Jamul Commercial
MUP-18-008 & TPM-21262
3018 Jefferson Road, Jamul, California
July 18, 2018

Draft Traffic Impact Study

Project Owner:

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Job #1726

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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
Jamul Commercial (PDS 2017-IC-17-081)

The Jamul Commercial project consists of a Tractor Supply Company (TSC) store of 18,800 sf and separate self-storage facility (with up to 600 storage units/vaults and up to 0.5 acers of outdoor RV/Boat parking) located at 3018 Jefferson Road, in the unincorporated San Diego County community of Jamul, California. The site is currently vacant.

Project access is provided from two new driveways on Jefferson Road. The Tractor Supply Company will have a single driveway that is aligned with the planned Simpson Farms driveway. The self-storage facility will have a separate driveway. The two driveways are separated by approximately 225 feet (centerline to centerline) with no internal connection.

The project is calculated to attract pass-by traffic (already on Jefferson Road adjacent to the project site) in the amount of 113 ADT, 3 AM and 6 PM peak hour trips. The project is calculated to attract diverted traffic (already on SR-94) in the amount of 301 ADT, 9 AM and 6 PM peak hour trips. The project is calculated to generate primary traffic (new traffic) in the amount of 473 ADT, 19 AM and 68 PM peak hour trips.

Under existing + project conditions, all study elements were calculated to operate at LOS D or better except for the:

1) Segment of SR-94 Campo Rd between Lyons Valley Road and Jefferson Rd (LOS E Daily), and
2) Segment of SR-94 Campo Rd between and Jefferson Rd and Melody Rd (LOS E Daily).

There are no significant direct impacts because the addition of project traffic does not exceed the significance thresholds; however, the project has potential cumulative impacts. The project applicant proposes to pay into the TIF program to mitigate any potential cumulative impacts. A summary of project impacts is shown in **Table E-1**.

TABLE E-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION

Roadway Facility	Direct Impacts (Proposed Mitigation)	Cumulative Impacts (Proposed Mitigation)
Intersections	0 (no mitigation required)	Potential (TIF)
Segments	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 Measures
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 (TIS) is to determine and analyze potential traffic impacts for the proposed Tractor Supply Company and self-storage project.

1.2 Project Location and Description

The Jamul Commercial project consists of a Tractor Supply Company store of 18,800 sf and separate self-storage facility (with up to 600 storage units/vaults and up to 0.5 acers of outdoor RV/Boat parking) located at 3018 Jefferson Road, in the unincorporated San Diego County community of Jamul, California. The site is currently vacant.

Project access is provided from two new driveways on Jefferson Road. The Tractor Supply Company will have a single driveway that is aligned with the planned Simpson Farms driveway. The self-storage facility will have a separate driveway. The two driveways are separated by approximately 370 feet (centerline to centerline) with no internal connection.

The location of the project is shown in **Figure 1.** The map of the TIS area covering the extend of 25 (two-way) AM or PM peak hour project trips is shown in **Figure 2.** A preliminary site plan is shown in **Figure 3**.

1.3 Planning Requirements

The project applicant does not propose a General Plan Amendment, does not propose a Specific Plan Amendment, and does not propose a rezone.

Figure 1: Project Location

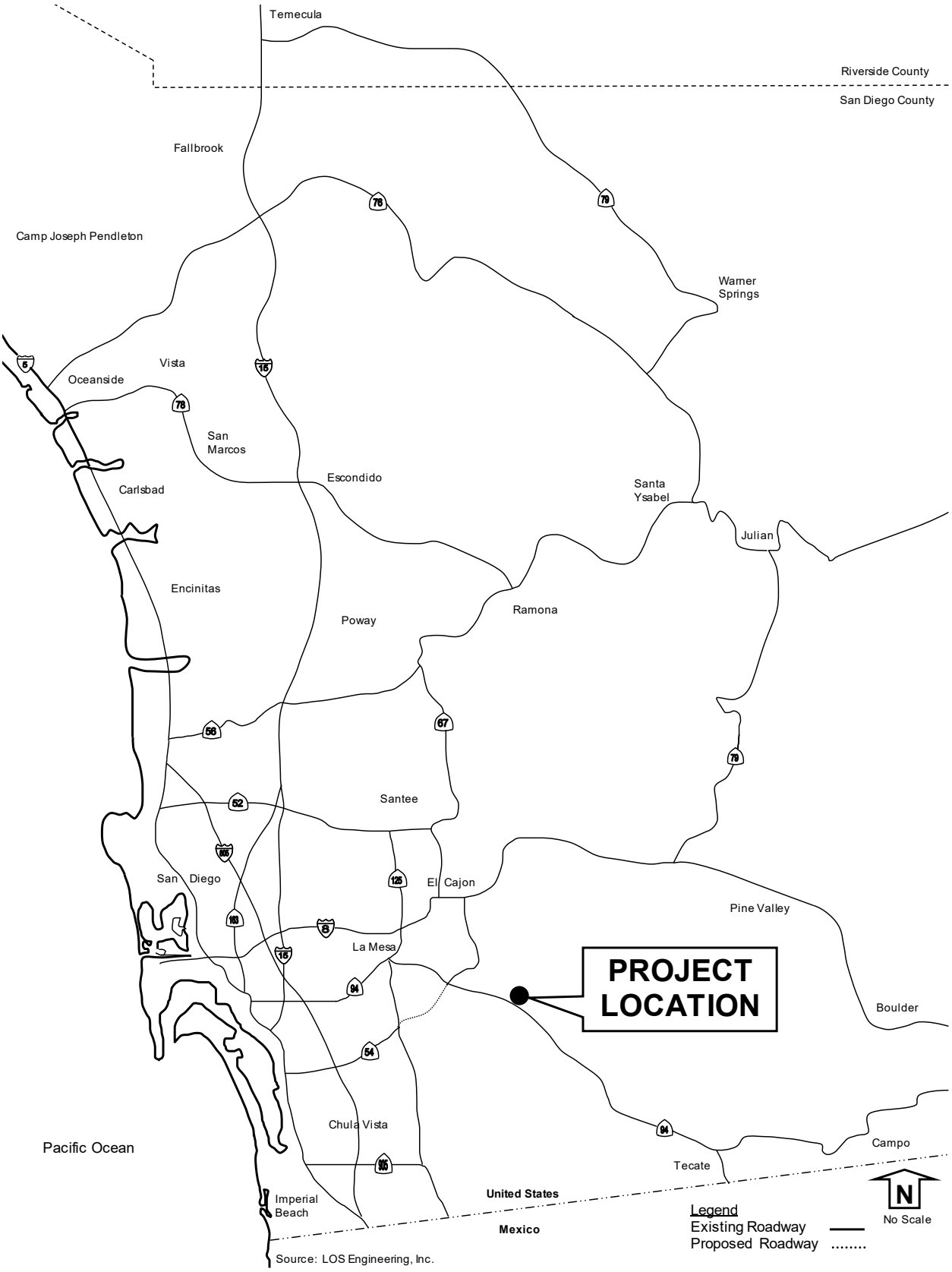


Figure 2: Traffic Impact Study Area

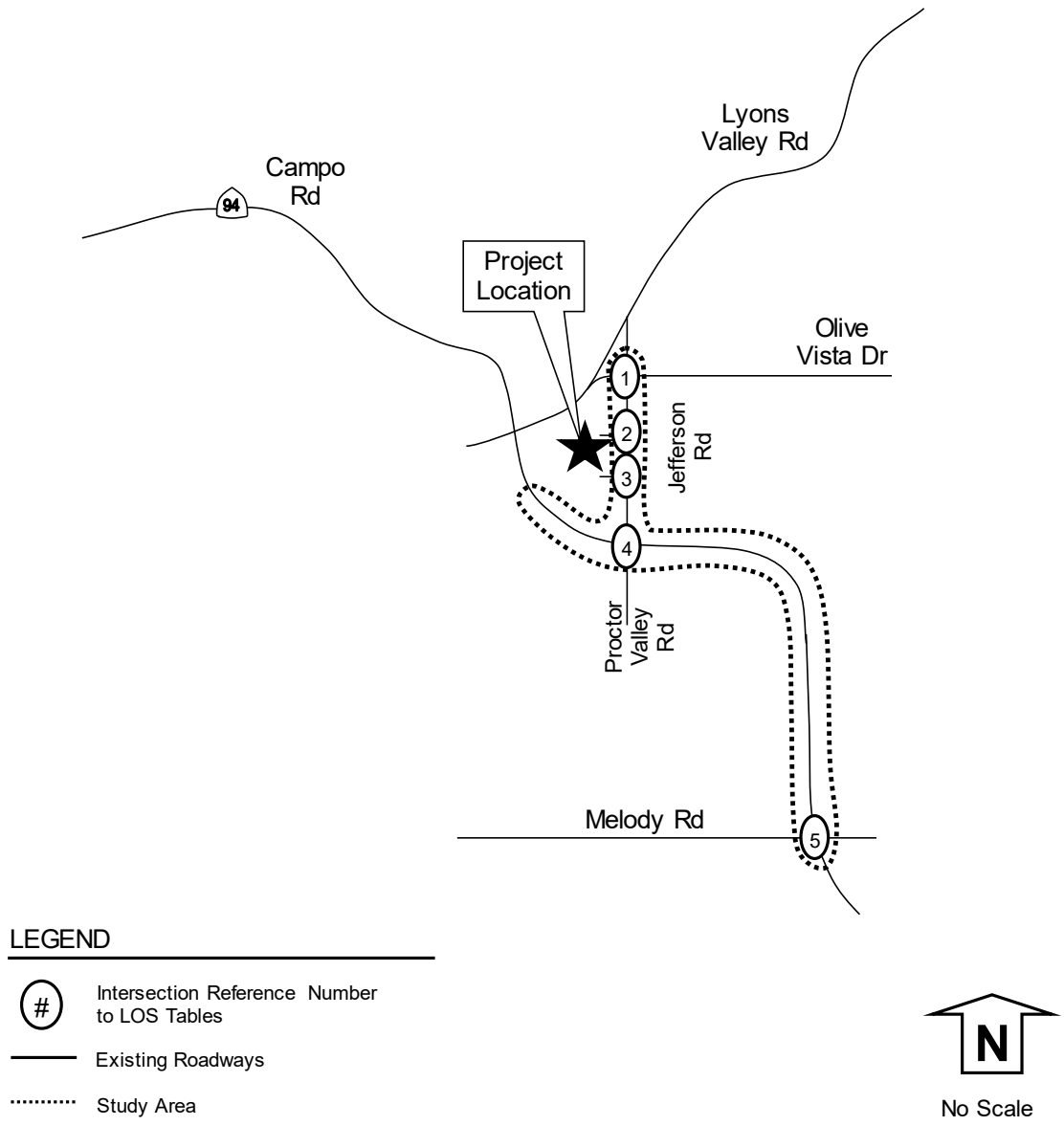
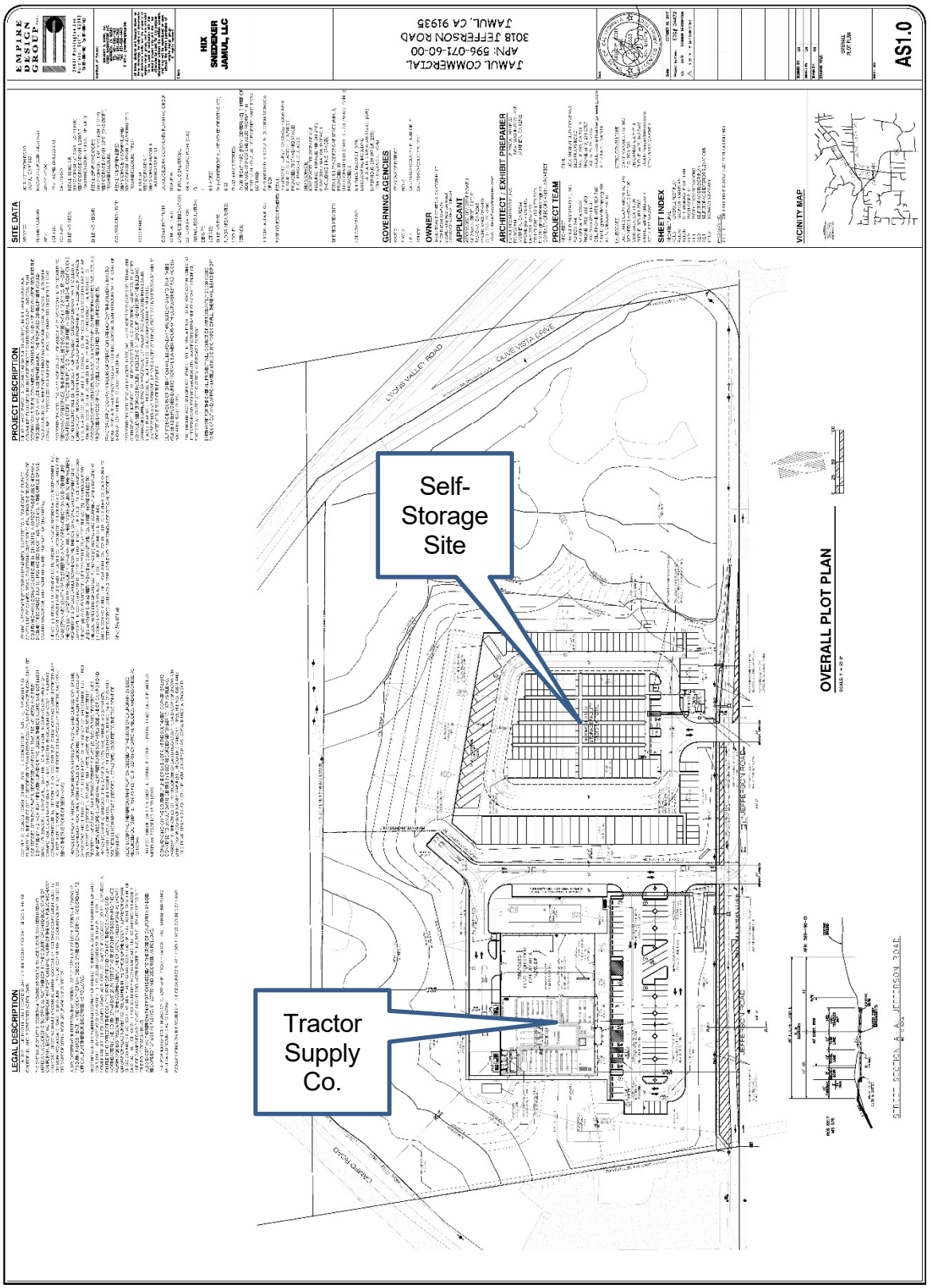


Figure 3: Site Plan



Source: EDG

1.4 Significance Criteria

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

1.4.1 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 it's 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.

1.4.2 SANDAG Congestion Management Program Requirements

The San Diego Association of Governments (SANDAG) has the following statement on their website regarding the Congestion Management Program (CMP) - details included in **Appendix A**:

> "In October 2009, the San Diego region elected to be exempt from the State CMP and, since this decision, SANDAG has been abiding by 23 CFR 450.320 to ensure the region's continued compliance with the federal congestion management process."

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 segments of Jefferson Road from Olive Vista Drive to SR-94 Campo Road and SR-94 Campo Road from Lyons Valley Road to Melody Road. The existing roadway conditions are shown in **Figure 4**.

Jefferson Road from Olive Vista Drive to SR-94 Campo Road is classified as a *2.2A Light Collector* on the County Mobility Element Network map (a copy of the County Mobility Element map is included in **Appendix B**). This segment of Jefferson Road is generally constructed as a two-lane roadway undivided roadway with one travel lane in each direction. This segment was analyzed as a two-lane roadway with reduced shoulder (2.2F). A posted speed limit was not observed on this segment.

SR-94 (Campo Road) from Lyons Valley Road to Melody Road is classified as a *4.1A Major Road* on the County Mobility Element Network map. This segment is generally constructed as a two-lane undivided roadway with one travel lane in each direction and intermittent turn lanes. The posted speed limit is 55 MPH. This segment was analyzed as a two-lane roadway with intermittent turn lanes (2.2C).

2.1.1 Existing Traffic Volumes and LOS Analyses

Existing peak hour intersection volumes were collected from 7-9 AM and 4-6 PM for the following intersections as noted below:

1) Jefferson Road/Olive Vista Drive (Wednesday 1/24/18)
2) Jefferson Road/SR-94 Campo Road (Wednesday 1/24/18)
3) SR-94 Campo Road/Melody Road (Wednesday 1/24/18)

Additionally, existing daily traffic volumes were collected on the following segments:

1) Jefferson Road from Olive Vista Drive to SR-94 Campo Road (Wednesday 1/24/18)
2) SR-94 Campo Road from Lyons Valley Road to Jefferson Road/Proctor Valley Road (Wednesday 1/24/18)
3) SR-94 Campo Road from Jefferson Road/Proctor Valley Road to Melody Road (Wednesday 1/24/18)

The existing AM, PM, and daily volumes are shown on **Figure 5**, with count data included in **Appendix C**. Intersection and segment LOS are shown in **Tables 2 and 3**, respectively.

