	0	0	0	6	1.56%
7:30:00 AM	0	2	3	0	0	0	0	0	0	0	0	0	0	5	1.30%
7:45:00 AM	0	2	6	1	0	0	0	0	0	0	0	0	0	9	2.34%
8:00:00 AM	1	4	2	0	0	0	0	0	0	0	0	0	0	7	1.82%
8:15:00 AM	0	10	0	2	0	0	0	0	0	0	0	0	0	12	3.12%
8:30:00 AM	0	3	3	0	0	0	0	0	0	0	0	0	0	6	1.56%
8:45:00 AM	0	2	2	0	0	0	0	0	0	0	0	0	0	4	1.04%
9:00:00 AM	1	3	0	1	0	0	0	0	0	0	0	0	0	5	1.30%
9:15:00 AM	0	3	4	0	0	0	0	0	0	0	0	0	0	7	1.82%
9:30:00 AM	0	1	5	1	2	0	0	0	0	0	0	0	0	9	2.34%
9:45:00 AM	0	3	4	2	0	0	0	0	0	0	0	0	0	9	2.34%
10:00:00 AM	0	2	3	0	0	0	0	0	0	0	0	0	0	5	1.30%
10:15:00 AM	0	1	1	0	0	0	0	0	0	0	0	0	0	2	0.52%
10:30:00 AM	0	2	2	0	1	0	0	0	0	0	0	0	0	5	1.30%
10:45:00 AM	1	1	3	0	1	0	0	0	0	0	0	0	0	6	1.56%
11:00:00 AM	0	2	3	1	1	0	0	0	0	0	0	0	0	7	1.82%
11:15:00 AM	0	2	1	0	0	0	0	0	0	0	0	0	0	3	0.78%
11:30:00 AM	0	0	1	2	0	0	0	0	0	0	0	0	0	3	0.78%
11:45:00 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0.52%
AM TOTAL	7	76	69	16	5	0	0	0	0	0	0	0	0	173	44.94%
PERCENTAGE	4.0%	43.9%	39.9%	9.2%	2.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
CUMULATIVE	7	83	152	168	173	173	173	173	173	173	173	173	173		
PERCENTAGE	4.0%	48.0%	87.9%	97.1%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		

15th Percentile	13	Mean Speed Average	16
50th Percentile	16	10 MPH Pace Speed	12-21
85th Percentile	19	Number in Pace	150
95th Percentile	23	Percent in Pace	87%