Figure 4: Existing Roadway Conditions

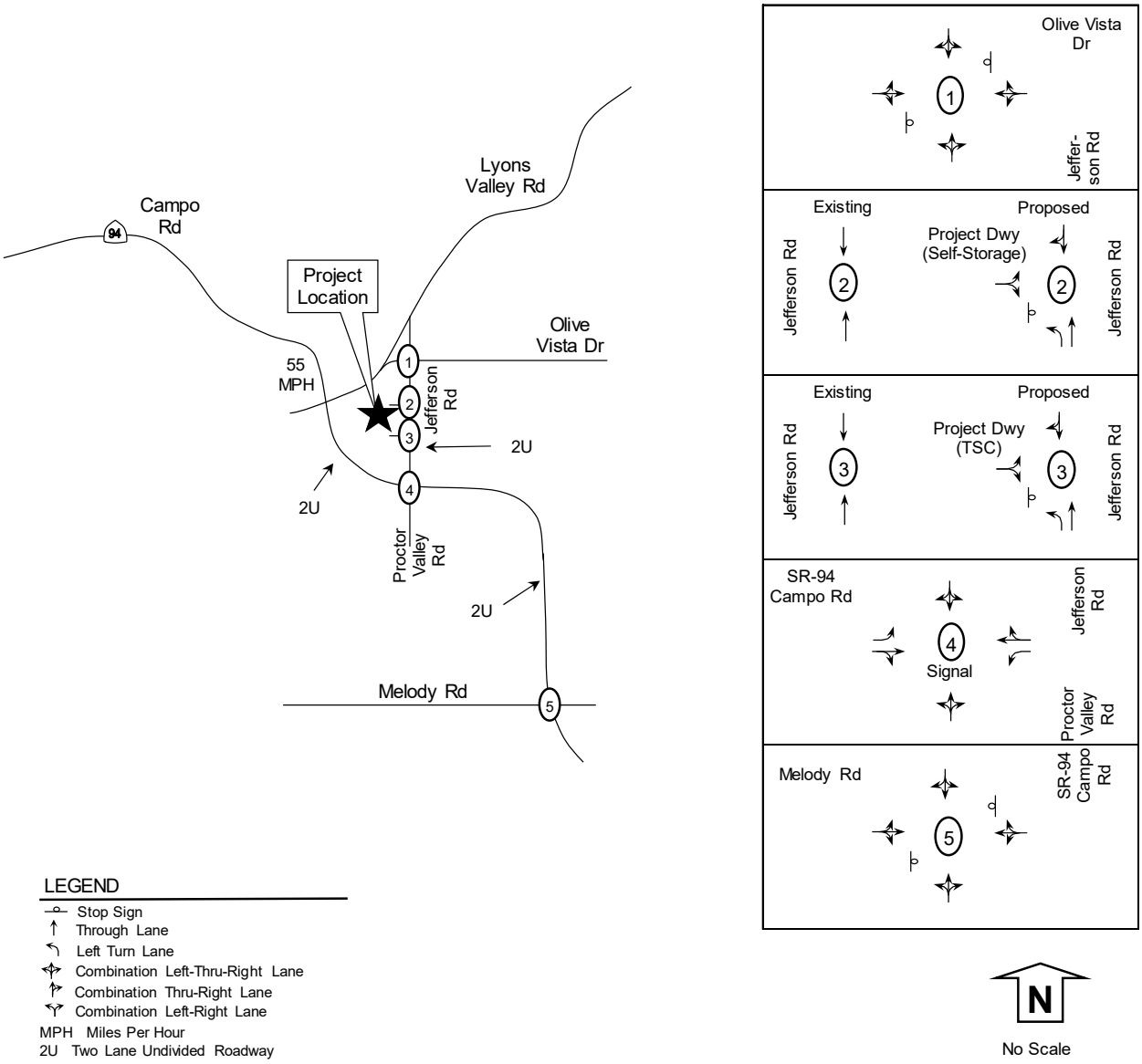


Figure 5: Existing Volumes

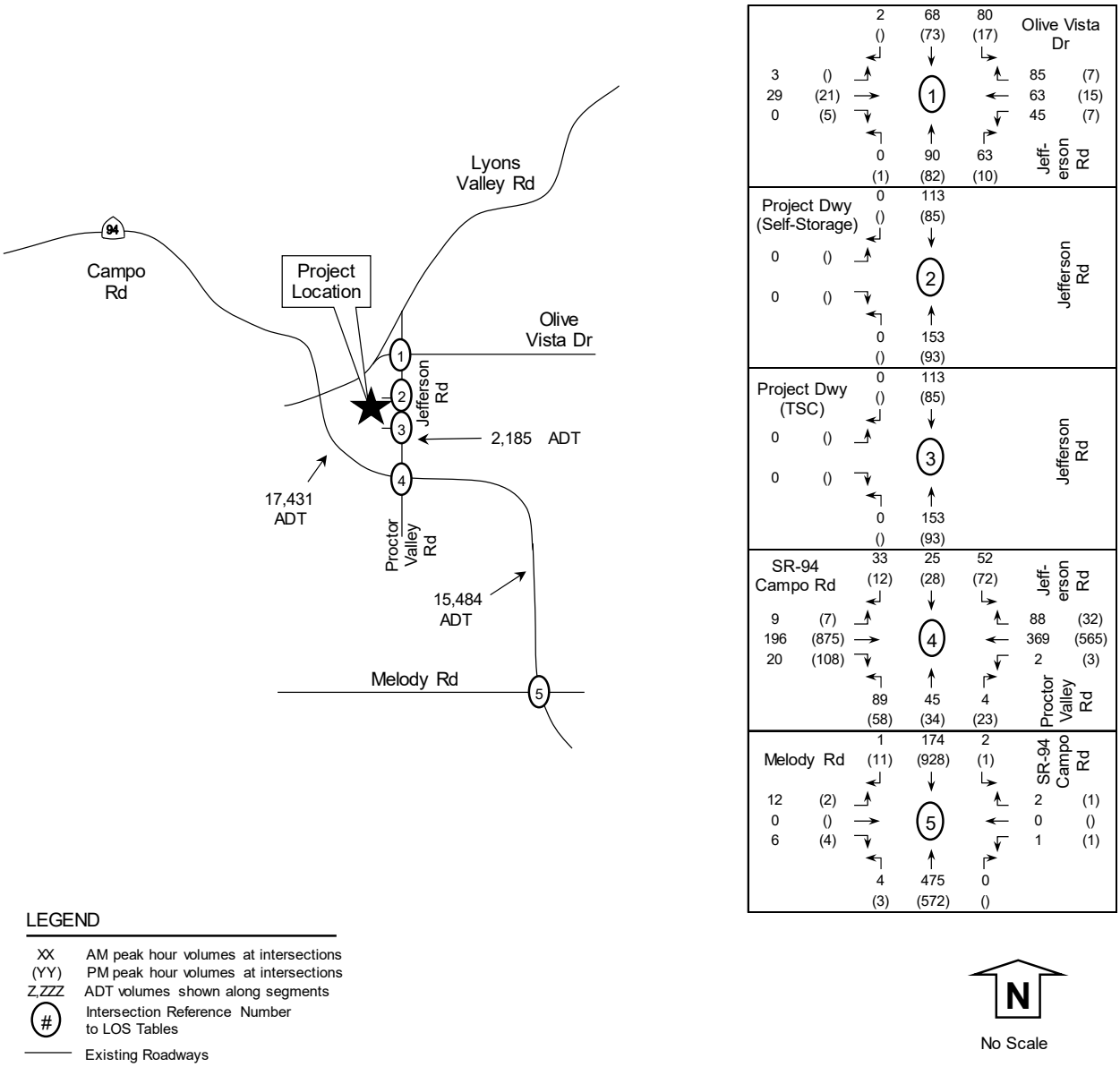


TABLE 2: EXISTING INTERSECTION LEVEL OF SERVICE

Intersection and (Analysis)[1]	Movement	Study Period	Existing Delay[2]	Existing LOS[3]
1) Jefferson Rd at Olive Vista Dr (U)	EB LTR	AM	15.5	C
	WB LTR	AM	18.4	C
	EB LTR	PM	10.3	B
	WB LTR	PM	10.1	B
2) Jefferson Rd at Self Storage Dwy (U)	EB LR	AM	DNE	NA
	NB L	AM	DNE	NA
	EB LR	PM	DNE	NA
	NB L	PM	DNE	NA
3) Jefferson Rd at TSC Dwy (U)	EB LR	AM	DNE	NA
	NB L	AM	DNE	NA
	EB LR	PM	DNE	NA
	NB L	PM	DNE	NA
4) Jefferson Rd at SR-94 Campo Rd (S)	All	AM	10.8	B
	All	PM	13.9	B
5) SR-94 Campo Rd at Melody Rd (U)	EB LTR	AM	13.8	B
	WB LTR	AM	12.8	B
	EB LTR	PM	28.0	D
	WB LTR	PM	30.4	D

Notes: 1) Intersection 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.

TABLE 3: EXISTING SEGMENT ADT VOLUMES AND LEVEL OF SERVICE

Segment	Mobility Element (as built)	LOS E Capacity	Existing Daily Volume	Existing V/C	Existing LOS
Jefferson Road					
SR-94 (Campo Rd) to Olive Vista Dr	Light Coll. 2.2A (2.2F)	9,700	2,185	0.225	A
State Route 94 (Campo Rd)					
Lyons Valley Rd to Jefferson Rd	Major 4.1A (2.2C)	19,000	17,431	0.917	E
Jefferson Rd to Melody Rd	Major 4.1A (2.2C)	19,000	15,484	0.815	E

Notes: Daily volume is a 24 hour volume. LOS: Level of Service. V/C: Volume to Capacity Ratio.
V/C: Volume to Capacity Ratio.

Under existing conditions, all study elements were calculated to operate at LOS D or better except for the:

1) Segment of SR-94 Campo Rd between Lyons Valley Road and Jefferson Rd (LOS E Daily), and
2) Segment of SR-94 Campo Rd between and Jefferson Rd and Melody Rd (LOS E Daily).

LOS calculations are included in **Appendix D**.

2.2 Existing Parking, Transit and On-site Circulation

The existing site is vacant with no improved parking and no improved on-site circulation.

The Metropolitan Transit System (MTS) shows Bus Route 894 along SR-94 Campo Road in the vicinity of the project (MTS map and schedules are included in **Appendix E**).

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 *2010 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 2010 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 10.0 (Trafficware Corporation). The HCM LOS for the range of delay by seconds for un-signalized and signalized intersections is described in **Table 4**.

TABLE 4: INTERSECTION LEVEL OF SERVICE DEFINITIONS (HCM 2010)

Level of Service	Un-Signalized (TWSC and AWSC) Control Delay (seconds/vehicle)	Signalized Control Delay (seconds/vehicle)
A	0-10	≤ 10
B	> 10-15	> 10-20
C	> 15-25	> 20-35
D	> 25-35	> 35-55
E	> 35-50	> 55-80
F	> 50	> 80

TWSC: Two Way Stop Control. AWSC: All Way Stop Control. Source: Highway Capacity Manual 2010 (exhibit 19-1 for two way stop control, exhibit 20-2 for all way stop control, and exhibit 18-4 for signalized intersections).

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)

Mobility Element Roads 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 Element Roads Classification				**LOS C**		
Residential Collector 2 lanes				<4,500		

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

3.2 Project Trip Generation

The project trip generation was calculated using the SANDAG *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, April 2002. The project trip generation was further divided into types of trips (i.e. pass-by, diverted, and primary trips) based on SANDAG's *Analysis of Trip Diversion*, revised November 1990. Pass-by trips are already the roadway adjacent to the project site (i.e. Jefferson Road) and will turn into the project, conduct business, then resume travel on Jefferson Road. Diverted trips are vehicles that are on the nearby SR-94 Campo Road that will divert to the project, conduct business, then return and resume travel on SR-94 Campo Road. Primary trips account for the remining trips that are specific to visiting the project site. The amount of traffic based on SANDAG's pass-by, diverted, and primary percentages applied to the project is as follows:

1) The Tractor Supply Company is calculated to attract pass-by traffic (already on Jefferson Road adjacent to the project site) in the amount of 113 ADT, 3 AM peak hour trips (2 inbound and 1 outbound), and 6 PM peak hour trips (3 inbound and 3 outbound). SANDAG does not have a pass-by trip reduction for storage land use, therefore, a reduction was not applied for the self-storage element.

2) The Tractor Supply Company is calculated to attract diverted traffic (already on SR-94 Campo Road) in the amount of 301 ADT, 9 AM peak hour trips (5 inbound and 4 outbound), and 6 PM peak hour trips (3 inbound and 3 outbound). SANDAG does not have a diverted trip reduction for storage land use, therefore, a diverted reduction was not

applied for the self-storage element.

3) The total project is calculated to generate primary traffic (new traffic) in the amount of 473 ADT, 19 AM peak hour trips (11 inbound and 8 outbound), and 68 PM peak hour trips (34 inbound and 34 outbound).

The project (18,800 sf retail, up to 600 self-storage units and up to 0.5 acers of outdoor RV/Boat parking) trip generation showing pass-by, diverted, and primary trips are shown in **Table 6.**

TABLE 6: PROJECT TRIP GENERATION

Proposed									AM				PM	
Land Use	Rate	Size & Units	ADT	Rate	Split		IN	OUT	Rate	Split	IN	OUT
Total Driveway Trips (Pass-by plus Diverted plus Primary)												
Specialty Retail	40 /KSF	18,800 SF	752	3%	0.6	0.4	14	9	9%	0.5 0.5	34	34
Storage	0.2 /Vault	600 Vaults	120	6%	0.5	0.5	4	4	9%	0.5 0.5	5	5
RV/Boat Storage	30 /Acre	0.50 Acre	15	6%	0.5	0.5	0	0	9%	0.5 0.5	1	1
			887				18	13			40	40
Pass-By Trips (Existing trips already on adjacent roadway) applied to TSC												
Specialty Retail SANDAG Pass-By Trips = ADT & AM 15%; PM 10%			**113**				**2**	**1**			**3**	**3**
Diverted Trips (Existing trips already on nearby study roadways) applied to TSC												
Specialty Retail SANDAG Diverted Trips = ADT & AM 40%; PM 10%			**301**				**5**	**4**			**3**	**3**
Primary Trips (NEW trips added to the study roadways)												
Specialty Retail SANDAG Diverted Trips = ADT & AM 45%; PM 80%			338				7	4			28	28
Storage	0.2 /Vault	600 Vaults	120	6%	0.5	0.5	4	4	9%	0.5 0.5	5	5
RV/Boat Storage	30 /Acre	0.50 Acre	15	6%	0.5	0.5	0	0	9%	0.5 0.5	1	1
		Primary Trip Totals:	**473**				**11**	**8**			**34**	**34**

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

SF - Square Feet; ADT-Average Daily Traffic; Split-percent inbound and outbound.

3.3 Project Trip Distribution and Assignment

There are three distinct distribution patterns for the pass-by, diverted, and primary trips.

The pass-by distribution as shown in **Figure 6** is specific to the adjacent segment of Jefferson Road. In other words, vehicles already on Jefferson Road will turn into the project site (hence a negative distribution shown at intersection #3), conduct business, and then resume travel on Jefferson Road in their original direction of travel. The assignment of the pass-by trips is shown in **Figure 7**.

The diverted distribution shown in **Figure 8** is specific to SR-94 and Jefferson Road. That is to say, vehicles near the project site will divert from SR-94 (hence a negative distribution shown at intersection #4), visit the project site, then resume original travel on SR-94. The assignment of the diverted trips is shown in **Figure 9**.

The primary project distribution was based on the commercial distribution applied to a the project known as Simpson Farms, which is located on the east side of Jefferson Road across from the project (distribution included in **Appendix F**). The primary distribution as shown in **Figure 10**. The assignment of the primary or new trips is shown in **Figure 11**.

The total project assignment that includes pass-by trips, diverted trips, and primary trips are shown in **Figure 12**.

Figure 6: Pass-By Distribution

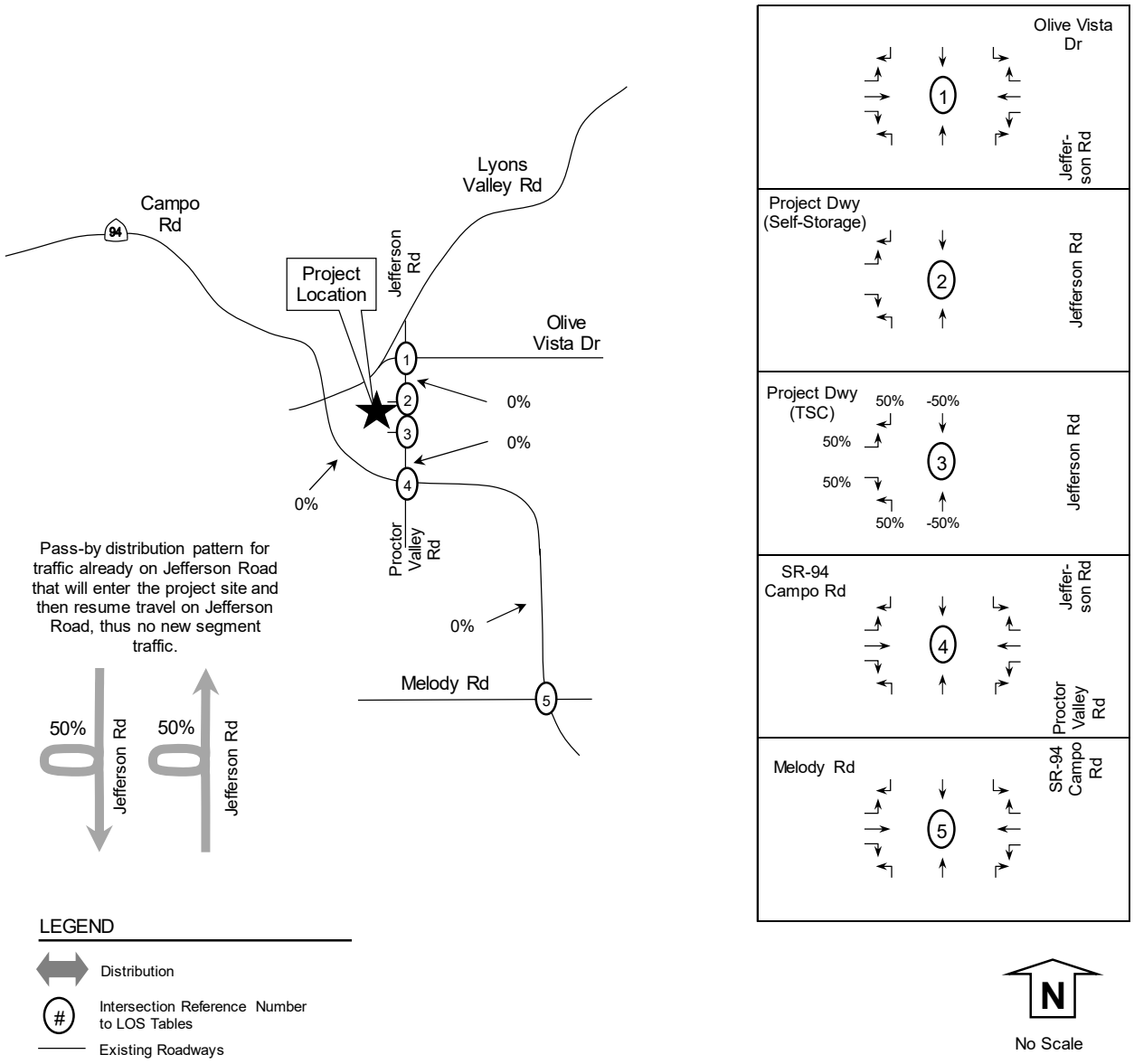


Figure 7: Pass-By Trip Assignment

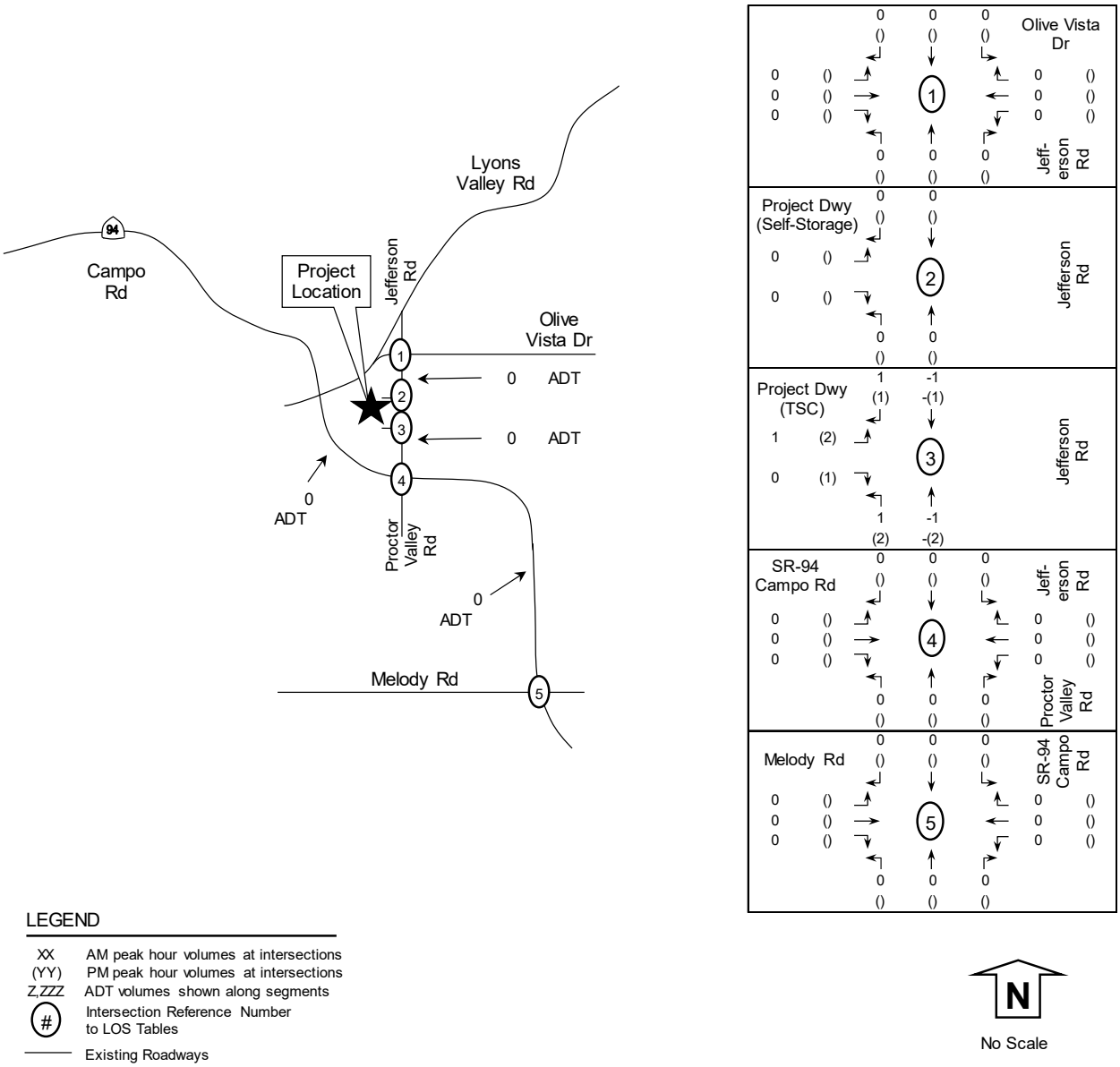


Figure 8: Diverted Distribution

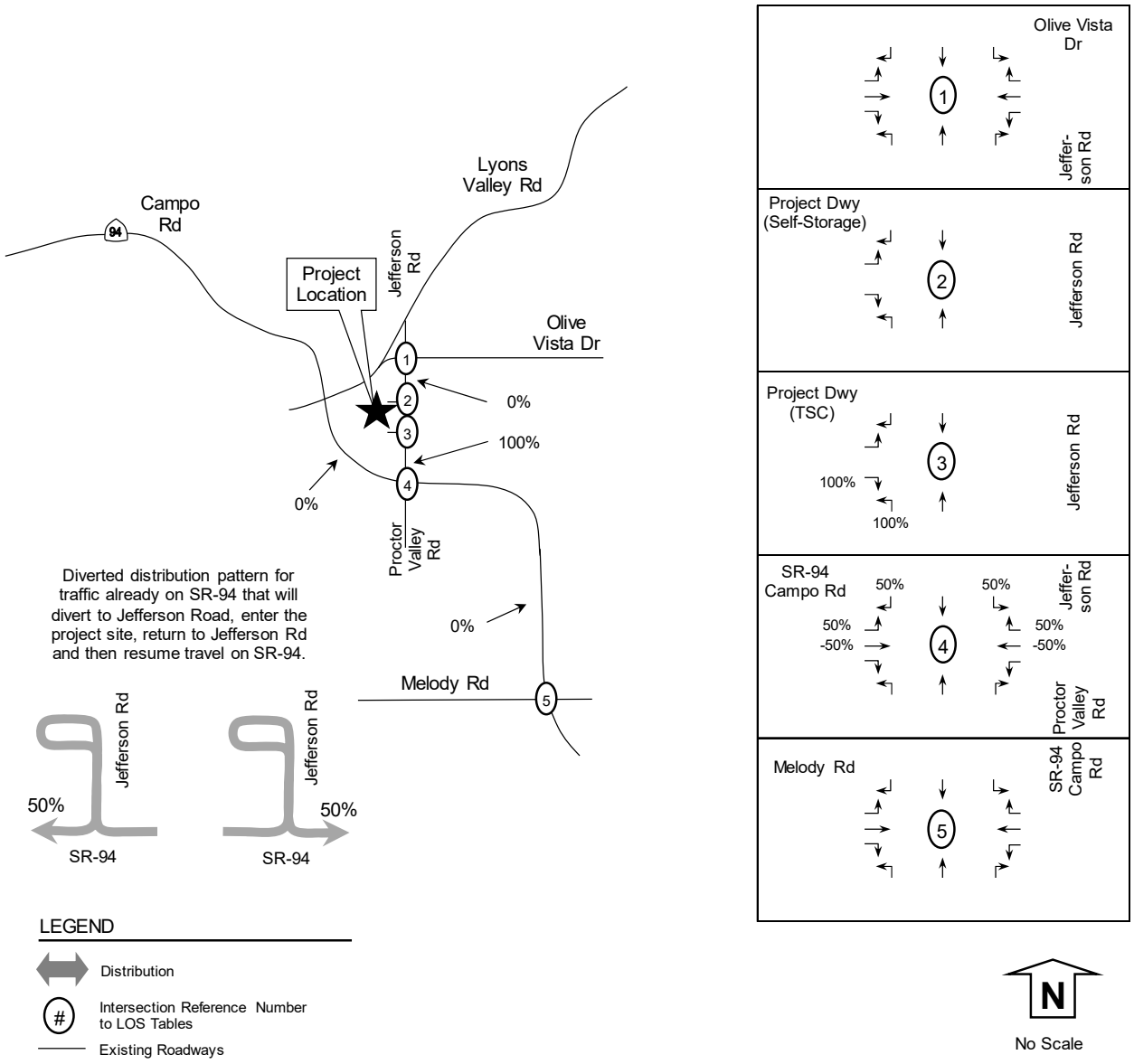


Figure 9: Diverted Trip Assignment

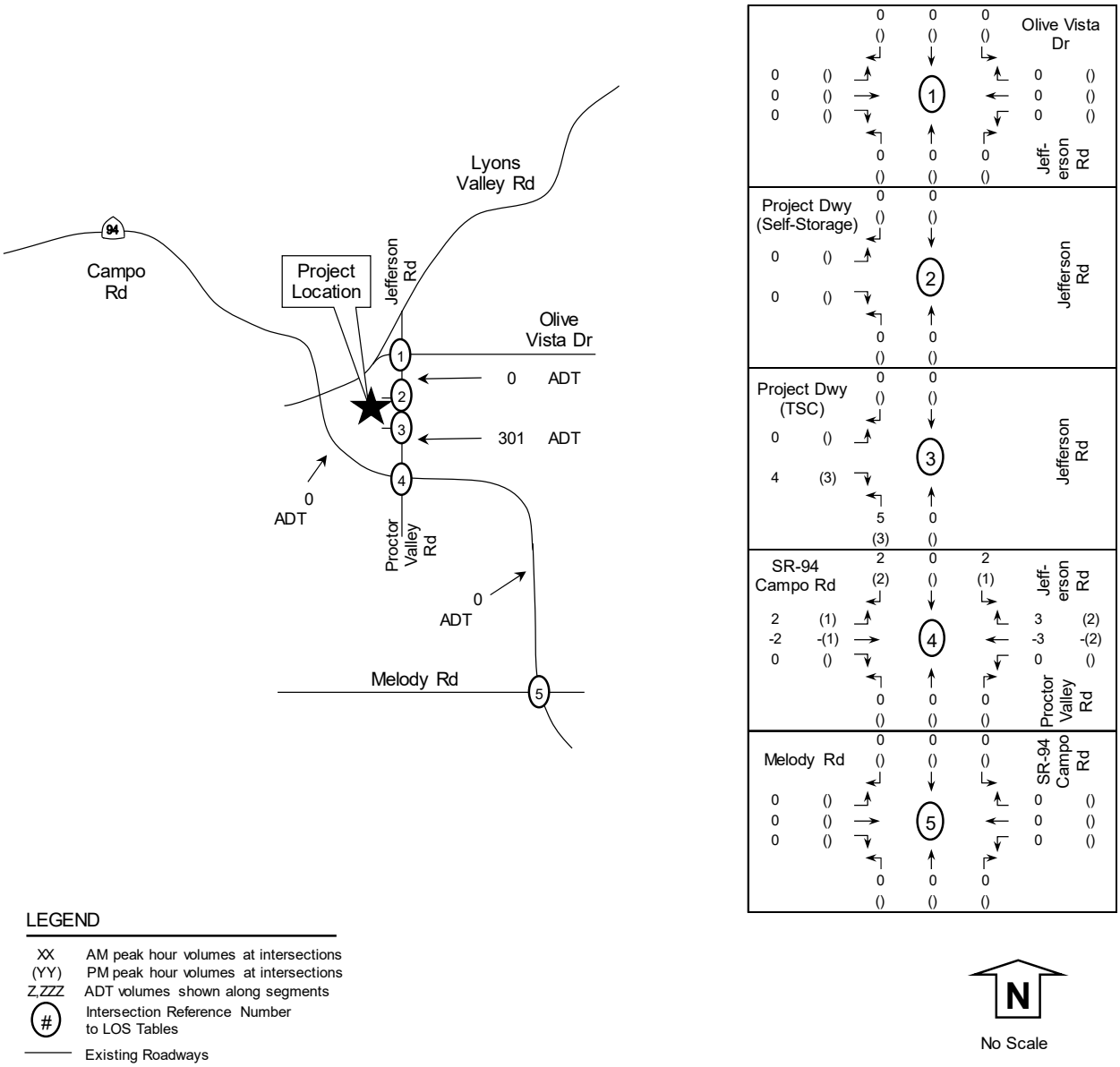


Figure 10: Primary Distribution

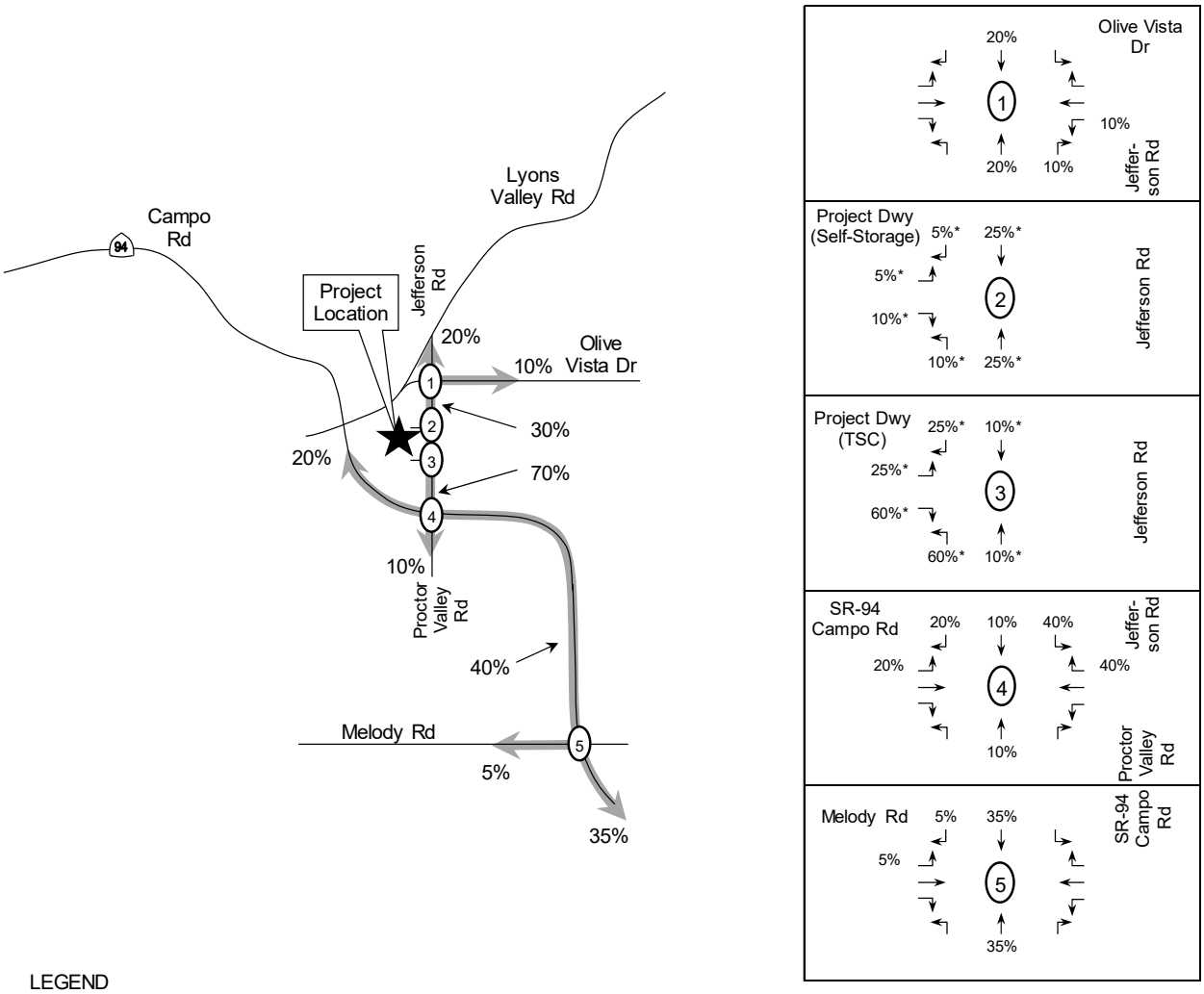


Figure 11: Primary Trip Assignment

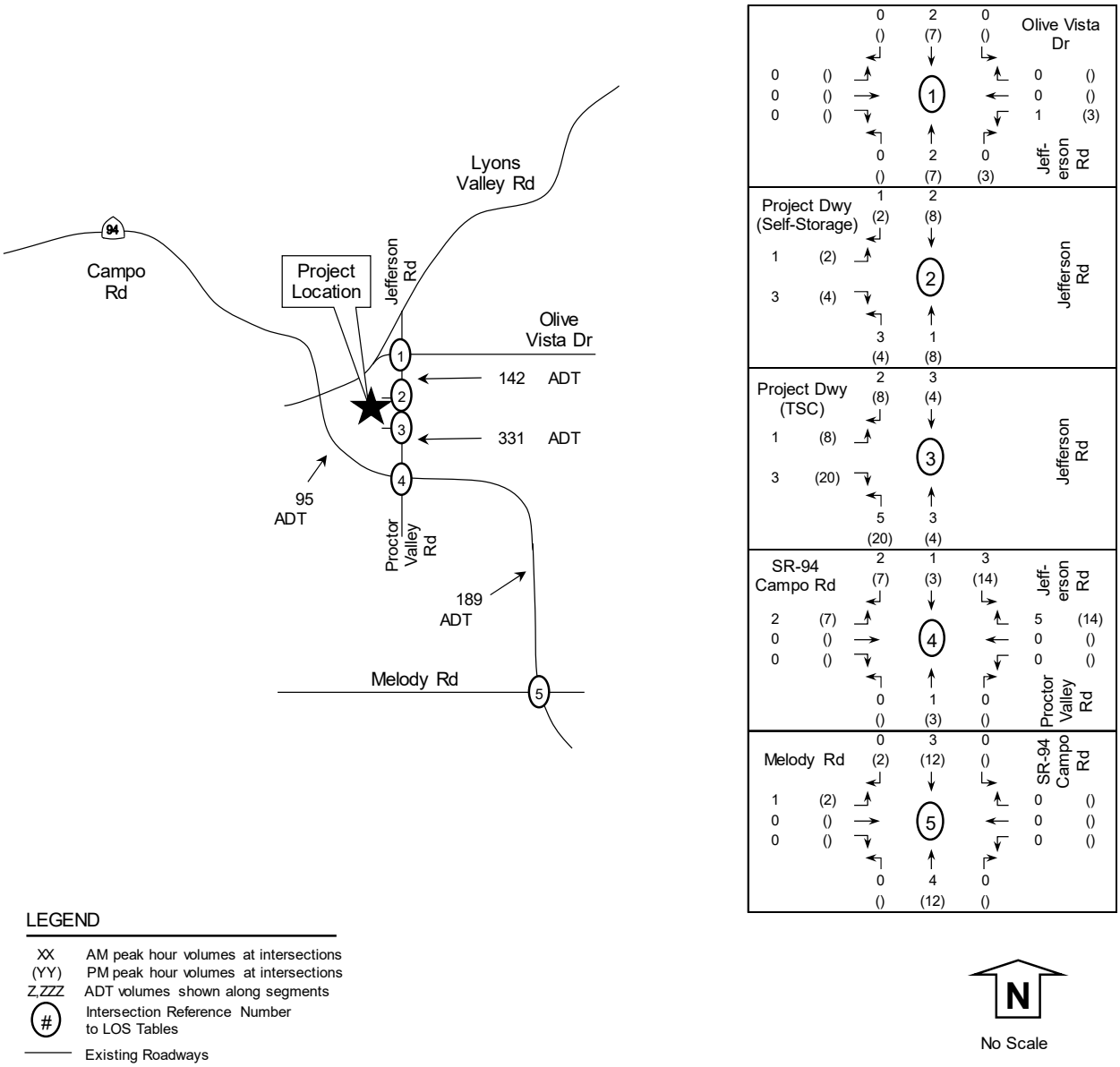
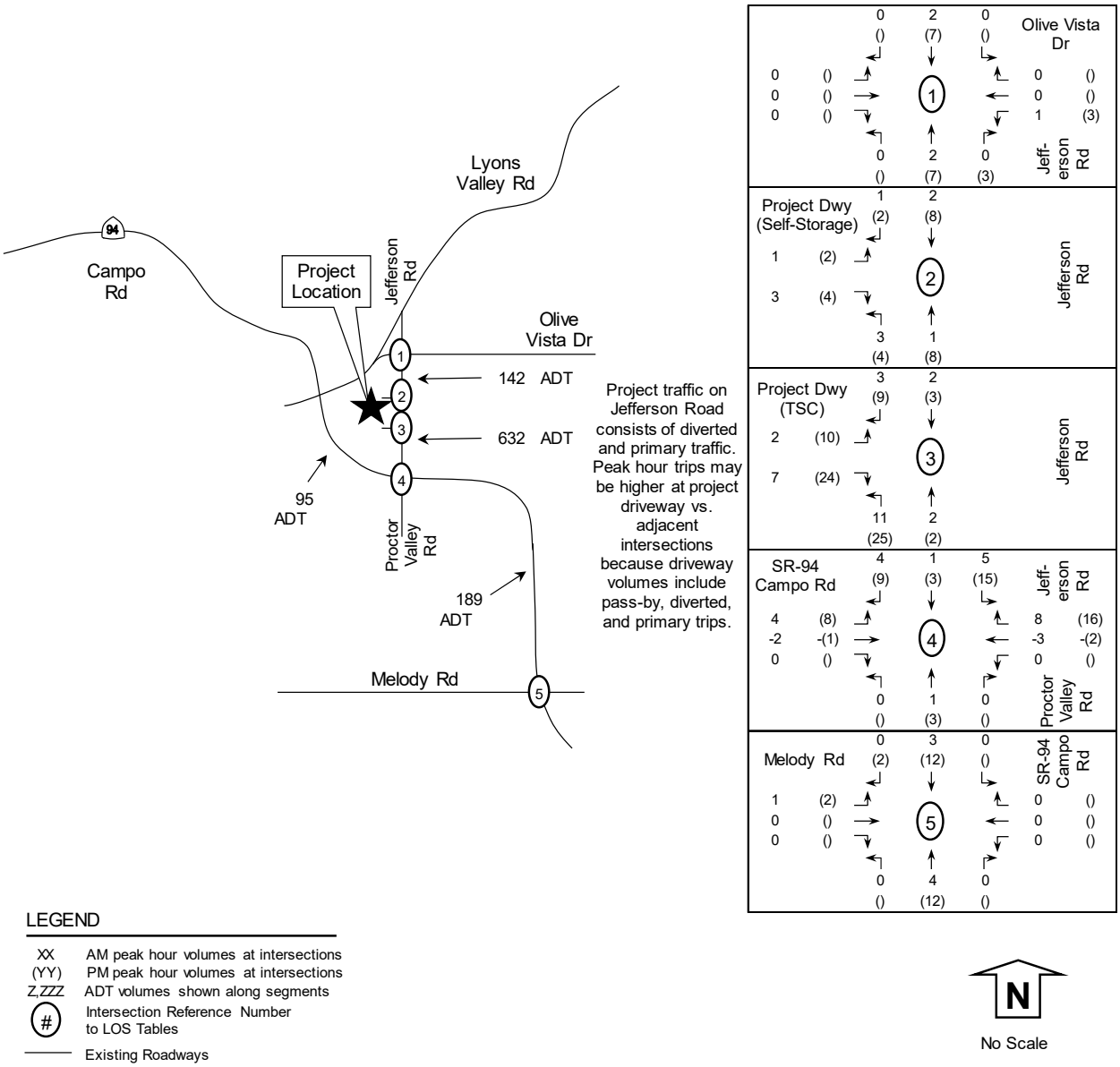


Figure 12: Total Project Trip Assignment



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 daily traffic conditions. The peak hour intersection volumes and daily traffic volumes for this scenario of existing + project are shown in **Figure 13**. The LOS calculated for the intersections and segments are shown in **Tables 7 and 8**, respectively.

TABLE 7: EXISTING + PROJECT INTERSECTION LEVEL OF SERVICE

Intersection and (Analysis)[1]	Movement	Study Period	Existing Delay[2]	Existing LOS[3]	Existing + Project Delay[2]	Existing + Project LOS[3]	Delta[4]	CM Vol[5]	Direct Impact?[6]
1) Jefferson Rd at	EB LTR	AM	15.5	C	15.6	C	0.1	0	No
Olive Vista Dr (U)	WB LTR	AM	18.4	C	18.7	C	0.3	1	No
	EB LTR	PM	10.3	B	10.4	B	0.1	0	No
	WB LTR	PM	10.1	B	10.3	B	0.2	3	No
2) Jefferson Rd at	EB LR	AM	DNE	NA	9.2	A	NA	4	No
Self Storage Dwy	NB L	AM	DNE	NA	0.1	A	NA	3	No
	EB LR	PM	DNE	NA	9.1	A	NA	6	No
	NB L	PM	DNE	NA	0.3	A	NA	4	No
3) Jefferson Rd at	EB LR	AM	DNE	NA	9.3	A	NA	9	No
TSC Dwy (U)	NB L	AM	DNE	NA	0.5	A	NA	11	No
	EB LR	PM	DNE	NA	9.3	A	NA	34	No
	NB L	PM	DNE	NA	1.6	A	NA	25	No
4) Jefferson Rd at	All	AM	10.8	B	11.0	B	0.2	0	No
SR-94 Campo Rd	All	PM	13.9	B	15.7	B	1.8	0	No
5) SR-94 Campo F	EB LTR	AM	13.8	B	14.0	B	0.2	1	No
at Melody Rd (U)	WB LTR	AM	12.8	B	12.9	B	0.1	0	No
	EB LTR	PM	28.0	D	34.8	D	6.8	2	No
	WB LTR	PM	30.4	D	31.3	D	0.9	0	No

Notes: 1) Intersection Analysis - (S) Signalized, (U) Unsignalized. 2) Delay - HCM Average Control Delay in seconds. 3) LOS: Level of Service. 4) Delta is the increase in delay from project. 5) Critical Movement Volume. 6) Direct Impact if project traffic exceeds threshold. DNE: Does not exist. NA: Not Applicable.

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

Segment	Mobility Element (as built)	LOS E Capacity	Existing Daily Volume	Existing V/C	Existing LOS	Project Daily Volume	Existing + Project Daily Volume	Existing + Project V/C	Existing + Project LOS	Change in V/C	Direct Impact?
Jefferson Road											
SR-94 (Campo Rd) to Olive Vista Dr	Light Coll. 2.2A (2.2F)	9,700	2,185	0.225	A	632	2,817	0.290	A	0.065	No
State Route 94 (Campo Rd)											
Lyons Valley Rd to Jefferson Rd	Major 4.1A (2.2C)	19,000	17,431	0.917	E	95	17,526	0.922	E	0.005	No
Jefferson Rd to Melody Rd	Major 4.1A (2.2C)	19,000	15,484	0.815	E	189	15,673	0.825	E	0.010	No

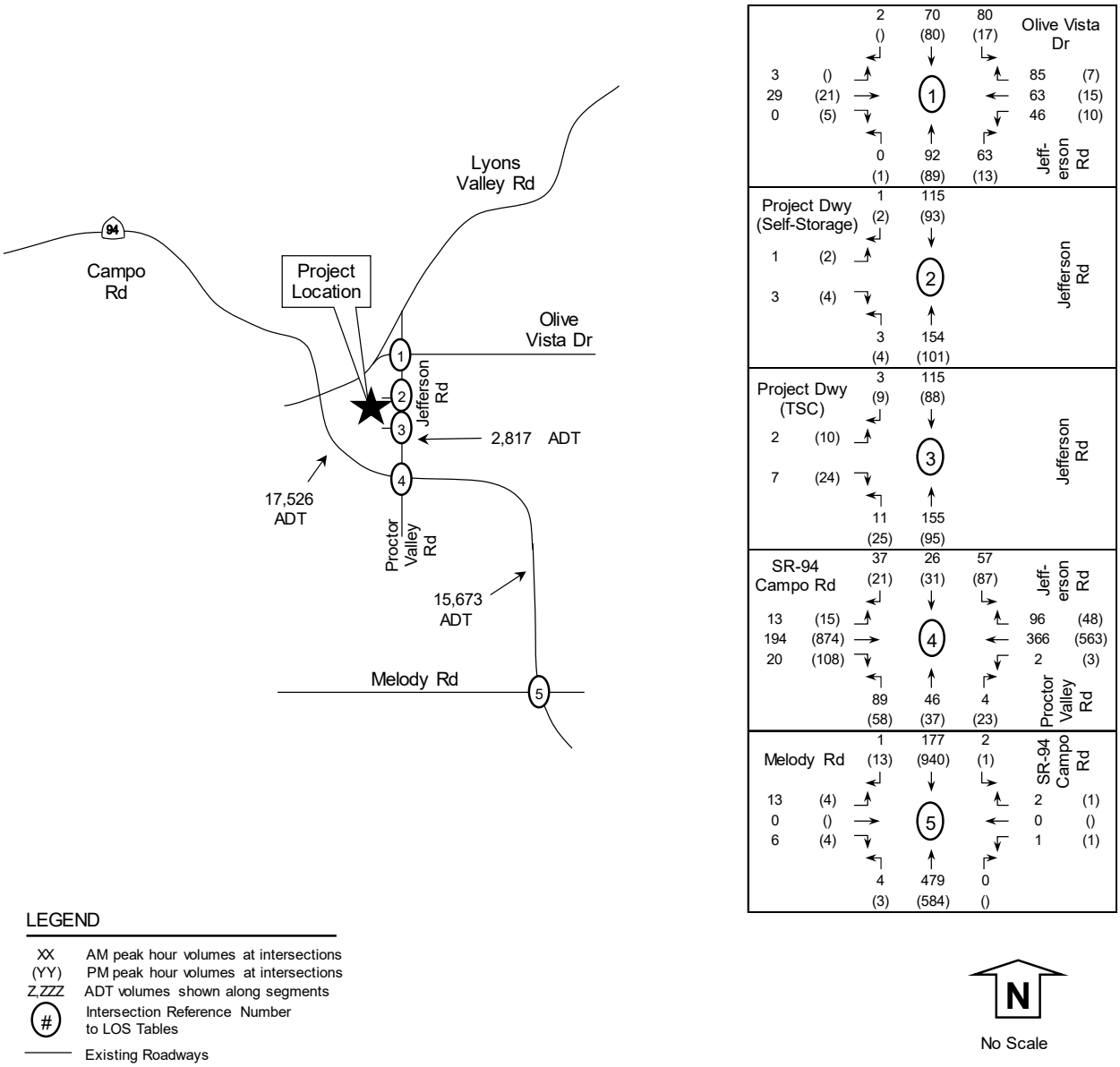
Notes: Daily volume is a 24 hour volume. LOS: Level of Service. V/C: Volume to Capacity Ratio.