**ADLAI BTN LAKEVIEW & LA FAMILIA  
SOUTHBOUND**

PTD14-0808-01

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Time	1 - 10	11 - 15	16 - 20	21 - 25	26 - 30	31 - 35	36 - 40	41 - 45	46 - 50	51 - 55	56 - 60	61 - 65	66 +	TOTAL	%VEHICLES
12:00:00 PM	0	5	2	0	0	0	0	0	0	0	0	0	0	7	1.82%
12:15:00 PM	0	2	2	1	0	0	0	0	0	0	0	0	0	5	1.30%
12:30:00 PM	0	3	2	0	1	0	0	0	0	0	0	0	0	6	1.56%
12:45:00 PM	0	1	2	0	0	0	0	0	0	0	0	0	0	3	0.78%
1:00:00 PM	0	3	1	0	0	0	0	0	0	0	0	0	0	4	1.04%
1:15:00 PM	0	0	4	1	0	0	0	0	0	0	0	0	0	5	1.30%
1:30:00 PM	0	2	1	1	0	0	0	0	0	0	0	0	0	4	1.04%
1:45:00 PM	0	1	2	0	0	0	0	0	0	0	0	0	0	3	0.78%
2:00:00 PM	1	1	3	0	0	0	0	0	0	0	0	0	0	5	1.30%
2:15:00 PM	1	2	0	3	0	0	0	0	0	0	0	0	0	6	1.56%
2:30:00 PM	0	2	5	0	0	0	0	0	0	0	0	0	0	7	1.82%
2:45:00 PM	0	2	2	0	0	0	0	0	0	0	0	0	0	4	1.04%
3:00:00 PM	1	2	2	0	0	0	0	0	0	0	0	0	0	5	1.30%
3:15:00 PM	1	2	1	1	0	0	0	0	0	0	0	0	0	5	1.30%
3:30:00 PM	0	2	3	1	0	0	0	0	0	0	0	0	0	6	1.56%
3:45:00 PM	0	0	4	1	0	0	0	0	0	0	0	0	0	5	1.30%
4:00:00 PM	0	2	3	3	0	0	0	0	0	0	0	0	0	8	2.08%
4:15:00 PM	0	2	9	1	1	0	0	0	0	0	0	0	0	13	3.38%
4:30:00 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	4	1.04%
4:45:00 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	2	0.52%
5:00:00 PM	0	2	4	0	0	0	0	0	0	0	0	0	0	6	1.56%
5:15:00 PM	0	3	6	3	0	0	0	0	0	0	0	0	0	12	3.12%
5:30:00 PM	0	4	4	1	0	0	1	0	0	0	0	0	0	10	2.60%
5:45:00 PM	0	1	7	3	0	0	0	0	0	0	0	0	0	11	2.86%
6:00:00 PM	0	1	6	0	0	0	0	0	0	0	0	0	0	7	1.82%
6:15:00 PM	1	0	2	1	0	0	0	0	0	0	0	0	0	4	1.04%
6:30:00 PM	0	2	2	1	0	0	0	0	0	0	0	0	0	5	1.30%
6:45:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.26%
7:00:00 PM	0	1	4	0	0	0	0	0	0	0	0	0	0	5	1.30%
7:15:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0.26%
7:30:00 PM	0	1	3	1	0	0	0	0	0	0	0	0	0	5	1.30%
7:45:00 PM	1	0	2	0	1	0	0	0	0	0	0	0	0	4	1.04%
8:00:00 PM	0	3	1	1	0	0	0	0	0	0	0	0	0	5	1.30%
8:15:00 PM	0	2	1	1	0	0	0	0	0	0	0	0	0	4	1.04%
8:30:00 PM	0	1	2	1	0	0	0	0	0	0	0	0	0	4	1.04%
8:45:00 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0.52%
9:00:00 PM	0	2	2	0	0	0	0	0	0	0	0	0	0	4	1.04%
9:15:00 PM	0	3	2	0	0	0	0	0	0	0	0	0	0	5	1.30%
9:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
9:45:00 PM	0	1	2	0	0	0	0	0	0	0	0	0	0	3	0.78%
10:00:00 PM	0	2	1	0	0	0	0	0	0	0	0	0	0	3	0.78%
10:15:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0.52%
10:30:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.26%
10:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
11:00:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.26%
11:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
11:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
11:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
<b>PM TOTAL</b>	6	67	105	29	4	0	1	0	0	0	0	0	0	212	55.06%
<b>PERCENTAGE</b>	2.8%	31.6%	49.5%	13.7%	1.9%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
<b>CUMULATIVE</b>	6	73	178	207	211	211	212	212	212	212	212	212	212		
<b>PERCENTAGE</b>	2.8%	34.4%	84.0%	97.6%	99.5%	99.5%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		

15th Percentile	13	Mean Speed Average	17
50th Percentile	17	10 MPH Pace Speed	12-21
85th Percentile	20	Number in Pace	182
95th Percentile	24	Percent in Pace	86%

<b>DAY TOTAL</b>	13	143	174	45	9	0	1	0	0	0	0	0	0	385	100.00%
<b>PERCENTAGE</b>	3.4%	37.1%	45.2%	11.7%	2.3%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	385	100.00%
	3.4%	40.5%	85.7%	97.4%	99.7%	99.7%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		

## **Appendix I**

### **Adlai Rd at North Project Driveway Corner Sight Distance Field Observations**

**Corner Sight Distance – Adlai Road at North Project Driveway**

Looking north along Adlai Road from North Project Driveway



Looking south along Adlai Road from North Project Driveway



## **Appendix J**

### **Adlai Rd at South Project Driveway Corner Sight Distance Field Observations**

## Corner Sight Distance – Adlai Road at South Project Driveway

Looking north along Adlai Road from South Project Driveway



Looking south along Adlai Road from South Project Driveway