Under existing + project conditions, all study elements were calculated to operate at LOS D or better except for the:

1) Segment of SR-94 Campo Rd between Lyons Valley Road and Jefferson Rd (LOS E Daily), and
2) Segment of SR-94 Campo Rd between and Jefferson Rd and Melody Rd (LOS E Daily).

There are no significant direct impacts because the addition of project traffic does not exceed the significance thresholds. LOS calculations are included in **Appendix G**.

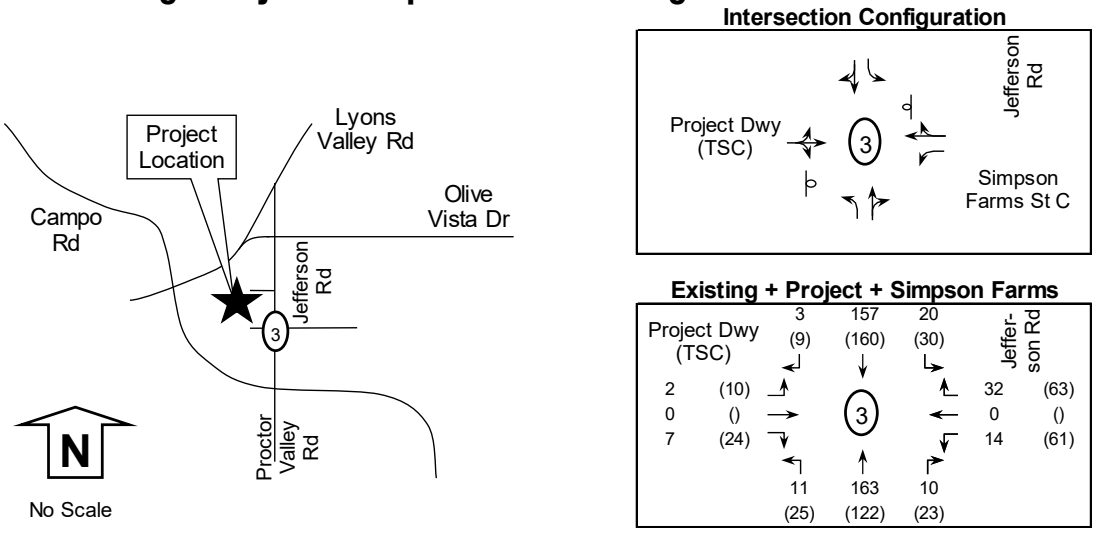
Figure 13: Existing + Project Volumes



3.4.1 Existing + Project + Adjacent Mixed-Use Conditions

A mixed-use project known as Simpson Farms is proposed on the east side of Jefferson Road and will share a common intersection known as Jefferson Road/TSC Entrance/Simpson Farms Street C. This unsignalized intersection was analyzed using existing + project + Simpson Farms' volumes. The anticipated intersection configuration and volumes are shown in **Figure 14**.

Figure 14: Existing + Project + Simpson Farms' Configuration and Volumes



The unsignalized intersection (stop control on the minor legs) is calculated to operate at LOS B or better with the addition of project and Simpson Farm's traffic as shown in **Table 9** (calculations are included in **Appendix H**).

TABLE 9: EXISTING + PROJECT + SIMPSON FARMS INTERSECTION LEVEL OF SERVICE

Intersection and	Movement	Study	Existing		Existing + Project + Simpson Farms				
(Analysis)[1]		Period	Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delta[4]	CM Vol[5]	Direct Impact?[6]
3) Jefferson Rd at	EB LTR	AM	DNE	NA	9.9	A	NA	9	No
TSC Dwy (U)	WB LTR	AM	DNE	NA	10.2	B	NA	0	No
	EB LTR	PM	DNE	NA	10.6	B	NA	34	No
	WB LTR	PM	DNE	NA	11.5	B	NA	0	No

Notes: 1) Intersection Analysis - (S) Signalized, (U) Unsignalized. 2) Delay - HCM Average Control Delay in seconds. 3) LOS: Level of Service. 4) Delta is the increase in delay from project. 5) Critical Movement Volume. 6) Direct Impact if project traffic exceeds threshold. DNE: Does not exist. NA: Not Applicable.

3.5 Ramps

There are no near-by interstate on-ramps; therefore, an on-ramp meter analysis is not provided.

3.6 Congestion Management Program

The San Diego Association of Governments (SANDAG) has the following statement on their website regarding the Congestion Management Program (CMP) - details included in Appendix A:

> "In October 2009, the San Diego region elected to be exempt from the State CMP and, since this decision, SANDAG has been abiding by 23 CFR 450.320 to ensure the region's continued compliance with the federal congestion management process."

3.7 Hazards Due To An Existing Transportation Design Feature

Project has frontage on Jefferson Road. Any required improvements will be constructed to maintain existing conditions as it relates to existing design features.

3.8 Hazards To Pedestrians or Bicyclists

Project has frontage on Jefferson Road. 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 (MTS) shows Bus Route 894 along SR-94 Campo Road in the vicinity of the project (MTS map and schedules are included in Appendix E).

3.10 Impact Summary Table

The project is calculated to have no direct impacts and the potential for cumulative impacts as summarized in **Table 10**.

TABLE 10: IMPACT SUMMARY TABLE

Roadway Facility	Direct Impacts	Cumulative Impacts
Intersections	0	Potential
Segments	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 general plan. 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 Measures

The project is calculated to have no direct impacts; however, the project may contribute to potential cumulative impacts.

5.1 Cumulative Impacts

Because the proposed project is located within the Jamul/Dulzura TIF area, the project applicant proposes to 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 473 primary daily trips. 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.

5.2 Summary of Impacts, Mitigation, and Project Improvements

The project is calculated to have no direct impacts and potential cumulative impacts. A summary of project impacts and proposed mitigation is shown in **Table 11**.

TABLE 11: SUMMARY OF PROJECT IMPACTS AND MITIGATION

Roadway Facility	Direct Impacts (Proposed Mitigation)	Cumulative Impacts (Proposed Mitigation)
Intersections	0 (no mitigation required)	Potential (TIF)
Segments	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, 2017. Synchro 10.0 computer software. Web.

Transportation Research Board National Research Council Washington, D.C. 2010. *Highway Capacity Manual 2010*. 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

Applicant/Owner, Hix Snedeker Jamul, LLC

Counts Unlimited, Kris Campos

Rick Engineering, Karen Van Ert

Appendix A

Congestion Management Program SANDAG Position

BOARD OF DIRECTORS
OCTOBER 23, 2009

AGENDA ITEM NO. 09-10-6
ACTION REQUESTED – INFORMATION

CONGESTION MANAGEMENT PROGRAM PROCESS

File Number 3100400

Introduction

SANDAG, as the Congestion Management Agency (CMA), is required by state law to prepare and regularly update a Congestion Management Program (CMP) for the San Diego region. The last CMP update was adopted by SANDAG in November 2008. On May 8, 2009, the Board of Directors directed staff to work with local jurisdictions that wished to prepare resolutions electing to opt out of the state CMP. A majority of the jurisdictions representing a majority of the population have adopted resolutions electing to be exempt from the state CMP. This informational report also was presented at the October 16, 2009, Transportation Committee meeting.

Discussion

The purposes of the CMP are to monitor the performance of the transportation system, develop programs to address near-term and long-term congestion, and better integrate transportation and land use planning. SANDAG staff evaluated options for future direction of the CMP and discussed these options at multiple meetings of the Cities/County Transportation Advisory Committee and the Regional Planning Technical Working Group. One option was to streamline the SANDAG CMP process and the other was to opt out of the state CMP process. As previously stated, at its May 8, 2009, meeting, the Board of Directors discussed these options and voted to direct staff to work with local jurisdictions that wished to prepare resolutions electing to opt out of the state CMP.

Assembly Bill (AB) 2419, passed in 1996, allows congestion management agencies to "opt out" of the state CMP process. Section 65088.3 of the California Government Code states *"This chapter does not apply in a county in which a majority of local governments, collectively comprised of the city councils and the county board of supervisors, which in total also represent a majority of the population in the county, each adopt resolutions electing to be exempt from the congestion management program."* Over the past few months 14 out of the 19 local jurisdictions, representing a majority of the population in San Diego County have adopted resolutions electing to be exempt from the state CMP process. The local jurisdictions that adopted resolutions include: Carlsbad, Chula Vista, El Cajon, Escondido, Imperial Beach, La Mesa, Lemon Grove, National City, Oceanside, Poway, City of San Diego, County of San Diego, San Marcos, and Santee.

SANDAG will continue to meet the federal congestion management provisions through existing SANDAG planning and performance monitoring activities, such as the Regional Transportation Plan (RTP) and other multimodal performance monitoring efforts. Federal congestion management provisions are more flexible and utilize the RTP as the primary tool to provide solutions for congestion. The RTP includes identification and evaluation of anticipated performance and expected benefits of appropriate congestion management strategies (demand management, operational improvements, transit improvements, systems management improvements, etc.).

Additionally, appropriate analysis of multimodal strategies and alternatives for corridors is required when an increase in single occupancy vehicle capacity is proposed.

Next Steps

SANDAG staff will notify the California Transportation Commission and State Controller of the region's decision to elect to be exempt from the state CMP.

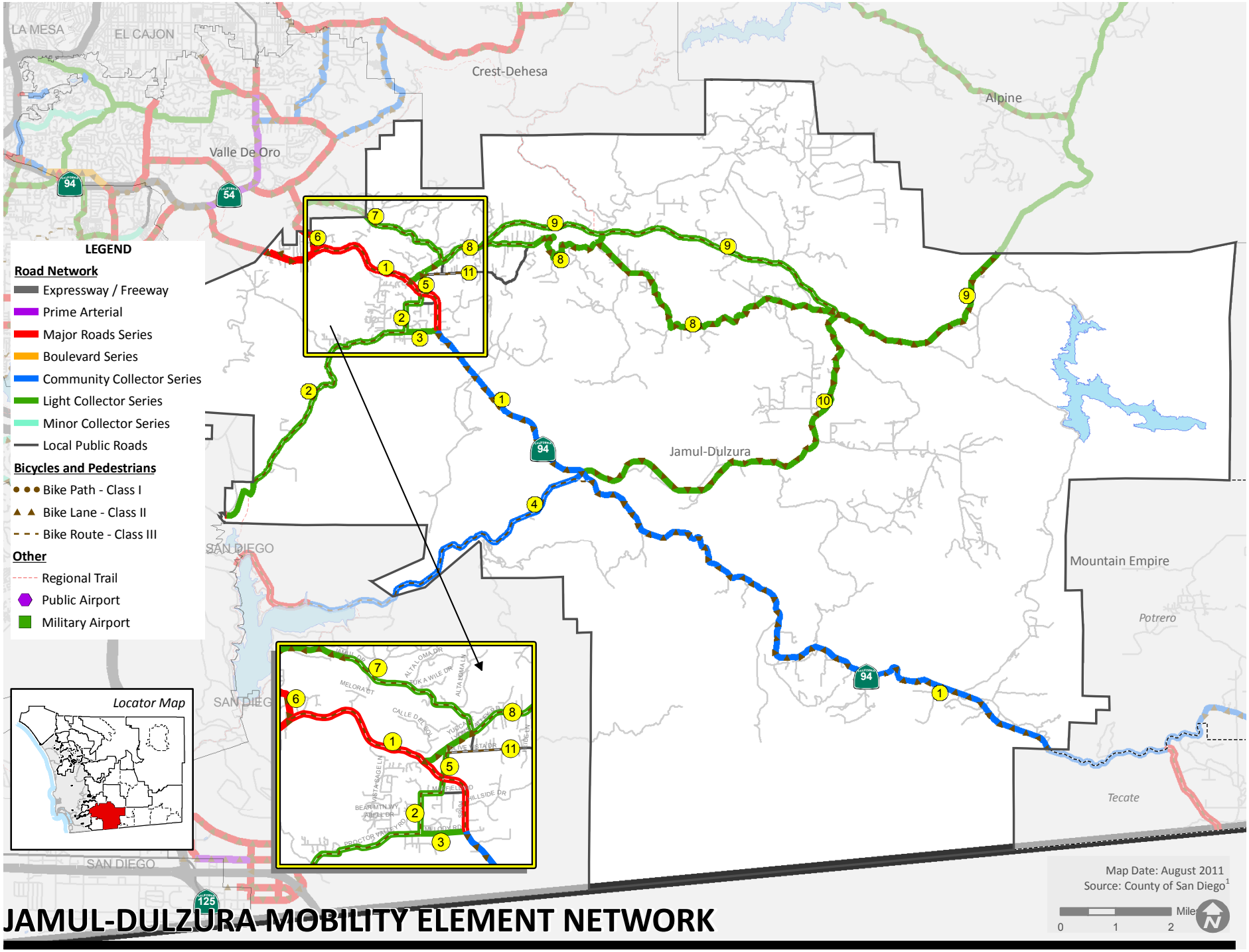
GARY L. GALLEGOS
Executive Director

Key Staff Contact: Heather Werdick, (619) 699-6967, hwe@sandag.org

Funds are budgeted in Work Element #3100400

Appendix B

County of San Diego Mobility Element Excerpts



JAMUL-DULZURA MOBILITY ELEMENT NETWORK

Mobility Element Network—Jamul/Dulzura Subregion Matrix			
ID[a]	Road Segment	Designation/Improvement #.#X = [# of lanes].[roadway classification][improvement]	Special Circumstances
1	State Route 94 Segment: Valle de Oro CPA boundary to Mountain Empire Subregion boundary	4.1A Major Road Raised Median—Valle de Oro CPA boundary to Melody Road 2.1D Community Collector Improvement Options [Passing Lanes, Curve Corrections, and Turn Pockets]—Melody Road to Tecate Sub-Group area boundary	Caltrans Facilities Programming Segment: Valle de Oro CPA boundary to Melody Road Improvements to four lanes are included in the Unconstrained Revenue Scenario of the 2030 RTP
2	Proctor Valley Road (SA 1160.1) Segment: Chula Vista city limits to SR-94	2.2E Light Collector	None
3	Melody Road Segment: Proctor Valley Road to SR-94	2.2E Light Collector	None
4	Otay Lakes Road (SA 1396) Segment: Otay Subregion boundary to SR-94	2.1D Community Collector Improvement Options [Passing Lane]	Recommended Improvement Realign intersection with Honey Springs Road to form a four-way intersection at SR-94
5	Jefferson Road (SC 391) Segment: Lyons Valley Road to SR-94	2.2A Light Collector Raised Median	None
6	Steele Canyon Road (SC 2050) Segment: Valle de Oro CPA boundary to SR-94	4.1B Major Road Intermittent Turn Lanes	None
7	Jamul Drive (SC2055) Segment: Valle de Oro CPA boundary to Olive Vista Drive	2.2C Light Collector Intermittent Turn Lanes—Valle de Oro CPA boundary to Lyons Valley Road Local Public Road Lyons Valley Road to Olive Vista Drive	None

Mobility Element Network—Jamul/Dulzura Subregion Matrix			
ID[a]	Road Segment	Designation/Improvement #.#X = [# of lanes].[roadway classification][improvement]	Special Circumstances
8	Lyons Valley Road (SA390.1) Segment: SR-94 to Alpine CPA boundary	2.2B Light Collector Continuous Turn Lane—SR-94 to Skyline Truck Trail 2.2E Light Collector Skyline Truck Trail to Honey Springs Road 2.2F Light Collector Reduced Shoulder—Honey Springs Road to Alpine CPA boundary	Accepted at LOS E Segment: Campo Road to Skyline Truck Trail Improvement Option Segment: Honey Springs Road to Alpine CPA boundary—Reduce shoulder width to six feet for use as a bike lane (requires parking prohibition)
9	Skyline Truck Trail (SA390) Segment: Lyons Valley Road to Honey Springs Road	2.2C Light Collector Intermittent Turn Lanes	None
10	Honey Springs Road (SA400) Segment: SR-94 to Skyline Truck Trail	2.2E Light Collector	None
11	Olive Vista Drive Segment: Jefferson Road to Lyons Valley Road	Local Public Road	None

a. ID = Roadway segment on Figure M-A-8

Appendix C

Count Data

PO Box 1178
Corona, CA 92880
951-268-6268

Location: County of San Diego
N/S: Jefferson Road
E/W: Olive Vista Drive

Date: 1/24/18
Day: WEDNESDAY
Project # 143-18043

TURNING MOVEMENT COUNT

Count Period: **7:00 AM to 9:00 AM**
Peak Hour: **7:30 AM to 8:30 AM**

Vehicle Counts

	Jefferson Road Northbound			Jefferson Road Southbound			Olive Vista Drive Eastbound			Olive Vista Drive Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	7	4	6	16	0	0	5	0	6	7	7	58
7:15 AM	0	17	3	2	10	0	0	3	0	4	3	6	48
7:30 AM	0	9	23	31	8	0	0	18	0	12	18	16	135
7:45 AM	0	9	32	39	15	0	0	7	0	20	28	39	189
8:00 AM	0	27	6	3	17	0	1	2	0	8	9	14	87
8:15 AM	0	45	2	7	28	2	2	2	0	5	8	16	117
8:30 AM	0	15	0	5	30	0	0	3	1	5	9	2	70
8:45 AM	0	11	0	3	12	1	0	4	0	2	7	3	43
TOTAL VOLUMES:	0	140	70	96	136	3	3	44	1	62	89	103	747

AM Peak Hr Begins at: 730 AM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	90	63	80	68	2	3	29	0	45	63	85	528

PEAK HR FACTOR:	0.814	0.694	0.444	0.555	0.698

Bicycle Counts

	Jefferson Road Northbound			Jefferson Road Southbound			Olive Vista Drive Eastbound			Olive Vista Drive Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	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	0
7:30 AM	0	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	0
8:00 AM	0	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	0
8:30 AM	0	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	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian Counts

	Jefferson Road North Leg	Jefferson Road South Leg	Olive Vista Drive East Leg	Olive Vista Drive West Leg	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	1	1	0	2
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	1	1	0	2

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	0	1	1	0	2

PO Box 1178
Corona, CA 92880
951-268-6268

Location: County of San Diego
N/S: Jefferson Road
E/W: Olive Vista Drive

Date: 1/24/18
Day: WEDNESDAY
Project # 143-18043

TURNING MOVEMENT COUNT

Count Period: **4:00 PM to 6:00 PM**
Peak Hour: **4:00 PM to 5:00 PM**

Vehicle Counts

	Jefferson Road Northbound			Jefferson Road Southbound			Olive Vista Drive Eastbound			Olive Vista Drive Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	0	22	1	5	15	0	0	5	2	1	4	3	58
4:15 PM	0	20	5	4	23	0	0	4	2	1	5	1	65
4:30 PM	1	20	1	3	22	0	0	5	1	0	2	1	56
4:45 PM	0	20	3	5	13	0	0	7	0	5	4	2	59
5:00 PM	0	9	4	3	19	0	0	8	1	0	2	2	48
5:15 PM	0	14	0	4	26	0	0	3	2	1	1	4	55
5:30 PM	0	26	3	2	14	0	0	7	0	5	1	0	58
5:45 PM	0	17	5	3	18	0	0	3	0	3	2	3	54
TOTAL VOLUMES:	1	148	22	29	150	0	0	42	8	16	21	16	453

PM Peak Hr Begins at: 400 PM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	1	82	10	17	73	0	0	21	5	7	15	7	238

PEAK HR FACTOR:	0.930	0.833	0.929	0.659	0.915

Bicycle Counts

	Jefferson Road Northbound			Jefferson Road Southbound			Olive Vista Drive Eastbound			Olive Vista Drive Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	0	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	0
4:30 PM	0	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	0
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
5:15 PM	0	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	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	1	0	0	1

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian Counts

	Jefferson Road North Leg	Jefferson Road South Leg	Olive Vista Drive East Leg	Olive Vista Drive West Leg	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	0	0	0	0	0

PO Box 1178
Corona, CA 92880
951-268-6268

Location: County of San Diego
N/S: Jefferson Rd/Proctor
E/W: Campo Road

Date: 1/24/18
Day: WEDNESDAY
Project # 143-18043

TURNING MOVEMENT COUNT

Count Period: **7:00 AM to 9:00 AM**
Peak Hour: **7:30 AM to 8:30 AM**

Vehicle Counts

	Jefferson Rd/Proctor Valley Northbound			Jefferson Rd/Proctor Valley Southbound			Campo Road Eastbound			Campo Road Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	26	3	0	7	5	7	1	31	1	1	145	7	234
7:15 AM	20	4	1	5	3	4	2	52	12	0	108	14	225
7:30 AM	22	7	0	12	9	4	1	45	4	1	103	20	228
7:45 AM	26	12	1	14	3	10	3	41	4	0	95	26	235
8:00 AM	23	12	1	9	5	12	4	35	4	0	89	20	214
8:15 AM	18	14	2	17	8	7	1	75	8	1	82	22	255
8:30 AM	20	5	0	18	5	7	2	54	6	1	100	6	224
8:45 AM	19	1	0	8	4	3	2	28	8	0	90	6	169
TOTAL VOLUMES:	174	58	5	90	42	54	16	361	47	4	812	121	1784

AM Peak Hr Begins at: 730 AM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	89	45	4	52	25	33	9	196	20	2	369	88	932

PEAK HR FACTOR:	0.885	0.859	0.670	0.925	0.914

Bicycle Counts

	Jefferson Rd/Proctor Valley Northbound			Jefferson Rd/Proctor Valley Southbound			Campo Road Eastbound			Campo Road Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	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	0
7:30 AM	0	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	0
8:00 AM	0	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	0
8:30 AM	0	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	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian Counts

	Jefferson Rd/Proctor Valley North Leg	Jefferson Rd/Proctor Valley South Leg	Campo Road East Leg	Campo Road West Leg	TOTAL
7:00 AM	1	2	1	3	7
7:15 AM	1	2	0	1	4
7:30 AM	1	2	0	0	3
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	3	0	0	3
8:30 AM	1	0	0	1	2
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	4	9	1	5	19

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	1	5	0	0	6

PO Box 1178
Corona, CA 92880
951-268-6268

Location: County of San Diego
N/S: Jefferson Rd/Proctor
E/W: Campo Road

Date: 1/24/18
Day: WEDNESDAY
Project # 143-18043

TURNING MOVEMENT COUNT

Count Period: **4:00 PM to 6:00 PM**
Peak Hour: **4:00 PM to 5:00 PM**

Vehicle Counts

	Jefferson Rd/Proctor Valley Northbound			Jefferson Rd/Proctor Valley Southbound			Campo Road Eastbound			Campo Road Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	17	11	6	23	3	2	2	207	22	2	152	6	453
4:15 PM	18	7	3	21	8	3	1	218	35	1	125	15	455
4:30 PM	12	8	9	13	9	4	3	209	20	0	146	6	439
4:45 PM	11	8	5	15	8	3	1	241	31	0	142	5	470
5:00 PM	10	4	4	15	8	1	1	195	20	2	114	9	383
5:15 PM	15	4	6	18	9	2	1	207	33	1	129	5	430
5:30 PM	19	13	2	6	7	8	6	204	28	0	146	8	447
5:45 PM	11	6	3	14	4	4	5	189	15	0	115	5	371
TOTAL VOLUMES:	113	61	38	125	56	27	20	1670	204	6	1069	59	3448

PM Peak Hr Begins at: 400 PM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	58	34	23	72	28	12	7	875	108	3	565	32	1817

PEAK HR FACTOR:	0.846	0.875	0.907	0.938	0.966

Bicycle Counts

	Jefferson Rd/Proctor Valley Northbound			Jefferson Rd/Proctor Valley Southbound			Campo Road Eastbound			Campo Road Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	0	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	0
4:30 PM	0	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	0
5:00 PM	0	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	0
5:30 PM	0	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	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian Counts

	Jefferson Rd/Proctor Valley North Leg	Jefferson Rd/Proctor Valley South Leg	Campo Road East Leg	Campo Road West Leg	TOTAL
4:00 PM	0	1	0	2	3
4:15 PM	0	2	0	2	4
4:30 PM	0	1	0	0	1
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	4	0	4	8

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	0	4	0	4	8

PO Box 1178
Corona, CA 92880
951-268-6268

Location: County of San Diego
N/S: Campo Road
E/W: Melody Road

Date: 1/24/18
Day: WEDNESDAY
Project # 143-18043

TURNING MOVEMENT COUNT

Count Period: **7:00 AM to 9:00 AM**
Peak Hour: **7:00 AM to 8:00 AM**

Vehicle Counts

	Campo Road Northbound			Campo Road Southbound			Melody Road Eastbound			Melody Road Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	146	0	2	31	0	1	0	1	1	0	0	182
7:15 AM	3	105	0	0	48	1	5	0	2	0	0	1	165
7:30 AM	1	112	0	0	48	0	5	0	3	0	0	1	170
7:45 AM	0	112	0	0	47	0	1	0	0	0	0	0	160
8:00 AM	0	96	1	2	34	2	1	0	2	0	0	0	138
8:15 AM	0	93	0	3	83	2	3	0	1	1	0	2	188
8:30 AM	0	95	0	1	66	1	2	0	1	0	0	0	166
8:45 AM	0	87	0	0	31	2	1	0	2	0	0	1	124
TOTAL VOLUMES:	4	846	1	8	388	8	19	0	12	2	0	5	1293

AM Peak Hr Begins at: 700 AM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	4	475	0	2	174	1	12	0	6	1	0	2	677

PEAK HR FACTOR:	0.820	0.903	0.563	0.750	0.930

Bicycle Counts

	Campo Road Northbound			Campo Road Southbound			Melody Road Eastbound			Melody Road Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	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	0
7:30 AM	0	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	0
8:00 AM	0	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	0
8:30 AM	0	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	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian Counts

	Campo Road North Leg	Campo Road South Leg	Melody Road East Leg	Melody Road West Leg	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	1	1	0	2
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	1	1	0	2

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	0	1	1	0	2

PO Box 1178
Corona, CA 92880
951-268-6268

Location: County of San Diego
N/S: Campo Road
E/W: Melody Road

Date: 1/24/18
Day: WEDNESDAY
Project # 143-18043

TURNING MOVEMENT COUNT

Count Period: **4:00 PM to 6:00 PM**
Peak Hour: **4:00 PM to 5:00 PM**

Vehicle Counts

	Campo Road Northbound			Campo Road Southbound			Melody Road Eastbound			Melody Road Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	0	153	0	0	228	2	0	0	1	0	0	0	384
4:15 PM	2	139	0	0	231	4	1	0	0	1	0	0	378
4:30 PM	1	143	0	1	222	2	1	0	2	0	0	0	372
4:45 PM	0	137	0	0	247	3	0	0	1	0	0	1	389
5:00 PM	0	106	0	0	217	3	0	0	4	0	0	0	330
5:15 PM	4	149	0	0	214	3	0	0	0	0	0	0	370
5:30 PM	2	128	0	0	203	2	2	0	1	1	0	0	339
5:45 PM	0	112	0	1	200	1	2	0	1	0	0	1	318
TOTAL VOLUMES:	9	1067	0	2	1762	20	6	0	10	2	0	2	2880

PM Peak Hr Begins at: 400 PM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	3	572	0	1	928	11	2	0	4	1	0	1	1523

PEAK HR FACTOR:	0.940	0.940	0.500	0.500	0.979

Bicycle Counts

	Campo Road Northbound			Campo Road Southbound			Melody Road Eastbound			Melody Road Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	0	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	0
4:30 PM	0	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	0
5:00 PM	0	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	0
5:30 PM	0	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	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian Counts

	Campo Road North Leg	Campo Road South Leg	Melody Road East Leg	Melody Road West Leg	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	0	0	0	0	0

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County of San Diego
Campo Road
B/ Lyons Valley Road - Proctor Valley Road

File Name 001
Site Code: 143-18037
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
1/24/2018	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	20	98			25	104				
12:15	20	122			24	92				
12:30	21	98			20	84				
12:45	19	97	80	415	18	96	87	376	167	791
1:00	15	94			22	99				
1:15	16	123			27	94				
1:30	9	110			19	111				
1:45	7	127	47	454	16	95	84	399	131	853
2:00	5	163			17	96				
2:15	5	189			8	123				
2:30	5	180			16	94				
2:45	7	208	22	740	13	85	54	398	76	1138
3:00	3	206			12	124				
3:15	5	210			17	93				
3:30	12	236			19	84				
3:45	12	255	32	907	13	134	61	435	93	1342
4:00	10	260			21	168				
4:15	13	244			29	153				
4:30	18	258			29	159				
4:45	15	286	56	1048	45	156	124	636	180	1684
5:00	10	239			58	128				
5:15	20	251			92	145				
5:30	23	244			131	169				
5:45	35	226	88	960	156	121	437	563	525	1523
6:00	24	221			266	146				
6:15	37	224			210	114				
6:30	40	238			170	129				
6:45	41	191	142	874	153	105	799	494	941	1368
7:00	41	166			181	118				
7:15	69	189			136	105				
7:30	52	153			121	109				
7:45	55	118	217	626	134	102	572	434	789	1060
8:00	55	100			122	115				
8:15	83	81			120	101				
8:30	64	81			127	96				
8:45	44	64	246	326	124	63	493	375	739	701
9:00	85	43			98	116				
9:15	74	63			93	80				
9:30	72	59			120	72				
9:45	61	59	292	224	107	71	418	339	710	563
10:00	69	62			127	62				
10:15	49	57			107	58				
10:30	60	42			87	53				
10:45	93	28	271	189	86	45	407	218	678	407
11:00	84	25			88	47				
11:15	92	20			97	32				
11:30	100	32			91	35				
11:45	91	17	367	94	92	29	368	143	735	237
Totals	1860	6857			3904	4810				
Combined Totals		8717				8714				
ADT										17431
AM Peak Hour	1045	AM			545	AM				
Volume	369				802					
P.H.F.	0.923				0.754					
PM Peak Hour		400	PM			400	PM			
Volume		1048				636				
P.H.F.		0.916				0.946				
Percentage	21.3%	78.7%			44.8%	55.2%				

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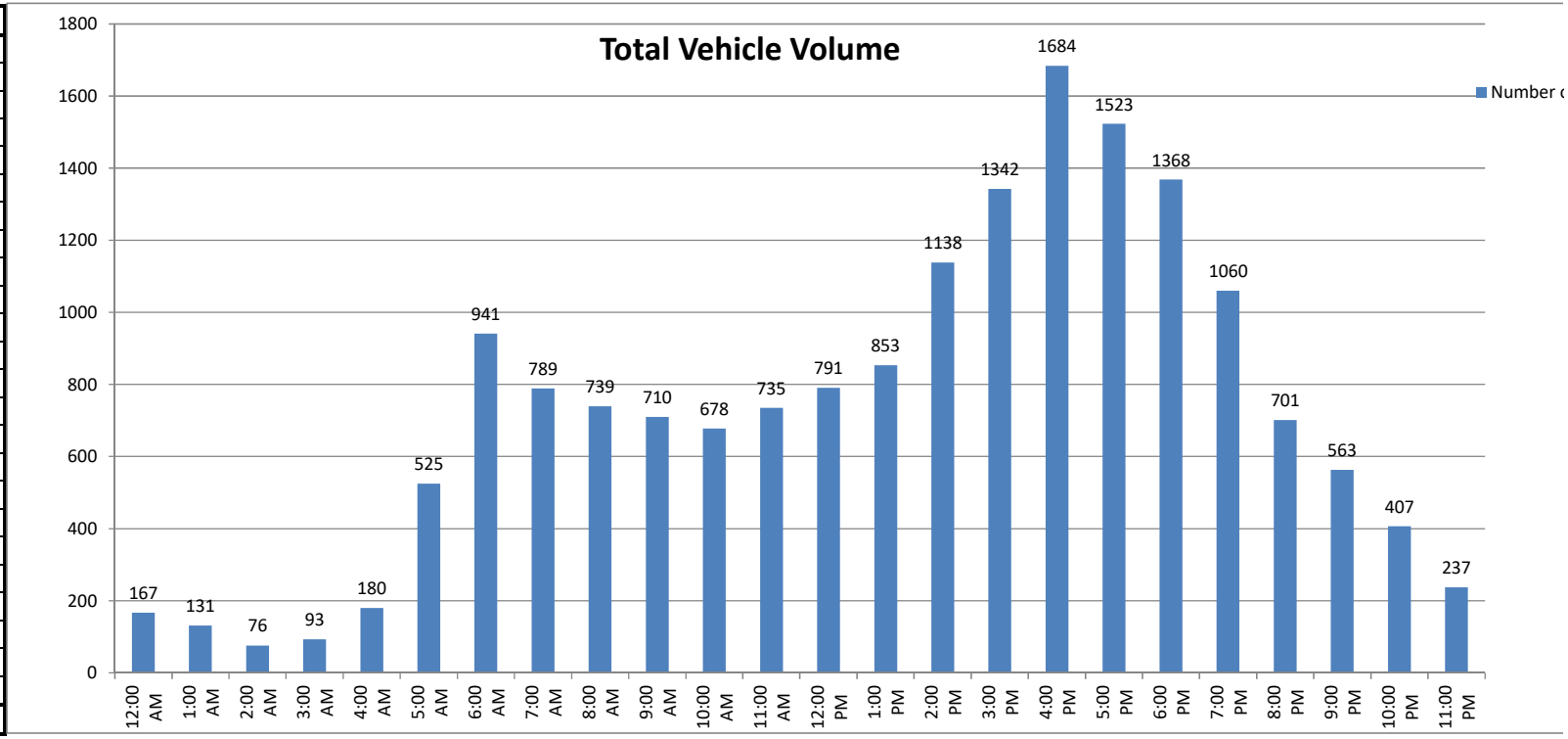
24 Hour Volume Plot

Campo Road

B/ Lyons Valley Road - Proctor Valley Road

1/24/2018

Start Time	1/24/2018
12:00 AM	167
1:00 AM	131
2:00 AM	76
3:00 AM	93
4:00 AM	180
5:00 AM	525
6:00 AM	941
7:00 AM	789
8:00 AM	739
9:00 AM	710
10:00 AM	678
11:00 AM	735
12:00 PM	791
1:00 PM	853
2:00 PM	1138
3:00 PM	1342
4:00 PM	1684
5:00 PM	1523
6:00 PM	1368
7:00 PM	1060
8:00 PM	701
9:00 PM	563
10:00 PM	407
11:00 PM	237
Total	17431



Volumes represent the combined totals for both directions

Phone: 951-268-6268

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County of San Diego
Campo Road
B/ Maxfield Road - Hillside Drive

File Name 003
Site Code: 143-18037
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
1/24/2018	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	27	85			17	77				
12:15	22	72			15	87				
12:30	27	69			15	86				
12:45	22	74	98	300	8	78	55	328	153	628
1:00	14	68			18	75				
1:15	26	75			6	101				
1:30	13	81			8	91				
1:45	19	90	72	314	8	96	40	363	112	677
2:00	16	77			3	127				
2:15	8	101			5	161				
2:30	14	93			4	166				
2:45	14	74	52	345	6	202	18	656	70	1001
3:00	11	103			3	207				
3:15	17	75			5	197				
3:30	20	76			12	202				
3:45	11	109	59	363	11	231	31	837	90	1200
4:00	19	154			9	221				
4:15	31	133			11	238				
4:30	25	159			18	234				
4:45	40	152	115	598	14	253	52	946	167	1544
5:00	47	114			9	219				
5:15	66	143			18	235				
5:30	116	146			25	209				
5:45	150	115	379	518	30	212	82	875	461	1393
6:00	261	119			18	206				
6:15	194	96			32	197				
6:30	145	120			49	217				
6:45	143	104	743	439	32	173	131	793	874	1232
7:00	161	112			38	165				
7:15	120	109			56	172				
7:30	122	109			56	125				
7:45	123	94	526	424	57	116	207	578	733	1002
8:00	107	120			41	80				
8:15	115	100			88	71				
8:30	113	98			69	78				
8:45	91	65	426	383	29	53	227	282	653	665
9:00	78	107			71	44				
9:15	87	83			66	55				
9:30	89	73			56	49				
9:45	100	68	354	331	47	49	240	197	594	528
10:00	115	66			53	54				
10:15	71	54			38	42				
10:30	75	50			48	36				
10:45	57	46	318	216	73	24	212	156	530	372
11:00	79	49			63	23				
11:15	71	34			61	18				
11:30	75	32			99	25				
11:45	70	32	295	147	59	15	282	81	577	228
Totals	3437	4378			1577	6092				
Combined Totals		7815				7669				
ADT										15484
AM Peak Hour	545	AM			1045	AM				
Volume	750				296					
P.H.F.	0.718				0.747					
PM Peak Hour		400	PM			400	PM			
Volume		598				946				
P.H.F.		0.940				0.935				
Percentage	44.0%	56.0%			20.6%	79.4%				

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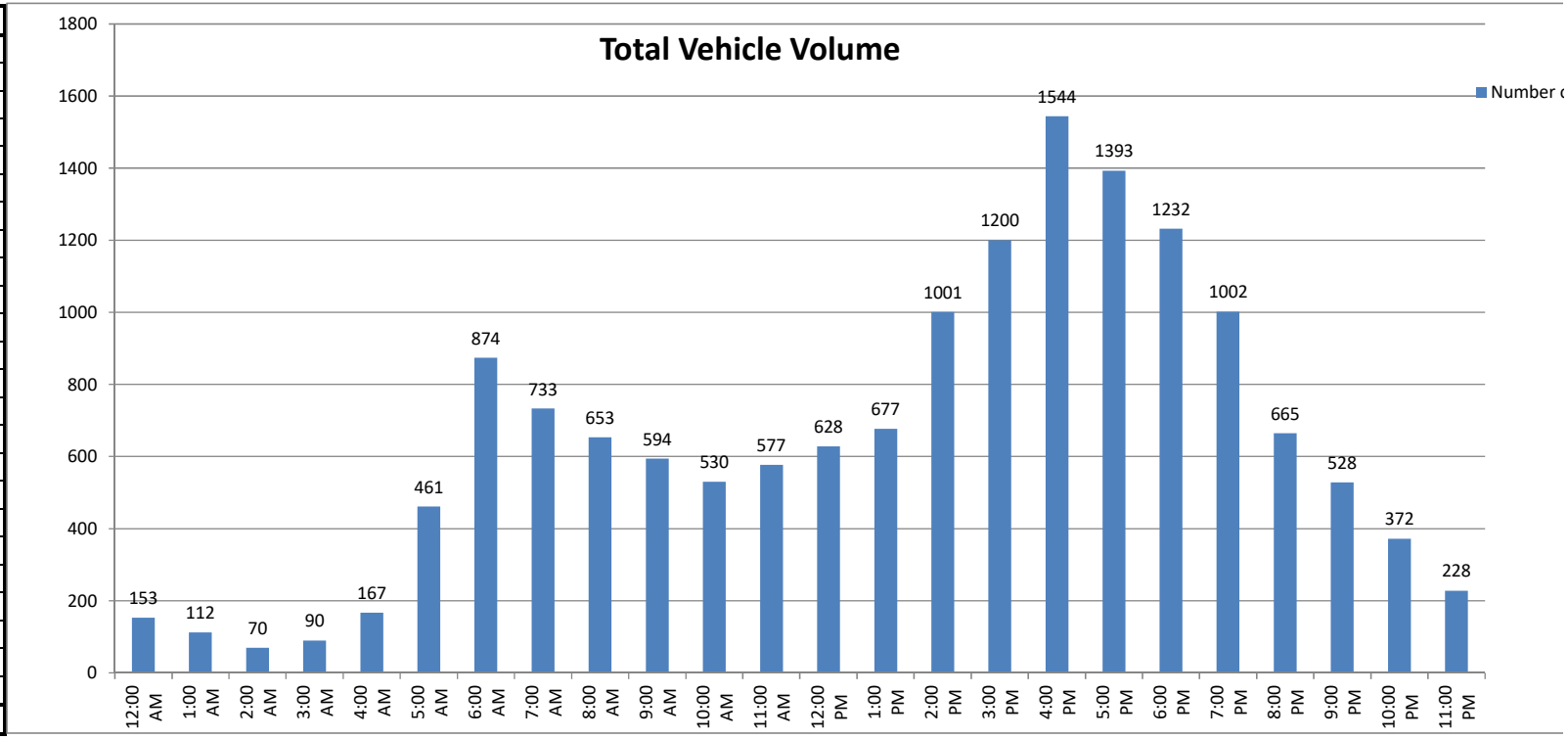
24 Hour Volume Plot

Campo Road

B/ Maxfield Road - Hillside Drive

1/24/2018

Start Time	1/24/2018
12:00 AM	153
1:00 AM	112
2:00 AM	70
3:00 AM	90
4:00 AM	167
5:00 AM	461
6:00 AM	874
7:00 AM	733
8:00 AM	653
9:00 AM	594
10:00 AM	530
11:00 AM	577
12:00 PM	628
1:00 PM	677
2:00 PM	1001
3:00 PM	1200
4:00 PM	1544
5:00 PM	1393
6:00 PM	1232
7:00 PM	1002
8:00 PM	665
9:00 PM	528
10:00 PM	372
11:00 PM	228
Total	15484



Volumes represent the combined totals for both directions

Phone: 951-268-6268

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PO Box 1178
Corona, CA 92878

County of San Diego
Jefferson Road
B/ Olive Vista Drive - Campo Road

File Name 002
Site Code: 143-18037
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
1/24/2018	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	2	21			1	11				
12:15	0	18			1	14				
12:30	0	10			2	14				
12:45	1	13	3	62	0	18	4	57	7	119
1:00	2	9			2	7				
1:15	2	30			0	10				
1:30	0	12			0	17				
1:45	0	21	4	72	2	12	4	46	8	118
2:00	0	17			0	27				
2:15	0	24			1	46				
2:30	0	51			0	27				
2:45	0	47	0	139	2	18	3	118	3	257
3:00	1	24			0	24				
3:15	0	35			1	21				
3:30	0	25			2	19				
3:45	0	17	1	101	1	23	4	87	5	188
4:00	0	27			0	26				
4:15	1	25			2	22				
4:30	2	18			1	21				
4:45	2	21	5	91	0	13	3	82	8	173
5:00	3	27			0	12				
5:15	5	21			1	28				
5:30	6	21			3	22				
5:45	10	11	24	80	7	19	11	81	35	161
6:00	8	11			10	10				
6:15	9	12			9	19				
6:30	13	10			11	14				
6:45	21	7	51	40	12	9	42	52	93	92
7:00	16	9			22	11				
7:15	18	4			31	12				
7:30	34	6			41	12				
7:45	25	1	93	20	36	7	130	42	223	62
8:00	36	2			44	8				
8:15	33	10			14	7				
8:30	15	6			10	10				
8:45	15	7	99	25	7	0	75	25	174	50
9:00	17	6			16	11				
9:15	13	0			11	6				
9:30	9	3			11	3				
9:45	22	2	61	11	13	4	51	24	112	35
10:00	18	2			16	2				
10:15	12	4			6	2				
10:30	17	0			12	6				
10:45	6	0	53	6	16	3	50	13	103	19
11:00	14	2			12	0				
11:15	20	0			12	3				
11:30	17	0			21	3				
11:45	15	0	66	2	19	2	64	8	130	10
Totals	460	649			441	635				
Combined Totals		1109				1076				
ADT										2185
AM Peak Hour	730	AM			715	AM				
Volume	128				152					
P.H.F.	0.889				0.864					
PM Peak Hour		230	PM			200	PM			
Volume		157				118				
P.H.F.		0.770				0.641				
Percentage	41.5%	58.5%			41.0%	59.0%				

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

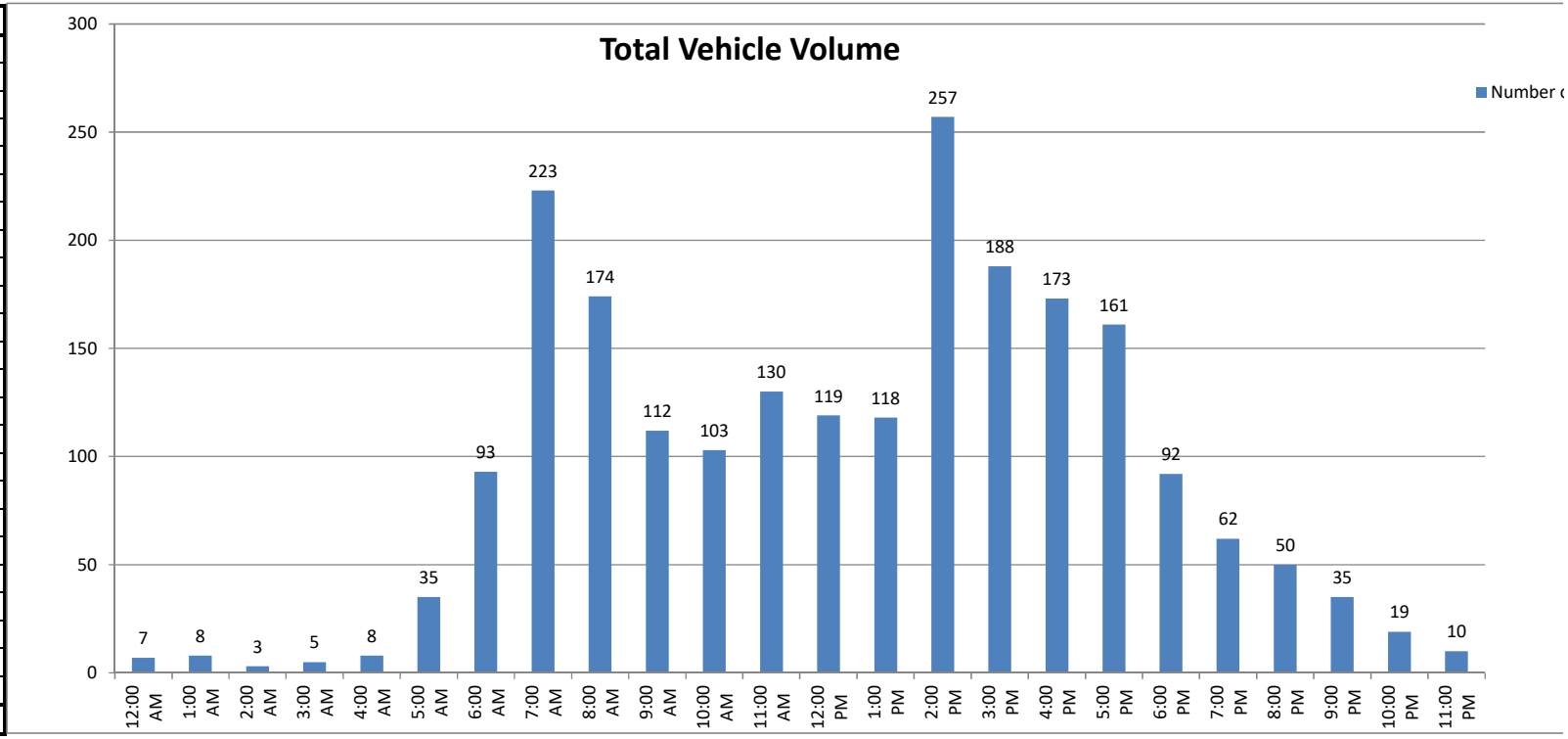
24 Hour Volume Plot

Jefferson Road

B/ Olive Vista Drive - Campo Road

1/24/2018

Start Time	1/24/2018
12:00 AM	7
1:00 AM	8
2:00 AM	3
3:00 AM	5
4:00 AM	8
5:00 AM	35
6:00 AM	93
7:00 AM	223
8:00 AM	174
9:00 AM	112
10:00 AM	103
11:00 AM	130
12:00 PM	119
1:00 PM	118
2:00 PM	257
3:00 PM	188
4:00 PM	173
5:00 PM	161
6:00 PM	92
7:00 PM	62
8:00 PM	50
9:00 PM	35
10:00 PM	19
11:00 PM	10
Total	2185



Volumes represent the combined totals for both directions

Phone: 951-268-6268

Appendix D

Existing LOS Calculations

Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	29	0	45	63	85	0	90	63	80	68	2
Future Vol, veh/h	3	29	0	45	63	85	0	90	63	80	68	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	70	70	70	70	70	70	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	41	0	64	90	121	0	129	90	114	97	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	607	546	99	521	502	174	100	0	0	219	0	0
Stage 1	327	327	-	174	174	-	-	-	-	-	-	-
Stage 2	280	219	-	347	328	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	408	445	957	466	471	869	1493	-	-	1350	-	-
Stage 1	686	648	-	828	755	-	-	-	-	-	-	-
Stage 2	727	722	-	669	647	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	275	405	957	401	429	869	1493	-	-	1350	-	-
Mov Cap-2 Maneuver	275	405	-	401	429	-	-	-	-	-	-	-
Stage 1	686	590	-	828	755	-	-	-	-	-	-	-
Stage 2	551	722	-	567	589	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.5	18.4	0	4.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1493	-	-	388	541	1350	-	-
HCM Lane V/C Ratio	-	-	-	0.118	0.51	0.085	-	-
HCM Control Delay (s)	0	-	-	15.5	18.4	7.9	0	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	2.9	0.3	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	153	113	0
Future Vol, veh/h	0	0	0	153	113	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	166	123	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	289	123	123	0	-	0
Stage 1	123	-	-	-	-	-
Stage 2	166	-	-	-	-	-
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	702	928	1464	-	-	-
Stage 1	902	-	-	-	-	-
Stage 2	863	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	702	928	1464	-	-	-
Mov Cap-2 Maneuver	702	-	-	-	-	-
Stage 1	902	-	-	-	-	-
Stage 2	863	-	-	-	-	-

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)	1464	-	-	-	-
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
Lane Configurations						
Traffic Vol, veh/h	0	0	0	153	113	0
Future Vol, veh/h	0	0	0	153	113	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	166	123	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	289	123	123	0	-	0
Stage 1	123	-	-	-	-	-
Stage 2	166	-	-	-	-	-
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	702	928	1464	-	-	-
Stage 1	902	-	-	-	-	-
Stage 2	863	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	702	928	1464	-	-	-
Mov Cap-2 Maneuver	702	-	-	-	-	-
Stage 1	902	-	-	-	-	-
Stage 2	863	-	-	-	-	-

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)	1464	-	-	-	-
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												
Traffic Volume (veh/h)	9	196	20	2	369	88	89	45	4	52	25	33
Future Volume (veh/h)	9	196	20	2	369	88	89	45	4	52	25	33
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	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	10	215	22	2	405	97	98	49	4	57	27	36
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	19	650	66	5	556	133	330	95	7	259	83	78
Arrive On Green	0.01	0.39	0.39	0.00	0.38	0.38	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1774	1663	170	1774	1453	348	963	599	43	634	526	497
Grp Volume(v), veh/h	10	0	237	2	0	502	151	0	0	120	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1833	1774	0	1801	1605	0	0	1658	0	0
Q Serve(g_s), s	0.2	0.0	3.0	0.0	0.0	8.0	0.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	0.0	3.0	0.0	0.0	8.0	2.7	0.0	0.0	2.0	0.0	0.0
Prop In Lane	1.00		0.09	1.00		0.19	0.65		0.03	0.47		0.30
Lane Grp Cap(c), veh/h	19	0	716	5	0	689	431	0	0	421	0	0
V/C Ratio(X)	0.53	0.00	0.33	0.38	0.00	0.73	0.35	0.00	0.00	0.29	0.00	0.00
Avail Cap(c_a), veh/h	218	0	1317	218	0	1295	945	0	0	946	0	0
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	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.4	0.0	7.1	16.6	0.0	8.8	12.9	0.0	0.0	12.7	0.0	0.0
Incr Delay (d2), s/veh	21.3	0.0	0.3	38.8	0.0	1.5	0.5	0.0	0.0	0.4	0.0	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(50%),veh/ln	0.2	0.0	1.6	0.1	0.0	4.2	1.3	0.0	0.0	1.0	0.0	0.0
LnGrp Delay(d),s/veh	37.7	0.0	7.4	55.4	0.0	10.3	13.4	0.0	0.0	13.1	0.0	0.0
LnGrp LOS	D		A	E		B	B			B		
Approach Vol, veh/h		247			504			151			120	
Approach Delay, s/veh		8.6			10.5			13.4			13.1	
Approach LOS		A			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		9.8	4.6	19.0		9.8	4.9	18.8
Change Period (Y+Rc), s		4.5	4.5	6.0		4.5	4.5	6.0
Max Green Setting (Gmax), s		16.9	4.1	24.0		16.9	4.1	24.0
Max Q Clear Time (g_c+I1), s		4.7	2.0	5.0		4.0	2.2	10.0
Green Ext Time (p_c), s		0.6	0.0	1.3		0.4	0.0	2.8

Intersection Summary	
HCM 2010 Ctrl Delay	10.8
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	0	6	1	0	2	4	475	0	2	174	1
Future Vol, veh/h	12	0	6	1	0	2	4	475	0	2	174	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	0	6	1	0	2	4	511	0	2	187	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	712	711	188	714	711	511	188	0	0	511	0	0
Stage 1	192	192	-	519	519	-	-	-	-	-	-	-
Stage 2	520	519	-	195	192	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	347	358	854	346	358	563	1386	-	-	1054	-	-
Stage 1	810	742	-	540	533	-	-	-	-	-	-	-
Stage 2	539	533	-	807	742	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	344	356	854	342	356	563	1386	-	-	1054	-	-
Mov Cap-2 Maneuver	344	356	-	342	356	-	-	-	-	-	-	-
Stage 1	807	741	-	538	531	-	-	-	-	-	-	-
Stage 2	535	531	-	799	741	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.8	12.8	0.1	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1386	-	-	429	463	1054	-	-
HCM Lane V/C Ratio	0.003	-	-	0.045	0.007	0.002	-	-
HCM Control Delay (s)	7.6	0	-	13.8	12.8	8.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	21	5	7	15	7	1	82	10	17	73	0
Future Vol, veh/h	0	21	5	7	15	7	1	82	10	17	73	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	23	5	8	16	8	1	89	11	18	79	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	224	217	79	226	212	95	79	0	0	100	0	0
Stage 1	115	115	-	97	97	-	-	-	-	-	-	-
Stage 2	109	102	-	129	115	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	732	681	981	729	685	962	1519	-	-	1493	-	-
Stage 1	890	800	-	910	815	-	-	-	-	-	-	-
Stage 2	896	811	-	875	800	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	705	671	981	698	675	962	1519	-	-	1493	-	-
Mov Cap-2 Maneuver	705	671	-	698	675	-	-	-	-	-	-	-
Stage 1	889	790	-	909	814	-	-	-	-	-	-	-
Stage 2	870	810	-	834	790	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.3	10.1	0.1	1.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1519	-	-	714	734	1493	-	-
HCM Lane V/C Ratio	0.001	-	-	0.04	0.043	0.012	-	-
HCM Control Delay (s)	7.4	0	-	10.3	10.1	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	93	85	0
Future Vol, veh/h	0	0	0	93	85	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	101	92	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	193	92	92	0	-	0
Stage 1	92	-	-	-	-	-
Stage 2	101	-	-	-	-	-
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	796	965	1503	-	-	-
Stage 1	932	-	-	-	-	-
Stage 2	923	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	796	965	1503	-	-	-
Mov Cap-2 Maneuver	796	-	-	-	-	-
Stage 1	932	-	-	-	-	-
Stage 2	923	-	-	-	-	-

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)	1503	-	-	-	-
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
Lane Configurations						
Traffic Vol, veh/h	0	0	0	93	85	0
Future Vol, veh/h	0	0	0	93	85	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	101	92	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	193	92	92	0	-	0
Stage 1	92	-	-	-	-	-
Stage 2	101	-	-	-	-	-
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	796	965	1503	-	-	-
Stage 1	932	-	-	-	-	-
Stage 2	923	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	796	965	1503	-	-	-
Mov Cap-2 Maneuver	796	-	-	-	-	-
Stage 1	932	-	-	-	-	-
Stage 2	923	-	-	-	-	-

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)	1503	-	-	-	-
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												
Traffic Volume (veh/h)	7	875	108	3	565	32	58	34	23	72	28	12
Future Volume (veh/h)	7	875	108	3	565	32	58	34	23	72	28	12
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	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	8	951	117	3	614	35	63	37	25	78	30	13
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	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	15	1074	132	6	1144	65	164	62	35	198	49	19
Arrive On Green	0.01	0.66	0.66	0.00	0.66	0.66	0.10	0.10	0.10	0.10	0.10	0.10
Sat Flow, veh/h	1774	1627	200	1774	1746	100	772	593	341	1021	470	179
Grp Volume(v), veh/h	8	0	1068	3	0	649	125	0	0	121	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1827	1774	0	1845	1706	0	0	1670	0	0
Q Serve(g_s), s	0.3	0.0	30.8	0.1	0.0	12.1	0.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.3	0.0	30.8	0.1	0.0	12.1	4.3	0.0	0.0	4.2	0.0	0.0
Prop In Lane	1.00		0.11	1.00		0.05	0.50		0.20	0.64		0.11
Lane Grp Cap(c), veh/h	15	0	1206	6	0	1209	261	0	0	265	0	0
V/C Ratio(X)	0.54	0.00	0.89	0.52	0.00	0.54	0.48	0.00	0.00	0.46	0.00	0.00
Avail Cap(c_a), veh/h	113	0	1531	113	0	1546	502	0	0	497	0	0
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	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	31.8	0.0	9.0	32.1	0.0	5.9	27.8	0.0	0.0	27.8	0.0	0.0
Incr Delay (d2), s/veh	27.9	0.0	5.5	57.9	0.0	0.4	1.4	0.0	0.0	1.2	0.0	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(50%),veh/ln	0.3	0.0	17.0	0.1	0.0	6.1	2.3	0.0	0.0	2.1	0.0	0.0
LnGrp Delay(d),s/veh	59.7	0.0	14.4	90.0	0.0	6.3	29.2	0.0	0.0	29.0	0.0	0.0
LnGrp LOS	E		B	F		A	C			C		
Approach Vol, veh/h		1076			652			125			121	
Approach Delay, s/veh		14.8			6.7			29.2			29.0	
Approach LOS		B			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		11.2	4.7	48.6		11.2	5.0	48.2
Change Period (Y+Rc), s		4.5	4.5	6.0		4.5	4.5	6.0
Max Green Setting (Gmax), s		16.9	4.1	54.0		16.9	4.1	54.0
Max Q Clear Time (g_c+I1), s		6.3	2.1	32.8		6.2	2.3	14.1
Green Ext Time (p_c), s		0.4	0.0	9.7		0.4	0.0	5.3

Intersection Summary	
HCM 2010 Ctrl Delay	13.9
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	0	4	1	0	1	3	572	0	1	928	11
Future Vol, veh/h	2	0	4	1	0	1	3	572	0	1	928	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	4	1	0	1	3	602	0	1	977	12

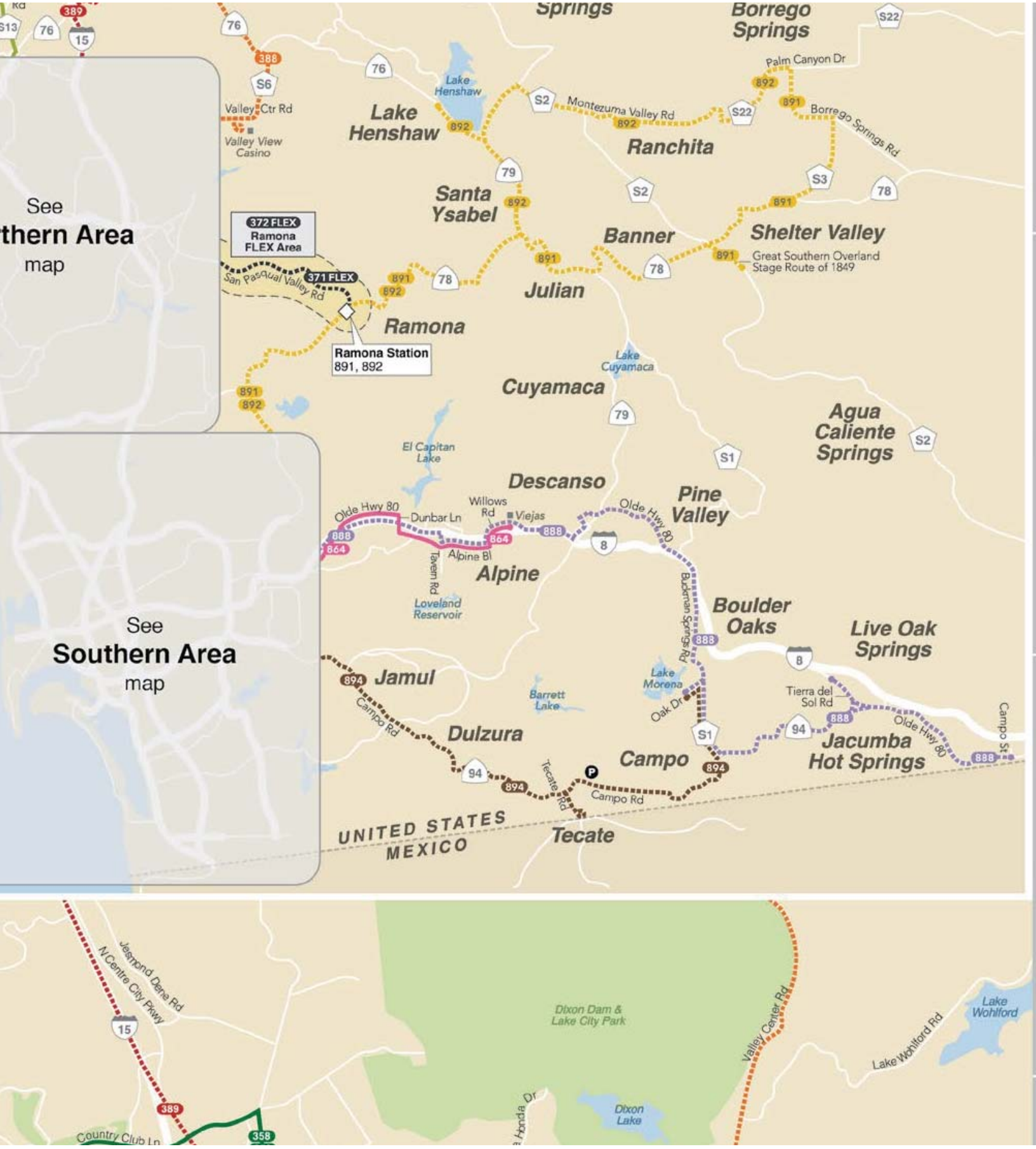
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1594	1593	983	1595	1599	602	989	0	0	602	0	0
Stage 1	985	985	-	608	608	-	-	-	-	-	-	-
Stage 2	609	608	-	987	991	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	86	107	302	86	106	500	699	-	-	975	-	-
Stage 1	299	326	-	483	486	-	-	-	-	-	-	-
Stage 2	482	486	-	298	324	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	85	106	302	84	105	500	699	-	-	975	-	-
Mov Cap-2 Maneuver	85	106	-	84	105	-	-	-	-	-	-	-
Stage 1	297	325	-	480	483	-	-	-	-	-	-	-
Stage 2	478	483	-	293	323	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	28	30.4	0.1	0
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	699	-	-	163	144	975	-	-
HCM Lane V/C Ratio	0.005	-	-	0.039	0.015	0.001	-	-
HCM Control Delay (s)	10.2	0	-	28	30.4	8.7	0	-
HCM Lane LOS	B	A	-	D	D	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Appendix E

Transit Service Near Project


See
thern Area
map
See
Southern Area
map
Springs
Borrego
Springs
Palm Canyon Dr
Borrego Springs Rd
Lake
Henshaw
Montezuma Valley Rd
Ranchita
Valley Ctr Rd
Valley View
Casino
Santa
Ysabel
372 FLEX
Ramona
FLEX Area
371 FLEX
San Pasqual Valley Rd
Banner
Shelter Valley
Great Southern Overland
Stage Route of 1849
Julian
Ramona
Ramona Station
891, 892
Lake
Cuyamaca
Cuyamaca
Agua
Caliente
Springs
El Capitan
Lake
Descanso
Pine
Valley
Olde Hwy 80
Dunbar Ln
Willows
Rd
Viejas
Alpine Bl
Alpine
Tavern Rd
Loveland
Reservoir
Boulder
Oaks
Live Oak
Springs
Budman Springs Rd
Lake
Morena
Barrett
Lake
Oak Dr
Tierra del
Sol Rd
Olde Hwy 80
Campo St
Jamul
Campo Rd
Dulzura
Campo
Tecate Rd
Campo Rd
Jacumba
Hot Springs
UNITED STATES
MEXICO
Tecate
Jesmond Dene Rd
N Centre City Pkwy
Dixon Dam &
Lake City Park
Valley Center Rd
Lake Wohlford
Lake Wohlford Rd
Dixon
Lake
Country Club Ln

Effective JUNE 11, 2017

RURAL SERVICE

888 Jacumba Hot Springs - El Cajon via Alpine

891 Borrego Springs - El Cajon via Shelter Valley / Ramona

892 Borrego Springs - El Cajon via Ranchita / Ramona

894 Morena Village - El Cajon via Tecate / Campo

TROLLEY CONNECTIONS
El Cajon

MTS Metropolitan Transit System

06/17

CASH FARES / *Tarifas en efectivo*

Exact fare, please / *Favor de pagar la cantidad exacta*		
Upon payment of fare, a Day Pass will be issued to complete your trip. *Sobre el pago de la tarifa, un Pase Diario se le expedirá para completar su viaje.*	One Way Trip, One Zone *Viaje sencillo, una zona*	One Way Trip, Two Zones *Viaje sencillo, dos zonas*
Adult / Adulto	$5.00	$10.00
Senior (60+)/Disabled/Medicare *Mayores de 60 años/Discapacitados/Medicare*	$2.50*	$5.00*
Children 5 & under *Niños de 5 años o menos*	FREE* *GRATIS**	FREE* *GRATIS**

PRE-PAID / *Tarifas prepagadas*

Exact fare, please / *Favor de pagar la cantidad exacta*		
	One Way Trip, One Zone *Viaje sencillo, una zona*	One Way Trip, Two Zones *Viaje sencillo, dos zonas*
Passenger with Monthly/14-Day/Juror Pass *Pasajero con pase mensual, de 14 días, o de jurado*	Pass plus $4 upgrade *Pase más extra de $4*	Pass plus $8 upgrade *Pase más extra de $8*
Senior (60+)/Disabled/Medicare with Monthly Pass Mayores de 60 años/Discapacitados/Medicare con pase mensual	Pass plus $2 upgrade *Pase más extra de $2*	Pass plus $4 upgrade *Pase más extra de $4*

* I.D. required for discount fare or pass.
** Se requiere identificación para tarifas o pases de descuento.*

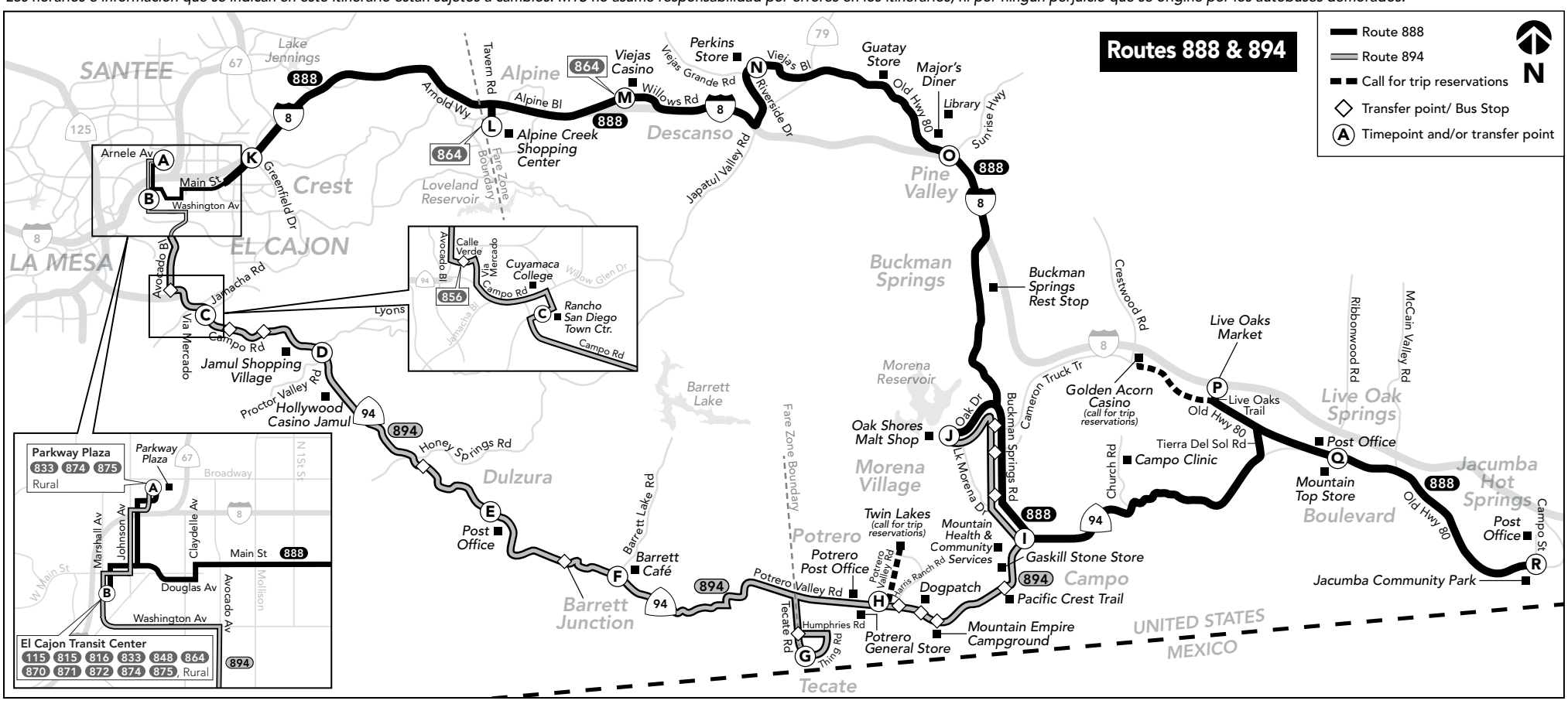
DIRECTORY / *Directorio*

Regional Transit Information *Información de transporte público regional*	**511** or/ó **(619) 233-3004**
TTY/TDD (teletype for hearing impaired) *Teletipo para sordos*	**(619) 234-5005** or/ó **(888) 722-4889**
InfoExpress (24-hour info via Touch-Tone phone) *Información las 24 horas (via teléfono de teclas)*	**(619) 685-4900**
Customer Service / Suggestions *Servicio al cliente / Sugerencias*	**(619) 557-4555**
SafeWatch	**(619) 557-4500**
Lost & Found *Objetos extraviados*	**(619) 557-4555**
Transit Store	**(619) 234-1060** 12th & Imperial Transit Center M–F 8am–5pm
For MTS online trip planning *Planificación de viajes por Internet*	**sdmts.com**

For more information on riding MTS services, pick up a Rider's Guide on a bus or at the Transit Store, or visit **sdmts.com**.
*Para obtener más información sobre el uso de los servicios de MTS, recoja un 'Rider's Guide' en un autobús o en la Transit Store, o visita a **sdmts.com**.*

Thank you for riding MTS! ***¡Gracias por viajar con MTS!***

The schedules and other information shown in this timetable are subject to change. MTS does not assume responsibility for errors in timetables nor for any inconvenience caused by delayed buses.
Los horarios e información que se indican en este itinerario están sujetos a cambios. MTS no asume responsabilidad por errores en los itinerarios, ni por ningún perjuicio que se origine por los autobuses demorados.



Alternative formats available upon request. Please call: (619) 557-4555 / *Formato alternativo disponible al preguntar. Favor de llamar: (619) 557-4555*

Route 888 – Westbound (Jacumba to El Cajon)

Monday and Friday only / solo *lunes y viernes*

Jacumba ➡ Pine Valley ➡ Alpine ➡ El Cajon

(R) Jacumba Hot Springs - Old Hwy. 80 & Campo St **DEPART**	(Q) Boulevard - 39335 Old Hwy. 80	(P) Live Oak Springs - Royal Rd (L.O. Market)	(I) Campo - Cameron Corners	(J) Lake Morena (Malt Shop)	(O) Pine Valley - 28870 Old Hwy. 80 (Major's Diner)	(N) Descanso - Viejas Bl. & Riverside Dr. (Perkin's Store)	(M) Viejas Casino - Willows Rd.	(L) Alpine Creek Shopping Ctr. - Arnold Way & Tavern Rd.	(K) El Cajon - E. Main St. & Greenfield Dr.	(B) El Cajon Transit Center	(A) Parkway Plaza **ARRIVE**
9:40a	9:50a	10:00a	10:30a	10:40a	11:00a	11:17a	11:24a	11:30a	11:45a	**12:00p**	**12:10p**

Route 888 – Eastbound (El Cajon to Jacumba)

Monday and Friday only / solo *lunes y viernes*

El Cajon ➡ Alpine ➡ Pine Valley ➡ Jacumba

(A) Parkway Plaza **DEPART**	(B) El Cajon Transit Center	(K) El Cajon - E. Main St. & Greenfield Dr.	(L) Alpine Creek Shopping Ctr. - Arnold Way & Tavern Rd.	(M) Viejas Casino - Willows Rd.	(N) Descanso - Viejas Bl. & Riverside Dr. (Perkin's Store)	(O) Pine Valley - 28870 Old Hwy. 80 (Major's Diner)	(J) Lake Morena (Malt Shop)	(I) Campo - Cameron Corners	(P) Live Oak Springs - Royal Rd (L.O. Market)	(Q) Boulevard - 39335 Old Hwy. 80	(R) Jacumba Hot Springs - Old Hwy. 80 & Campo St **ARRIVE**
4:10p	**4:20p**	**4:36p**	**4:54p**	**5:02p**	**5:12p**	**5:26p**	**5:46p**	**5:57p**	**6:21p**	**6:28p**	**6:38p**

Route 894 – Westbound (Morena Village to El Cajon)

Monday through Friday / *lunes a viernes*

Morena Village ➡ Campo ➡ Tecate ➡ El Cajon

(J) Lake Morena (Malt Shop) **DEPART**	(I) Campo - Cameron Corners	(H) Potrero (Potrero Canyon Park)	(G) Tecate - Tecate Rd. & Thing Rd.	(F) Barrett Junction - Hwy. 94 & Barrett Lake Rd.	(E) Dulzura	(D) Jamul (AM/PM Mini Mart)	(C) Rancho San Diego Town Center	(B) El Cajon Transit Center	(A) Parkway Plaza **ARRIVE**
—	5:39a	6:00a	6:17a	6:26a	6:35a	6:55a	7:06a	7:27a	7:37a
6:42a	6:54	7:15	7:32	7:41	7:50	8:10	8:21	8:42	8:52
—	10:54	11:15	11:30	11:39	11:48	**12:06p**	**12:17p**	**12:38p**	**12:48p**
—	**2:54p**	**3:15p**	**3:30p**	**3:39p**	**3:48p**	**4:06**	**4:17**	**4:38**	**4:48**

Route 894 – Eastbound (El Cajon to Morena Village)

Monday through Friday / *lunes a viernes*

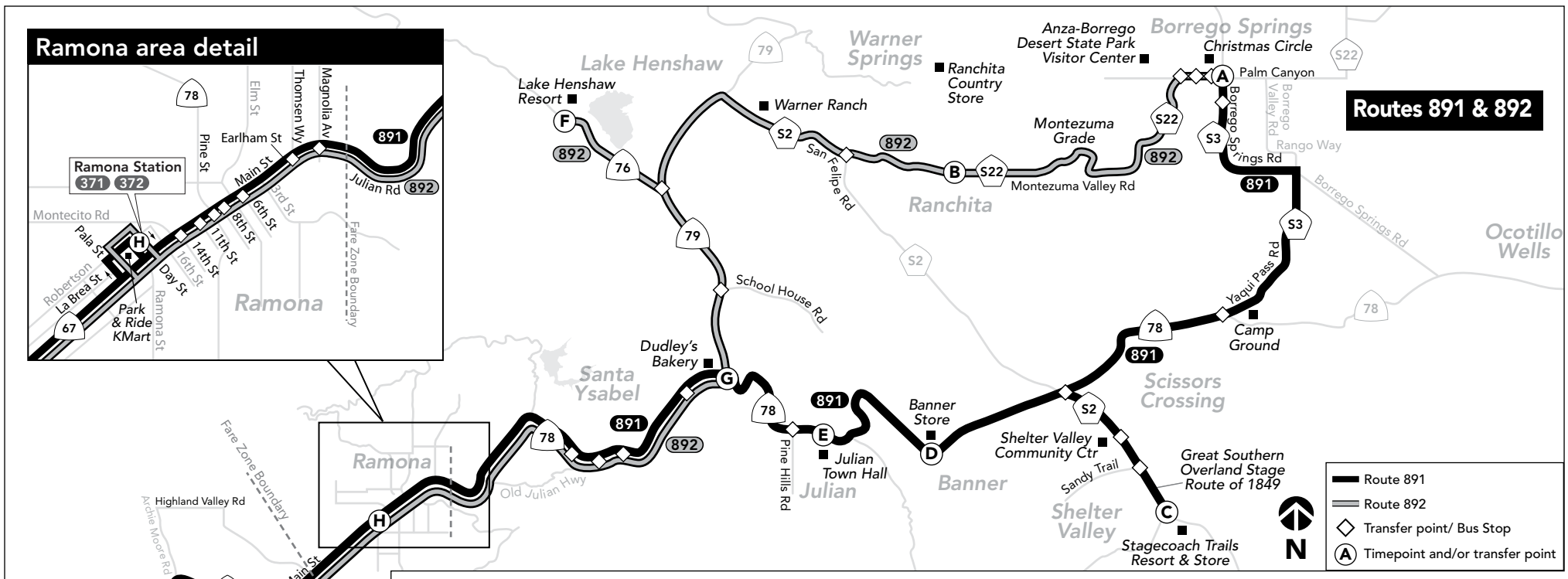
El Cajon ➡ Tecate ➡ Campo ➡ Morena Village

(A) Parkway Plaza **DEPART**	(B) El Cajon Transit Center	(C) Rancho San Diego Town Center	(D) Jamul (AM/PM Mini Mart)	(E) Dulzura	(F) Barrett Junction - Hwy. 94 & Barrett Lake Rd.	(G) Tecate - Tecate Rd. & Thing Rd.	(H) Potrero (Potrero Canyon Park)	(I) Campo - Cameron Corners	(J) Lake Morena (Malt Shop) **ARRIVE**
8:21a	8:30a	8:49a	8:58a	9:16a	9:25a	9:38a	9:50a	10:12a	—
11:36	11:45	**12:04p**	**12:13p**	**12:31p**	**12:40p**	**12:53p**	**1:05p**	**1:27p**	**—**
2:51p	**3:00p**	**3:20**	**3:30**	**3:48**	**3:57**	**4:12**	**4:26**	**4:51**	**5:11p**
5:36	**5:45**	**6:05**	**6:15**	**6:33**	**6:42**	**6:55**	**7:08**	**7:30**	**—**

ROUTES 888 & 894 SERVICE AREA ZONES

ZONE BOUNDARIES *Limites de zona*	ONE ZONE TRIP BACKCOUNTRY *Viaje de una zona, en la periferia*	ONE ZONE TRIP SUBURBAN FRINGE AREA *Viaje de una zona, franja suburbana*	TWO ZONE BOUNDARIES *Viaje de dos zonas*
In Alpine at Alpine Creek Shopping Center and in Tecate at Tecate Rd. & Thing Rd. *En Alpine en el Alpine Creek Shopping Center y en Tecate en Tecate Rd. y Thing Rd.*	A trip between any of these communities: Descanso, Guatay, Pine Valley, Buckman Springs, Morena Village, Campo, Potrero, Cameron Corners, Live Oak Springs, Boulevard, Jacumba Hot Springs, Alpine (east of Tavern Rd.) and Tecate (east of Tecate Rd.). *Un viaje entre cualquiera de estas comunidades: Descanso, Guatay, Pine Valley, Buckman Springs, Morena Village, Campo, Potrero, Cameron Corners, Live Oak Springs, Boulevard, Jacumba Hot Springs, Alpine (al este de Tavern Rd.) y Tecate (al este de Tecate Rd.).*	A trip between any of these communities: Alpine (west of Tavern Rd.), Tecate (west of Tecate Rd.), Barrett Junction, Dulzura, Jamul, and El Cajon. *Un viaje entre cualquiera de estas comunidades: Alpine (al oeste de Tavern Rd.), Tecate (al oeste de Tecate Rd.), Barrett Junction, Dulzura, Jamul, y El Cajon.*	Any trip between a Backcountry community and a Suburban Fringe community. *Cualquier viaje entre una comunidad ubicada en la periferia y una comunidad de la franja suburbana.*

Holidays are: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, & Christmas / *Los días festivos son: Año Nuevo, Presidents' Day, Memorial Day, Día de la Independencia (E.E.U.U.), Labor Day, Día de Acción de Gracias, y Navidad*
Route 888 does not operate on Saturday, Sunday, Tuesday, Wednesday, Thursday, or holidays. When designated holidays are observed on a Monday, Route 888 will operate on the following Tuesday. When designated holidays are observed on a Friday, Route 888 will operate on the previous day, Thursday. / *Ruta 888 no ofrece servicio durante los sábados, domingos, martes, miércoles, jueves, ó durante los días festivos. Cuando los días festivos se observen en un lunes, la ruta 888 operará el día siguiente, martes. Cuando los días festivos se observan en un viernes, la ruta 888 operará el día anterior, jueves.*
Route 894 does not operate on Saturday, Sunday, or on holidays / *Ruta 894 no ofrece servicio durante los sábados, domingos, ó durante los días festivos*
▬▬▬ = Fare zone boundary / *Limite de tarifas*



Routes 891 & 892

Route 891 & 892 – Westbound

Thursday or Friday only / *solo jueves o viernes*

Borrego Springs ➡ Ramona ➡ El Cajon

	Ⓐ Borrego Springs **DEPART**	Ⓑ Ranchita (Ranchita Realty)	Ⓒ Shelter Valley (Resort)	Ⓓ Banner (Banner Store)	Ⓔ Julian (Town Hall) **ARRIVE**	Ⓔ Julian (Town Hall) **DEPART**	Ⓕ Lake Henshaw (Resort)	Ⓖ Santa Ysabel (Dudley's)	Ⓗ Ramona Station **ARRIVE**	Ⓗ Ramona Station **DEPART**	Ⓘ Mapleview & Vine St. (7-Eleven)	Ⓙ Parkway Plaza	Ⓚ El Cajon Transit Ctr **ARRIVE**
892 Thursday Only	7:50a	8:20a	–	–	–	–	8:40a	9:05a	9:30a	9:45a	10:13a	10:25a	10:35a
891 Friday Only	7:45a	–	8:15a	8:25a	8:40a	8:45a	–	9:05a	9:30a	9:45a	10:13a	10:25a	10:35a

Route 891 & 892 – Eastbound

Thursday or Friday only / *solo jueves o viernes*

El Cajon ➡ Ramona ➡ Borrego Springs

	Ⓚ El Cajon Transit Ctr **DEPART**	Ⓙ Parkway Plaza	Ⓘ Mapleview & Vine St. (7-Eleven)	Ⓗ Ramona Station **ARRIVE**	Ⓗ Ramona Station **DEPART**	Ⓖ Santa Ysabel (Dudley's)	Ⓕ Lake Henshaw (Resort)	Ⓔ Julian (Town Hall) **ARRIVE**	Ⓔ Julian (Town Hall) **DEPART**	Ⓓ Banner (Banner Store)	Ⓒ Shelter Valley (Resort)	Ⓑ Ranchita (Ranchita Realty)	Ⓐ Borrego Springs **ARRIVE**
892 Thursday Only	2:30p	2:40p	2:55p	3:31p	3:46p	4:16p	4:36p	–	–	–	–	5:06p	5:26p
891 Friday Only	2:30p	2:40p	2:55p	3:31p	3:46p	4:16p	–	4:26p	4:31p	4:41p	4:51p	–	5:21p

Holidays are: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, & Christmas / *Los días festivos son: Año Nuevo, Presidents' Day, Memorial Day, Día de la Independencia (E.E.U.U.), Labor Day, Día de Acción de Gracias, y Navidad*

Routes 891 and 892 do not operate on Saturday, Sunday, Monday, Tuesday, Wednesday, or holidays. When designated holidays are observed on a Thursday, Route 892 will operate on the previous day, Wednesday. When designated holidays are observed on a Friday, Route 891 will operate on the following Monday. / *Las rutas 891 y 892 no ofrecen servicio durante los sábados, domingos, lunes, martes, miércoles, ó durante los días festivos. Cuando los días festivos se observen en un jueves, la ruta 892 operará el día anterior, miércoles. Cuando los días festivos se observen en un viernes, la ruta 891 operará el lunes siguiente.*

▬▬▬ = Fare zone boundary / *Limite de tarifas*

ROUTES 891 & 892 SERVICE AREA ZONES

ZONE BOUNDARIES *Limites de zona*	Ramona
ONE ZONE TRIP BACKCOUNTRY *Viaje de una zona, en la periferia*	A trip between any of these communities: Borrego Springs, Shelter Valley, Banner, Julian, Ranchita, Lake Henshaw, Santa Ysabel, and Ramona. *Un viaje entre cualquiera de estas comunidades: Borrego Springs, Shelter Valley, Banner, Julian, Ranchita, Lake Henshaw, Santa Ysabel, y Ramona.*
ONE ZONE TRIP SUBURBAN FRINGE AREA *Viaje de una zona, franja suburbana*	A trip between any of these communities: Ramona, Moreno, Lakeside, and El Cajon. This includes trips within one community (e.g. a trip within Ramona). *Un viaje entre cualquiera de estas comunidades: Ramona, Moreno, Lakeside, y El Cajon. Esto incluye viajes dentro de una comunidad (p. ej. un viaje dentro de la comunidad de Ramona).*
TWO ZONE BOUNDARIES *Viaje de dos zonas*	Any trip between a Backcountry community east of Julian Rd. & Magnolia Ave. in Ramona and a Suburban Fringe community west of Main St. and Dye Rd./Highland Valley Rd. in Ramona. *Cualquier viaje entre una comunidad al este de Julian Rd. y Magnolia Ave. en Ramona y ubicada en la periferia y una comunidad de la franja suburbana al oeste de Dye Rd./Highland Valley Rd. en Ramona.*

Route 888, 891, 892 & 894

Reservations
619-401-4500

- Please call at least one day in advance to coordinate your trip if you will be traveling with either a wheelchair or bicycle, or would like to schedule an off-route stop or flag stop.
- If you have a reservation for a wheelchair, bicycle, off–route stop, or flag stop, and are unable to travel, please call to cancel as soon as possible.
- Please do not call for a reservation less than two hours before your requested pick-up time.
- You may call for the latest information, including service disruptions.

Wheelchairs and Bicycles

- Because of limited spaces, we recommend you call the day before if you will be traveling with either a wheelchair or bicycle. All Rural buses provide wheelchair lift or ramp service.
- Bicycles are welcome at no additional charge. Bicycles may be loaded/ unloaded at any stop where it is feasible and safe. Let the bus driver know before you load or unload your bike! MTS and Transdev are not responsible for loss or damage to bicycles.

Off-Route Stops or Flag Stops

- We may be able to go up to a mile off-route or stop at any safe location along the route for your pick-up or drop-off. These deviations and flag stops will be made at MTS's approval only.
- Deviations and Flag Stops Wait Times: For Route 894, we will wait up to five minutes after the scheduled departure time for a person with a reservation. For Routes 888, 891, & 892, we will wait up to ten minutes after the scheduled departure time for a person with a reservation.

PAYMENT OF FARES

- Upon payment of your fare and boarding of a westbound Rural bus route, the operator will issue you a Day Pass. This Pass may be used in the MTS and NCTD service areas. The issued Pass is a not valid for return trips on Rural service nor can it be used for a discount on Rural services.

RESERVACIONES
619-401-4500

- *Favor de llamar al menos un día por adelantado para coordinar su viaje si estará viajando con silla de ruedas o bicicleta, o si quisiera reservar una parada no en la ruta o una parada a petición.*
- *Si tiene una reservación para una silla de ruedas, bicicleta, parada no en la ruta, o una parada a petición, favor de llamar para cancelar lo más pronto posible.*
- *Favor de no llamar para una reservación menos de dos horas antes de la hora que va a necesitar nuestro servicio.*
- *Puede llamar para la información más reciente, incluyendo interrupciones de servicio.*

Sillas de ruedas y bicicletas

- *Debido a espacios limitados, recomendamos que llame el día antes si viajara con silla de ruedas o bicicleta. Todos los autobuses rurales ofrecen servicio de rampa o elevador para sillas de ruedas.*
- *Bicicletas son bienvenidas sin costo adicional. Bicicletas pueden subirse/bajarse en cualquier parada donde es factible y seguro. ¡Avísele al chofer antes de cargar o descargar la bicicleta! MTS y Transdev no son responsable por perdidas o daños a las bicicletas.*

Paradas no en la ruta o paradas a petición

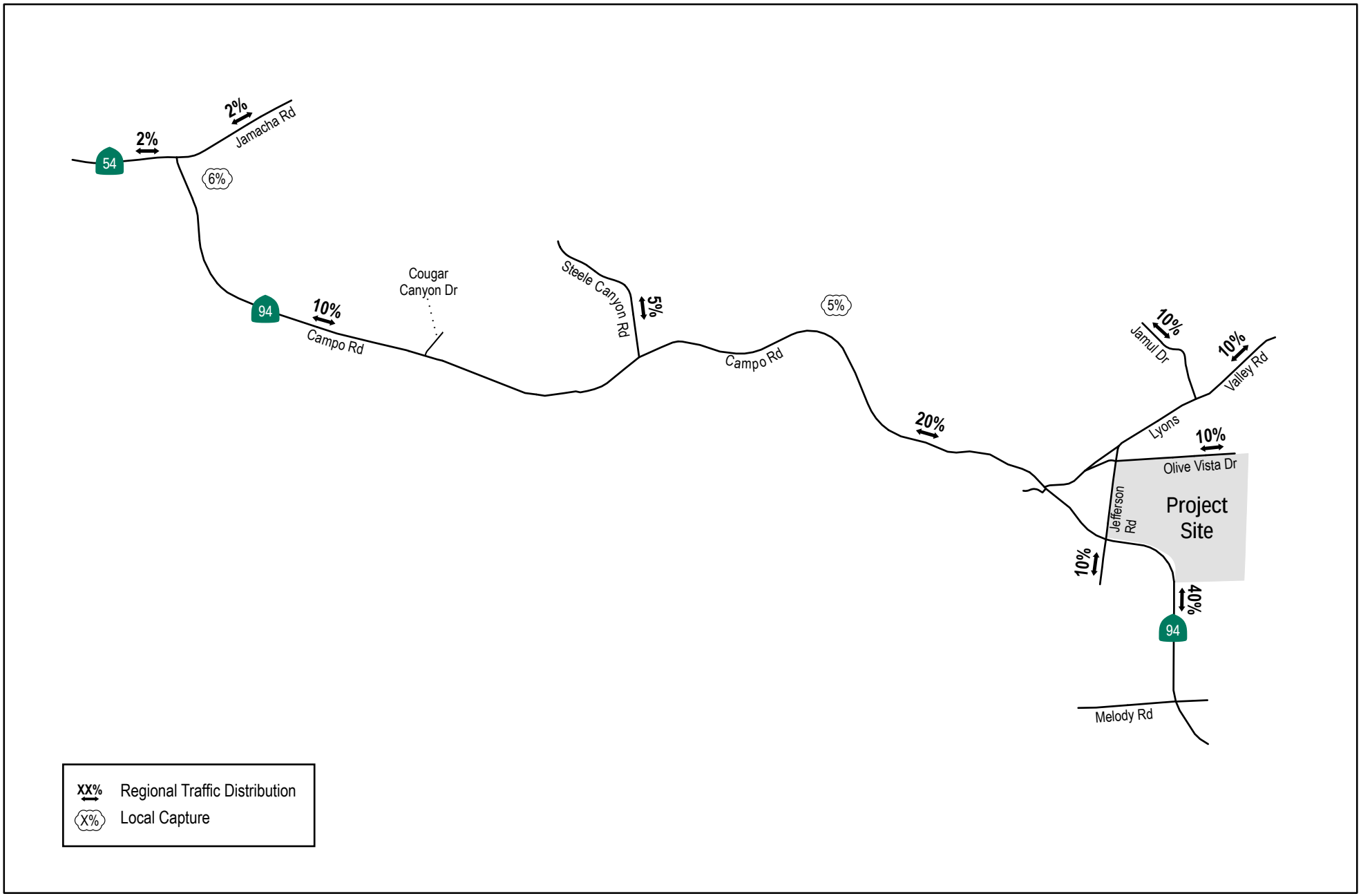
- *Es posible que podamos viajar hasta una milla retirado de la ruta o parar en cualquier ubicación segura a lo largo de la ruta para recogerlo/ dejarlo. Estos desvíos se realizarán solo bajo la aprobación de MTS.*
- *Tiempo de espera para las desviaciones y paradas a petición de parte: Para la ruta 894, esperaremos hasta cinco minutos después de la hora de partida indicada para una persona con una reservación. Para las rutas 888, 891 y 892, esperaremos hasta diez minutos después de la hora de partida indicada para una persona con una reservación.*

PAGO DE TARIFAS

- *Al pagar su tarifa y subir a un autobús rural en dirección oeste, el chofer proporcionará un Pase Diario. Este pase puede ser utilizado en las áreas de servicio MTS y NCTD. El pase proporcionado no es válido para viajes de retorno en servicio rural tampoco puede utilizarse para un descuento en servicios rurales.*

Appendix F

Simpson Farms Commercial Distribution



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Date: 12/15/14

Figure 7-2

Commercial Traffic Distribution

Appendix G

Existing + Project LOS Calculations

Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	29	0	46	63	85	0	92	63	80	70	2
Future Vol, veh/h	3	29	0	46	63	85	0	92	63	80	70	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	70	70	70	70	70	70	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	41	0	66	90	121	0	131	90	114	100	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	612	551	102	526	507	176	103	0	0	221	0	0
Stage 1	330	330	-	176	176	-	-	-	-	-	-	-
Stage 2	282	221	-	350	331	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	405	442	953	462	468	867	1489	-	-	1348	-	-
Stage 1	683	646	-	826	753	-	-	-	-	-	-	-
Stage 2	725	720	-	666	645	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	272	402	953	397	426	867	1489	-	-	1348	-	-
Mov Cap-2 Maneuver	272	402	-	397	426	-	-	-	-	-	-	-
Stage 1	683	588	-	826	753	-	-	-	-	-	-	-
Stage 2	549	720	-	563	587	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.6	18.7	0	4.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1489	-	-	385	536	1348	-	-
HCM Lane V/C Ratio	-	-	-	0.119	0.517	0.085	-	-
HCM Control Delay (s)	0	-	-	15.6	18.7	7.9	0	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	2.9	0.3	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	3	3	154	115	1
Future Vol, veh/h	1	3	3	154	115	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	-	50	-	-	-
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	1	3	3	167	125	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	299	126	126	0	-	0
Stage 1	126	-	-	-	-	-
Stage 2	173	-	-	-	-	-
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	692	924	1460	-	-	-
Stage 1	900	-	-	-	-	-
Stage 2	857	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	691	924	1460	-	-	-
Mov Cap-2 Maneuver	691	-	-	-	-	-
Stage 1	898	-	-	-	-	-
Stage 2	857	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	0.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1460	-	852	-	-
HCM Lane V/C Ratio	0.002	-	0.005	-	-
HCM Control Delay (s)	7.5	-	9.2	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	7	11	155	115	3
Future Vol, veh/h	2	7	11	155	115	3
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	-	50	-	-	-
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	2	8	12	168	125	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	319	127	128	0	-	0
Stage 1	127	-	-	-	-	-
Stage 2	192	-	-	-	-	-
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	674	923	1458	-	-	-
Stage 1	899	-	-	-	-	-
Stage 2	841	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	669	923	1458	-	-	-
Mov Cap-2 Maneuver	669	-	-	-	-	-
Stage 1	892	-	-	-	-	-
Stage 2	841	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1458	-	851	-	-
HCM Lane V/C Ratio	0.008	-	0.011	-	-
HCM Control Delay (s)	7.5	-	9.3	-	-
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												
Traffic Volume (veh/h)	13	194	20	2	366	96	89	46	4	57	26	37
Future Volume (veh/h)	13	194	20	2	366	96	89	46	4	57	26	37
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	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	14	213	22	2	402	105	98	51	4	63	29	41
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	26	659	68	5	548	143	325	97	7	259	78	80
Arrive On Green	0.01	0.40	0.40	0.00	0.38	0.38	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1774	1661	172	1774	1425	372	959	617	42	650	497	511
Grp Volume(v), veh/h	14	0	235	2	0	507	153	0	0	133	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1832	1774	0	1797	1619	0	0	1658	0	0
Q Serve(g_s), s	0.3	0.0	3.0	0.0	0.0	8.2	0.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.3	0.0	3.0	0.0	0.0	8.2	2.7	0.0	0.0	2.3	0.0	0.0
Prop In Lane	1.00		0.09	1.00		0.21	0.64		0.03	0.47		0.31
Lane Grp Cap(c), veh/h	26	0	727	5	0	691	429	0	0	417	0	0
V/C Ratio(X)	0.54	0.00	0.32	0.38	0.00	0.73	0.36	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	215	0	1302	215	0	1277	935	0	0	934	0	0
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	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.5	0.0	7.0	16.8	0.0	8.9	13.1	0.0	0.0	13.0	0.0	0.0
Incr Delay (d2), s/veh	16.4	0.0	0.3	39.9	0.0	1.5	0.5	0.0	0.0	0.4	0.0	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(50%),veh/ln	0.2	0.0	1.6	0.1	0.0	4.2	1.4	0.0	0.0	1.2	0.0	0.0
LnGrp Delay(d),s/veh	33.0	0.0	7.3	56.7	0.0	10.4	13.6	0.0	0.0	13.4	0.0	0.0
LnGrp LOS	C		A	E		B	B			B		
Approach Vol, veh/h		249			509			153			133	
Approach Delay, s/veh		8.7			10.6			13.6			13.4	
Approach LOS		A			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		9.8	4.6	19.4		9.8	5.0	19.0
Change Period (Y+Rc), s		4.5	4.5	6.0		4.5	4.5	6.0
Max Green Setting (Gmax), s		16.9	4.1	24.0		16.9	4.1	24.0
Max Q Clear Time (g_c+I1), s		4.7	2.0	5.0		4.3	2.3	10.2
Green Ext Time (p_c), s		0.6	0.0	1.2		0.5	0.0	2.8

Intersection Summary	
HCM 2010 Ctrl Delay	11.0
HCM 2010 LOS	B

LOS Engineering, Inc.

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	13	0	6	1	0	2	4	479	0	2	177	1
Future Vol, veh/h	13	0	6	1	0	2	4	479	0	2	177	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	0	6	1	0	2	4	515	0	2	190	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	719	718	191	721	718	515	191	0	0	515	0	0
Stage 1	195	195	-	523	523	-	-	-	-	-	-	-
Stage 2	524	523	-	198	195	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	344	355	851	343	355	560	1383	-	-	1051	-	-
Stage 1	807	739	-	537	530	-	-	-	-	-	-	-
Stage 2	537	530	-	804	739	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	341	353	851	339	353	560	1383	-	-	1051	-	-
Mov Cap-2 Maneuver	341	353	-	339	353	-	-	-	-	-	-	-
Stage 1	804	738	-	535	528	-	-	-	-	-	-	-
Stage 2	533	528	-	796	738	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14	12.9	0.1	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1383	-	-	421	460	1051	-	-
HCM Lane V/C Ratio	0.003	-	-	0.049	0.007	0.002	-	-
HCM Control Delay (s)	7.6	0	-	14	12.9	8.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	21	5	10	15	7	1	89	13	17	80	0
Future Vol, veh/h	0	21	5	10	15	7	1	89	13	17	80	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	23	5	11	16	8	1	97	14	18	87	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	241	236	87	243	229	104	87	0	0	111	0	0
Stage 1	123	123	-	106	106	-	-	-	-	-	-	-
Stage 2	118	113	-	137	123	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	713	665	971	711	671	951	1509	-	-	1479	-	-
Stage 1	881	794	-	900	807	-	-	-	-	-	-	-
Stage 2	887	802	-	866	794	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	687	656	971	681	662	951	1509	-	-	1479	-	-
Mov Cap-2 Maneuver	687	656	-	681	662	-	-	-	-	-	-	-
Stage 1	880	784	-	899	806	-	-	-	-	-	-	-
Stage 2	861	801	-	825	784	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	10.3	0.1	1.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1509	-	-	700	716	1479	-	-
HCM Lane V/C Ratio	0.001	-	-	0.04	0.049	0.012	-	-
HCM Control Delay (s)	7.4	0	-	10.4	10.3	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	4	4	101	93	2
Future Vol, veh/h	2	4	4	101	93	2
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	-	50	-	-	-
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	2	4	4	110	101	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	220	102	103	0	-	0
Stage 1	102	-	-	-	-	-
Stage 2	118	-	-	-	-	-
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	768	953	1489	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	907	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	766	953	1489	-	-	-
Mov Cap-2 Maneuver	766	-	-	-	-	-
Stage 1	919	-	-	-	-	-
Stage 2	907	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1489	-	881	-	-
HCM Lane V/C Ratio	0.003	-	0.007	-	-
HCM Control Delay (s)	7.4	-	9.1	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	24	25	95	88	9
Future Vol, veh/h	10	24	25	95	88	9
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	-	50	-	-	-
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	26	27	103	96	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	258	101	106	0	-	0
Stage 1	101	-	-	-	-	-
Stage 2	157	-	-	-	-	-
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	731	954	1485	-	-	-
Stage 1	923	-	-	-	-	-
Stage 2	871	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	718	954	1485	-	-	-
Mov Cap-2 Maneuver	718	-	-	-	-	-
Stage 1	906	-	-	-	-	-
Stage 2	871	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	1.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1485	-	870	-	-
HCM Lane V/C Ratio	0.018	-	0.042	-	-
HCM Control Delay (s)	7.5	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	874	108	3	563	48	58	37	23	87	31	21
Future Volume (veh/h)	15	874	108	3	563	48	58	37	23	87	31	21
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	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	16	950	117	3	612	52	63	40	25	95	34	23
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	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	27	1061	131	6	1084	92	165	81	41	204	52	30
Arrive On Green	0.02	0.65	0.65	0.00	0.64	0.64	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1774	1627	200	1774	1693	144	697	653	328	952	419	244
Grp Volume(v), veh/h	16	0	1067	3	0	664	128	0	0	152	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1827	1774	0	1837	1679	0	0	1616	0	0
Q Serve(g_s), s	0.6	0.0	33.1	0.1	0.0	13.8	0.0	0.0	0.0	1.2	0.0	0.0
Cycle Q Clear(g_c), s	0.6	0.0	33.1	0.1	0.0	13.8	4.7	0.0	0.0	5.9	0.0	0.0
Prop In Lane	1.00		0.11	1.00		0.08	0.49		0.20	0.62		0.15
Lane Grp Cap(c), veh/h	27	0	1192	6	0	1176	287	0	0	286	0	0
V/C Ratio(X)	0.59	0.00	0.90	0.52	0.00	0.56	0.45	0.00	0.00	0.53	0.00	0.00
Avail Cap(c_a), veh/h	107	0	1454	107	0	1462	477	0	0	469	0	0
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	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	33.2	0.0	9.9	33.8	0.0	6.9	28.1	0.0	0.0	28.6	0.0	0.0
Incr Delay (d2), s/veh	18.5	0.0	6.6	58.1	0.0	0.4	1.1	0.0	0.0	1.5	0.0	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(50%),veh/ln	0.4	0.0	18.5	0.1	0.0	7.0	2.4	0.0	0.0	2.9	0.0	0.0
LnGrp Delay(d),s/veh	51.7	0.0	16.5	91.9	0.0	7.3	29.2	0.0	0.0	30.1	0.0	0.0
LnGrp LOS	D		B	F		A	C			C		
Approach Vol, veh/h		1083			667			128			152	
Approach Delay, s/veh		17.0			7.7			29.2			30.1	
Approach LOS		B			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		12.9	4.7	50.2		12.9	5.5	49.4
Change Period (Y+Rc), s		4.5	4.5	6.0		4.5	4.5	6.0
Max Green Setting (Gmax), s		16.9	4.1	54.0		16.9	4.1	54.0
Max Q Clear Time (g_c+I1), s		6.7	2.1	35.1		7.9	2.6	15.8
Green Ext Time (p_c), s		0.4	0.0	9.1		0.5	0.0	5.4

Intersection Summary	
HCM 2010 Ctrl Delay	15.7
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	0	4	1	0	1	3	584	0	1	940	13
Future Vol, veh/h	4	0	4	1	0	1	3	584	0	1	940	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	0	4	1	0	1	3	615	0	1	989	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1620	1619	996	1621	1626	615	1003	0	0	615	0	0
Stage 1	998	998	-	621	621	-	-	-	-	-	-	-
Stage 2	622	621	-	1000	1005	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	83	103	297	83	102	491	690	-	-	965	-	-
Stage 1	294	322	-	475	479	-	-	-	-	-	-	-
Stage 2	474	479	-	293	319	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	82	102	297	81	101	491	690	-	-	965	-	-
Mov Cap-2 Maneuver	82	102	-	81	101	-	-	-	-	-	-	-
Stage 1	292	321	-	472	476	-	-	-	-	-	-	-
Stage 2	470	476	-	288	318	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	34.8	31.3	0.1	0
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	690	-	-	129	139	965	-	-
HCM Lane V/C Ratio	0.005	-	-	0.065	0.015	0.001	-	-
HCM Control Delay (s)	10.2	0	-	34.8	31.3	8.7	0	-
HCM Lane LOS	B	A	-	D	D	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0	-	-

Appendix H

Existing + Project + Simpson Farms LOS Calculations

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	0	7	14	0	32	11	163	10	20	157	3
Future Vol, veh/h	2	0	7	14	0	32	11	163	10	20	157	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	8	15	0	35	12	177	11	22	171	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	441	429	173	428	425	183	174	0	0	188	0	0
Stage 1	217	217	-	207	207	-	-	-	-	-	-	-
Stage 2	224	212	-	221	218	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	527	518	871	537	521	859	1403	-	-	1386	-	-
Stage 1	785	723	-	795	731	-	-	-	-	-	-	-
Stage 2	779	727	-	781	723	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	496	505	871	523	508	859	1403	-	-	1386	-	-
Mov Cap-2 Maneuver	496	505	-	523	508	-	-	-	-	-	-	-
Stage 1	778	711	-	788	724	-	-	-	-	-	-	-
Stage 2	741	720	-	762	711	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.9	10.2	0.5	0.8
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1403	-	-	746	523	859	1386	-	-
HCM Lane V/C Ratio	0.009	-	-	0.013	0.029	0.04	0.016	-	-
HCM Control Delay (s)	7.6	-	-	9.9	12.1	9.4	7.6	-	-
HCM Lane LOS	A	-	-	A	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	0	24	61	0	63	25	122	23	30	160	9
Future Vol, veh/h	10	0	24	61	0	63	25	122	23	30	160	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	26	66	0	68	27	133	25	33	174	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	479	457	179	458	450	146	184	0	0	158	0	0
Stage 1	245	245	-	200	200	-	-	-	-	-	-	-
Stage 2	234	212	-	258	250	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	497	500	864	513	504	901	1391	-	-	1422	-	-
Stage 1	759	703	-	802	736	-	-	-	-	-	-	-
Stage 2	769	727	-	747	700	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	444	479	864	482	483	901	1391	-	-	1422	-	-
Mov Cap-2 Maneuver	444	479	-	482	483	-	-	-	-	-	-	-
Stage 1	745	687	-	787	722	-	-	-	-	-	-	-
Stage 2	697	713	-	708	684	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	11.5	1.1	1.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1391	-	-	676	482	901	1422	-	-
HCM Lane V/C Ratio	0.02	-	-	0.055	0.138	0.076	0.023	-	-
HCM Control Delay (s)	7.6	-	-	10.6	13.7	9.3	7.6	-	-
HCM Lane LOS	A	-	-	B	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.5	0.2	0.1	-	-